# AvalonBay Communities - Climate Change 2022

## C0. Introduction

### C0.1

**(C0.1) Give a general description and introduction to your organization.**

As of December 31, 2021, the Company owned or held a direct or indirect ownership interest in 297 apartment communities containing 87,992 apartment homes in 12 states and the District of Columbia, of which 19 communities were under development and one community was under redevelopment. AvalonBay Communities, Inc. is an equity REIT in the business of developing, redeveloping, acquiring and managing multifamily communities primarily in New England, the New York/New Jersey metro area, the Mid-Atlantic, the Pacific Northwest, and Northern and Southern California. More information may be found on the Company's website at http://www.avalonbay.com.

More information on our ESG (Corporate Responsibility) initiatives, including our recently updated ESG goals, can be found here: https://www.avaloncommunities.com/about-us/corporate-responsibility.

### C0.2

**(C0.2) State the start and end date of the year for which you are reporting data.**

| | Start date | End date | Indicate if you are providing emissions data for past reporting years | Select the number of past reporting years you will be providing emissions data for |
|---|---|---|---|---|
| Reporting year | January 1 2021 | December 31 2021 | No | <Not Applicable> |

### C0.3

**(C0.3) Select the countries/areas in which you operate.**

United States of America

### C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

### C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Operational control

### C-CN0.7/C-RE0.7

**(C-CN0.7/C-RE0.7) Which real estate and/or construction activities does your organization engage in?**

New construction or major renovation of buildings

Buildings management

### C0.8

**(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

| Indicate whether you are able to provide a unique identifier for your organization | Provide your unique identifier |
|---|---|
| Yes, an ISIN code | US0534841012 |

## C1. Governance

## C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

## C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

| Position of individual(s) | Please explain |
|---|---|
| Chief Financial Officer (CFO) | The Corporate Responsibility function (also called ESG function) reports into our Chief Financial Officer (CFO), who reports directly to the CEO, and includes our environmental and social performance and programs, including the strategy and programs related to climate change issues, climate mitigation, decarbonization, and Scope 1, 2 and 3 emissions reductions. Our CFO also works directly with another sponsor of the program, our Chief Investment Officer (CIO) who holds responsibility for climate and sustainability-related issues relative to the investments made in our 300 property portfolio. Both the CFO and CIO are responsible for future company direction and strategy, and oversee and ensure that sustainability and climate issues are integrated into the Company's operations and strategy. Good examples of how this structure works include the decision to set science-based targets, the decision to drive a renewable energy strategy for the Company, and the 2020 decision to evaluate our entire portfolio against 11 climate risk factors. These decisions are made in concert with the CFO/CIO and our Corporate Responsibility Committee. |
| Board-level committee | The VP of ESG and Energy Management, in concert with the CFO and CIO, reports annually on CR progress and strategy to, what was previously called the Nominating and Corporate Governance (NCG) Committee but now called the Nominating, Governance, and Corporate Responsibility Committee of the AvalonBay Board of Directors and periodically reports to the full AvalonBay Board. The NGCR Charter was revised to include the following duties: “Review Matters Pertaining to Corporate Responsibility - At least annually, the Committee shall perform a review and evaluation of: (i) the Company’s policy on political contributions and government relations, and its actual activities, contributions, and reporting; (ii) charitable giving policies and activities; (iii) health and safety initiatives and performance; (iv) human capital matters pertaining to (a) diversity and inclusion efforts, performance and reporting, and (b) associate engagement and culture, and such other human capital matters as the Committee deems necessary or appropriate; (v) ESG goals and performance, including goals and performance related to environmental matters, climate change, and sustainable building and operations; and (vi) ESG reporting, including through the Company’s annual Corporate Responsibility report.” Under the Corporate Social Responsibility component lies all of our environmental sustainability progress/efforts/policies and our climate-related issues. In 2020 we decided, in concert with Board approval, to move forward on a deeper analysis of the majority of our portfolio against 11 climate-related risk factors. In 2022, we decided to re-evaluate the portfolio broadening the scope of climate-related risk to 14 indicators. These were presented to the full AvalonBay Board for discussion and have been integrated into our asset management and investment decision structures. Additionally, VP of ESG and Energy Management, in concert with the CFO and CIO report annually on the progress of all ESG reporting to the Audit committee of the Board of Directors as the Audit Committee now oversees the ESG reporting process as well. |

## C1.1b

**(C1.1b) Provide further details on the board’s oversight of climate-related issues.**

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate-related issues are integrated | Scope of board-level oversight | Please explain |
|---|---|---|---|
| Scheduled – some meetings | Reviewing and guiding strategy<br>Reviewing and guiding risk management policies<br>Monitoring implementation and performance of objectives<br>Monitoring and overseeing progress against goals and targets for addressing climate-related issues | <Not Applicable> | The VP of ESG, Chief Investment Officer and Chief Financial Officer meet, at a minimum, annually with the Nominating, Governance, and Corporate Responsibility Committee of the AvalonBay Board and periodically with the full AvalonBay Board to discuss the Corporate Responsibility program, including climate-related issues. The most recent meeting, for example, included the following agenda items: • 2021 CR Goals Progress and new 2025, 2027, and 2029 Goals • Our Science-Based Targets • Building Strong Communities • Climate Change and Mitigation Plans for 2022 This Board Committee offers input, critique and clarifying questions on the function's strategy and the items on the agenda. When needed we will meet more frequently than the once yearly meeting. |

## C1.1d

**(C1.1d) Does your organization have at least one board member with competence on climate-related issues?**

| | Board member(s) have competence on climate-related issues | Criteria used to assess competence of board member(s) on climate-related issues | Primary reason for no board-level competence on climate-related issues | Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future |
|---|---|---|---|---|
| Row 1 | No, but we plan to address this within the next two years | <Not Applicable> | Important but not an immediate priority | While AvalonBay's Board of Directors has always provided oversight for ESG matters, recently, ESG oversight has been specifically added to 2 Board committees. As our Board gets more familiar with the ESG landscape, we will be looking to add a member with more expertise. |

## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

| Name of the position(s) and/or committee(s) | Reporting line | Responsibility | Coverage of responsibility | Frequency of reporting to the board on climate-related issues |
|---|---|---|---|---|
| Chief Financial Officer (CFO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Chief Executive Officer (CEO) | <Not Applicable> | Assessing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| Corporate responsibility committee | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

Description of highest management-level positions and committees with responsibility for climate-related issues, their responsibilities & where they sit:
CFO – Executive sponsor of the function
CFO - RESPONSIBILITIES: Overall executive sponsor and sponsors all ESG- and Climate-related activities. The ESG function was moved under the CFO in 2020 due to the increasing importance of ESG to our investors and the need to more closely tie it into our overall stakeholder and business strategies.
CFO - WHERE HE SITS: Reports to the CEO
Chief Investment Officer (CIO) – The VPESG reports dotted line to the Chief Investment Officer as he is the chair of our Management Investment Committee.
CIO - RESPONSIBILITIES: Interfaces with the CFO and VPESG on issues related to the portfolio, including, but not limited to, climate change risk, portfolio investments relative to resiliency, and acquisitions and dispositions.
CIO - WHERE HE SITS: Reports to the President
Vice President of ESG (VPESG) – leads the ESG function and manages it day-to-day.
VPESG – RESPONSIBILITIES:
• Recommend Company ESG Goals, including our approved Science-Based Targets, and reporting transparently on these goals annually in our ESG Report.
• Implementing ESG programming and report on progress and issues related to climate risk and opportunity. This includes the over $14.8M investment made in LED lighting (now saving the Company $3.8M annually) and the renewable energy strategy which has installed solar at 30 AvalonBay Communities as of year-end 2020, including Warner Center (72kW), Studio City II (69kW), Pasadena (69kW), Walnut Creek (30kW), Cahill Park (213kW), and Willow Glen (129kW). In addition, we will begin scoping another 30+ AvalonBay communities in 2021.
• Regularly reviewing ESG objectives and potential impacts of climate change on our business with the company's CFO.
• Updating our Board of Directors on climate-related issues, including progress on our Science-Based Targets.
• Chairing the ESG Governance structure.
VPESG - WHERE HE SITS: Reports to the CFO
ESG Committee – Chaired by the VPESG this cross-functional committee meets bi-monthly and collaborates to achieve ESG-related goals.
ESG Committee – RESPONSIBILITIES:
• Ensures all strategic climate-related initiatives are tracked, made operational & measured
• Provides cross-functional input and collaboration to complex implementation issues
ESG Committee – WHERE IT SITS: Chaired by VPESG, this cross-functional group meets in our Corporate Headquarters.
Rationale of Why Responsibilities for Climate-Related Issues Have Been Assigned to this/these position(s) or committee(s):
The VPESG has full-time responsibility for the ESG function and climate-related issues, and reports directly to the Chief Financial Officer (CFO), who, in-turn, reports to the Chief Executive Officer (CEO). Responsibility lies in this line of reporting for two reasons: 1) the CEO initialized the function in the company and has responsibility for reporting to the Company's full Board of Directors, and 2) the CFO took over management of the function due to its increasing importance to our stakeholders and to the Company as a whole. Placing the function in his organization ensures it tied to our investor relations, finance and highest management functions. Continued engagement with the Chief Investment Officer is ongoing because of the importance of integrating climate-related issues into how we make investments and manage the portfolio.

How Climate-Related Issues are Monitored
The process for identifying and monitoring climate-related issues includes annual strategic planning, industry participation and surveys of customers, associates, suppliers and board members. Issues are then placed on the agenda for the ESGCommittee and discussed in monthly (or more frequent) meetings with the CFO. In addition, the CFO and VPESG report climate-related issues to, and engage in an annual or more frequent dialogue with, the Nominating and Corporate Governance Committee of the Board of Directors and, with increasing frequency, the AvalonBay full Board. Progress against our goals is reviewed, and the Board provides input on strategic direction and issues related to climate change risks and opportunities. For example, in 2020 the VPESG enhanced our 2017 internal review of climate-related risks in our portfolio by engaging an outside vendor to conduct a comprehensive analysis of the portfolio across 11 climate-related risks. The analysis has been turned into a "climate and emissions risk dashboard" which was presented to the full AvalonBay Board of Directors. The analysis aligns with our Science-Based Targets (SBTs), and the dashboard is now being integrated into our acquisition, disposition and asset management strategies and decision making. The SBT's were approved in 2019, and we are now planning for their implementation in 2020 and beyond, which will push us further on renewables and emissions reductions.

## C1.3

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

| | Provide incentives for the management of climate-related issues | Comment |
|---|---|---|
| Row 1 | Yes | In 2019 the AvalonBay Board approved a new incentive compensation program for all associates. Included among the metrics of that program is an item related to ESG performance of the Company - a threshold related to our Global Real Estate Sustainability Benchmark (GRESB) score. Both AVB Management and the Board recognize the fundamental importance of ESG performance to the Company, and so have determined that one important touch-point for driving this performance is the integration of an ESG measure into incentive compensation. The GRESB score is based on a series of metrics related to Environmental, Social and Governance performance. Included in those metrics are a series of ratings related to the management of climate-related issues and includes the attainment of and third-party verification of targets. This change to our incentive compensation system complements the additional measures outlined in the answers to this question in C1.3a. |

## C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

| Entitled to incentive | Type of incentive | Activity incentivized | Comment |
|---|---|---|---|
| Executive officer | Monetary reward | Emissions reduction project<br>Emissions reduction target<br>Energy reduction project<br>Energy reduction target<br>Supply chain engagement | The Vice President of ESG is responsible for all programs related to climate (including energy and water reduction targets and our approach to climate change, stronger/more frequent storms and other risks and opportunities) as well as the Company's ESG goals (targets), including our approved Science-Based Targets. A meaningful portion of the VPCR's incentive compensation package is related to achievement of a variety of climate-related initiatives and our Goals. Supply Chain: The Vice President of Corporate Responsibility leads our responsible supply chain program, which is based on our principles, located here: https://www.avaloncommunities.com/~/media/Files/CorporateResponsibility/SupplyChainPolicy.pdf?la=en. A meaningful portion of the VPCR's incentive compensation package is related to achievement of a variety of climate-related initiatives, including engagement with our key suppliers on their adherence to our Responsible Supply Chain Principles. |
| All employees | Monetary reward | Emissions reduction project<br>Emissions reduction target<br>Energy reduction project<br>Energy reduction target<br>Behavior change related indicator<br>Other (please specify) (Water Reduction on Target) | Our monetary Sustainability award is given twice a year to those individual employees or teams who advance AvalonBay's sustainability objectives and support achievement of our energy and water reduction targets and our Science-Based Targets. |
| Other C-Suite Officer | Monetary reward | Emissions reduction project<br>Emissions reduction target<br>Energy reduction project<br>Energy reduction target<br>Efficiency project<br>Efficiency target | Our Chief Investment Officer provided important sponsorship to the Corporate Responsibility function and is rewarded and evaluated in-part on how well the function achieves its goals during the year and the progress against the targets defined by the function. |
| Chief Financial Officer (CFO) | Monetary reward | Emissions reduction project<br>Emissions reduction target<br>Energy reduction project<br>Energy reduction target<br>Efficiency project<br>Efficiency target | Our Chief Financial Officer oversees the the Corporate Responsibility function (it reports directly into him) and is rewarded and evaluated in-part on how well the function achieves its goals during the year and the progress against the targets defined by the function, including those related to our approved Science-Based emissions targets. |
| Corporate executive team | Monetary reward | Company performance against a climate-related sustainability index | In 2019 the AvalonBay Board approved a new incentive compensation program for all associates. Included among the metrics of that program is an item related to ESG performance of the Company - a threshold related to our Global Real Estate Sustainability Benchmark (GRESB) score. Both AVB Management and the Board recognize the fundamental importance of ESG performance to the Company, and so have determined that one important touch-point for driving this performance is the integration of an ESG measure into incentive compensation. The GRESB score is based on a series of metrics related to Environmental, Social and Governance performance. Included in those metrics are a series of ratings related to the management of climate-related issues and includes the attainment of and third-party verification of targets. |
| Management group | Monetary reward | Company performance against a climate-related sustainability index | In 2019 the AvalonBay Board approved a new incentive compensation program for all associates. Included among the metrics of that program is an item related to ESG performance of the Company - a threshold related to our Global Real Estate Sustainability Benchmark (GRESB) score. Both AVB Management and the Board recognize the fundamental importance of ESG performance to the Company, and so have determined that one important touch-point for driving this performance is the integration of an ESG measure into incentive compensation. The GRESB score is based on a series of metrics related to Environmental, Social and Governance performance. Included in those metrics are a series of ratings related to the management of climate-related issues and includes the attainment of and third-party verification of targets. |

## C2. Risks and opportunities

## C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

## C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

| | From (years) | To (years) | Comment |
|---|---|---|---|
| Short-term | 0 | 3 | Anything up to 3 years is considered short term for planning related to climate-related risks. Generally the Company's internal planning processes align with this definition for all types ofdepartmental and strategic planning. |
| Medium-term | 3 | 8 | Anything between 3 years or more and up to 8 years is considered Medium-Term for planning related to climate-related risks. Generally the Company's internal planning processes align with this definition for all types of departmental and strategic planning. |
| Long-term | 8 | 20 | Anything more than 8 years is considered long-term for planning related to climate-related risks. Generally the Company's internal planning processes align with this definition for all types of departmental and strategic planning. |

## C2.1b

**(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

AvalonBay identifies and assesses climate-related risks in concert with a definition of "substantive financial or strategic impact" to the business with the following characteristics:
1) The risk, if not mitigated, may affect more than one market in which we do business, or
2) The risk, if not mitigated, may cause a reduction in operating income greater than 2%, or
3) The risk, if not mitigated, may jeopardize our customer loyalty score (Net Promoter Score) by more than 5%, or
4) While the risk, if not mitigated, may only affect one market, it may be so detrimental to either operating income (greater than 10%) or Net Promoter Score (greater than 15%) that we will consider it substantive within that market and require action.

## C2.2

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

**Value chain stage(s) covered**
Direct operations

**Risk management process**
Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**
More than once a year

**Time horizon(s) covered**
Short-term
Medium-term
Long-term

**Description of process**
The process used to determine which risks and opportunities could have a substantive financial or strategic impact on the organization: The VP of ESG leads a risk identification process for climate-related risks that is based on two main sources of information: 1) Our climate-risk portfolio analysis, which was updated in 2020 to evaluate 274 properties against 11 climate-related risks and provides an in-depth analysis on each property of the potential risk exposures, and, 2) Wide-ranging and ongoing discussions with local and state government leaders of sustainability industry experts, non-governmental organizations, and various internal stakeholders. Risks are then identified and categorized based on their financial or strategic impact to the organization. They are grouped into immediate or short-term risks, medium-term risks and long-term risks. The magnitude of the impact either financially or strategically is identified. Larger magnitude impact risks are then integrated into AvalonBay's enterprise risk management (ERM) process, led by our Vice President of Risk Management. Each year, the VP-Risk Management reviews and discusses enterprise risk management matters with the Board of Directors, including the climate-related risks. Opportunities are similarly identified, and integrated into the annual capital plan for the CR Function which is led by the VP of ESG. How your organization makes decisions to mitigate, transfer, accept or control the identified climate-related risks and to capitalize on opportunities. If risks fall into a meaningful financial or organizational impact, they are mitigated. If meaningful opportunities are identified, they are put on the plan for investment. If the risks/opportunities fall outside the thresholds we have set (proprietary) for meaningful financial/organizational impact, they are monitored ongoing to determine if they would cross over that threshold. Opportunities and risk mitigations often require capital funding to achieve/mitigate, therefore, annually, the Vice President of CR develops a strategic plan for the CR function and outlines the various initiatives that will be conducted in the coming year. Consequent to this plan is a Capital Expenditure (Capex) plan which outlines the investments to be made on each initiative. As part of this process the VP of CR engages the multi-disciplinary Corporate Responsibility Committee, and a review is conducted of the various high-impact (and to be mitigated) climate-related risks and meaningful opportunities. Over the course of several meetings, these risks and opportunities are aligned to the strategies outlined in the annual strategic plan, and initiatives are developed for consideration of near and medium-term funding. Case Study Transitional - Technology: SITUATION: A Case study example of how this risk/opportunity process has been employed is our LED lighting retrofit, identified as both and opportunity and a risk mitigation strategy relative to emissions reductions designed to limit climate change. This case study employed the second track described before for identifying risks: “Wide-ranging and ongoing discussions with local and state government leaders of sustainability, industry experts, non-governmental organizations, and various internal.” Through this process we determined that almost all of our markets were moving to require lower building emissions, and we saw that the emerging LED technology was progressing rapidly both in terms of lower cost and higher quality. TASK: We determined that LEDs would be an excellent emerging technology and so the task required us to research the technology, develop new LED lighting standards for the portfolio, and begin to systemically retrofit the portfolio. This effort was determined to be a meaningful opportunity for the company as per our risk process, so we also had to find the right vendors who could do the LED work and develop an entirely new shared service for AVB to asset and acquire the important rebates required to make LED returns work. ACTION and RESULTS: Once these tasks were complete, we allocated funding to comprehensively retrofit our existing portfolio to LED. To date we have invested $14.8M on 200 LED

retrofits, reaching almost 70% of our portfolio. Our LED retrofits completed to-date now provide $3.8 million and 20.7 million kWh in annual energy savings, significantly contributing to our emissions reductions. This investment in more efficient operational equipment will continue to be a key part of how we achieve our approved science-based targets. Case Study Physical – Frequency and Intensity of Storms SITUATION: This case study employed our first track described before for identifying risks: Our climate-risk portfolio analysis. We knew that climate risk was becoming an important component of how we assess our portfolio, so in 2018 the VP of Corporate Responsibility, in conjunction with our Chief Investment Officer, analyzed our portfolio for risks associated with chronic climate-change-related events. These included sea-level rise modeling and longer and more intense wildfire seasons in the West. In addition we looked at earthquake potential and liquefaction in our Western markets. TASK: This internal study provided significant insights, but we knew we had to do a more comprehensive analysis and engage an outside expert that could more fully analyze the portfolio. Therefore, we decided, through our risk process, to better understand this risk with additional investment in an outside firm to analyze 274 properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. ACTION and RESULT: As a result of this analysis, we created a combined climate and emissions risk dashboard which shows each property’s risk profile and emissions intensity. This dashboard has been integrated into our investments and asset management decision-making and will be used in our new developments (each new development will undergo the same analysis and be added to the dashboard), dispositions and acquisitions, and capital investment decisions made by our asset management team to make the portfolio more resilient.

**Value chain stage(s) covered**
Upstream

**Risk management process**
Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**
More than once a year

**Time horizon(s) covered**
Short-term
Medium-term

**Description of process**
The process used to determine which risks and opportunities could have a substantive financial or strategic impact on the organization: The VP of Corporate Responsibility leads a risk identification process for climate-related risks that is based on two main sources of information: 1) Our climate-risk portfolio analysis, which was updated in 2020 to evaluate 274 properties against 11 climate-related risks and provides an in-depth analysis on each property of the potential risk exposures, and, 2) Wide-ranging and ongoing discussions with local and state government leaders of sustainability, industry experts, non-governmental organizations, and various internal stakeholders. Risks are then identified and categorized based on their financial or strategic impact to the organization. They are grouped into immediate or short-term risks, medium-term risks and long-term risks. The magnitude of the impact either financially or strategically is identified. Larger magnitude impact risks are then integrated into AvalonBay's enterprise risk management (ERM) process, led by our Vice President of Risk Management. Each year, the VP-Risk Management reviews and discusses enterprise risk management matters with the Board of Directors, including the climate-related risks. Opportunities are similarly identified, and integrated into the annual capital plan for the CR Function which is led by the VP of CR. How your organization makes decisions to mitigate, transfer, accept or control the identified climate-related risks and to capitalize on opportunities. If risks fall into a meaningful financial or organizational impact, they are mitigated. If meaningful opportunities are identified, they are put on the plan for investment. If the risks/opportunities fall outside the thresholds we have set (proprietary) for meaningful financial/organizational impact, they are monitored ongoing to determine if they would cross over that threshold. Opportunities and risk mitigations often require capital funding to achieve/mitigate, therefore, annually, the Vice President of CR develops a strategic plan for the CR function and outlines the various initiatives that will be conducted in the coming year. Consequent to this plan is a Capital Expenditure (Capex) plan which outlines the investments to be made on each initiative. As part of this process the VP of CR engages the multi-disciplinary Corporate Responsibility Committee, and a review is conducted of the various high-impact (and to be mitigated) climate-related risks and meaningful opportunities. Over the course of several meetings, these risks and opportunities are aligned to the strategies outlined in the annual strategic plan, and initiatives are developed for consideration of near and medium-term funding. Example Transitional - Policies An excellent example of this in terms of upstream risks/opportunities relates to New York's Local Law 97, which sets increasingly stringent limits on carbon emissions per square foot in 2024. As noted in the preceding section on how we identify risks/opportunities, we regularly have conversations with localities and participate in their programs as a means to identify upcoming risks/opportunities. Therefore, through part of our ongoing participation in the NYC Carbon Challenge and Retrofit Accelerator, we were able to begin planning for the new law ahead of its passing, thereby developing a scenario analysis of this law that allowed us to see the impact it could have on our NY portfolio. This planning has served us well in tying our planning together for the emissions reductions of the affected properties and coordinating our response across departments, leveraging what we are already doing to reduce consumption, improve equipment efficiency, and achieve our approved science-based targets. Example Physical – Frequency and Intensity of Storms Led by the Vice President of Corporate Responsibility, in 2020 we made significant investment with an outside firm to do a much more comprehensive review of our portfolio with respect to climate-related risks. The firm uses multiple data sources and analyzed 274 AvalonBay properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. As a result of this analysis, we created a combined climate and emissions risk dashboard which shows each property’s risk profile and emissions intensity. This dashboard has been integrated into our investments and asset management decision-making and will be used in our new developments (each new development will undergo the same analysis and be added to the dashboard), dispositions and acquisitions, and capital investment decisions made by our asset management team to make the portfolio more resilient. Further, we now better understand our climate related exposures in each market, and we can help our asset teams make better design and construction decisions to prepare for a low carbon and climate changed future. As our cities and the markets in which we do business continue to move in the direction of better climate mitigation, we know we have a significant role to play in making our buildings responsive to potential regulation or policies relative to climate mitigation. We therefore are looking at a variety of measures, including: Sump pumps, Storm blockers and rapidly deployable flood barriers, window upgrades, temporary door protective barriers, emergency generators (often already on-site) and the potential for emergency backup power generated by a combination of solar and battery, as well as potable water equipment. In this example our analysis can help us mitigate potential future market requirements and take advantage of opportunities to make our properties more resilient.

**Value chain stage(s) covered**
Downstream

**Risk management process**
Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**
More than once a year

**Time horizon(s) covered**
Medium-term
Long-term

**Description of process**
The process used to determine which risks and opportunities could have a substantive financial or strategic impact on the organization: The VP of Corporate Responsibility leads a risk identification process for climate-related risks that is based on two main sources of information: 1) Our climate-risk portfolio analysis, which was updated in 2020 to evaluate 274 properties against 11 climate-related risks and provides an in-depth analysis on each property of the potential risk exposures, and, 2) Wide-ranging

and ongoing discussions with local and state government leaders of sustainability, industry experts, non-governmental organizations, and various internal stakeholders. Risks are then identified and categorized based on their financial or strategic impact to the organization. They are grouped into immediate or short-term risks, medium-term risks and long-term risks. The magnitude of the impact either financially or strategically is identified. Larger magnitude impact risks are then integrated into AvalonBay's enterprise risk management (ERM) process, led by our Vice President of Risk Management. Each year, the VP-Risk Management reviews and discusses enterprise risk management matters with the Board of Directors, including the climate-related risks. Opportunities are similarly identified, and integrated into the annual capital plan for the CR Function which is led by the VP of CR. How your organization makes decisions to mitigate, transfer, accept or control the identified climate-related risks and to capitalize on opportunities. If risks fall into a meaningful financial or organizational impact, they are mitigated. If meaningful opportunities are identified, they are put on the plan for investment. If the risks/opportunities fall outside the thresholds we have set (proprietary) for meaningful financial/organizational impact, they are monitored ongoing to determine if they would cross over that threshold. Opportunities and risk mitigations often require capital funding to achieve/mitigate, therefore, annually, the Vice President of CR develops a strategic plan for the CR function and outlines the various initiatives that will be conducted in the coming year. Consequent to this plan is a Capital Expenditure (Capex) plan which outlines the investments to be made on each initiative. As part of this process the VP of CR engages the multi-disciplinary Corporate Responsibility Committee, and a review is conducted of the various high-impact (and to be mitigated) climate-related risks and meaningful opportunities. Over the course of several meetings, these risks and opportunities are aligned to the strategies outlined in the annual strategic plan, and initiatives are developed for consideration of short- and medium-term funding. Example Transitional - Markets An excellent example of this on the opportunity side relates to our residents (our clients) moving toward electric vehicles and less vehicle use. As we saw this trend in our markets through market research, we conducted a major internal study of our parking footprint relative to advances in driverless cars. AvalonBay has a large parking footprint across the portfolio and we are looking at this from multiple angles, including increasing car-charging spaces, re-purposing parking structures as driverless cars become more ubiquitous and opening parking beyond the Company's resident population. In addition we are working to provide better electric car charging infrastructure in our properties and the possibility of tying those charging stations into our solar and battery technologies. In 2020, similar to the prior year, we again significantly increased our available charging infrastructure while working to continue this expansion over the next 5 years. . To date we have over 650 charging stations with another 220 planned in the coming year. These investments are expected to continue to increase year-over-year. Example Physical – Frequency and Intensity of Storms Stronger storm activity akin to Hurricane Sandy would have deleterious effects on our communities through flooding and disruption of power and water service. These events are requiring us to think through our design for new construction (e.g., moving critical building infrastructure up several floors, installing flood barriers, raising the overall elevation of the building). And for our residents, we also know that storm disruption is a wider issue that often affects their lives beyond the walls of our communities. That is why our four year, $1M commitment to the American Red Cross is a partnership designed to leverage their disaster planning resources and to better prepare existing communities in the event of these emergencies. This partnership continues to form a cornerstone for preparedness and planning of both our associates and our residents. Their resources provide our residents with both advanced planning tools, as well as the ability to connect with friends and family after a disaster has occurred, providing often life-saving communications and connecting our residents in need with the resources, such as prescription medications, they require.

## C2.2a

**(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

| | Relevance & inclusion | Please explain |
|---|---|---|
| Current regulation | Relevant, always included | Example of Risk: An example of this relates to New York's Local Law 97, which sets increasingly stringent limits on carbon emissions per square foot in 2024. As part of our ongoing participation in the NYC Carbon Challenge and Retrofit Accelerator, we were able to begin planning for the new law ahead of its passing, thereby developing a scenario analysis of this law that allowed us to see the impact it could have on our NY portfolio. This planning has served us well in tying our planning together for the emissions reductions of the affected properties and coordinate our response across departments, leveraging what we are already doing to reduce consumption, improve equipment efficiency, and achieve our approved science-based targets. In addition, we are leveraging what we learned here in other markets that are considering similar legislation, such as Washington, DC, Boston, and California. |
| Emerging regulation | Relevant, always included | Example of Risk: An example of this relates to the current conversations the VP of CR is having with Boston's Green Ribbon Commission relative to new climate change and building resiliency statutes that the city is considering to improve resiliency related to sea level rise and stronger, more frequent storms. We anticipate that this will affect a number of our Boston properties, including the most recent, Avalon North Point. In 2019 we created a task force (which continued into 2020) to address these Boston regulations, comprised of a cross-functional group from CR, Engineering, Residential Services' maintenance teams and our development teams. This Task Force is a good example of how the climate-related risk analysis related to emerging regulations translates into business planning to address them. And we are leveraging this for other regions and markets considering similar regulations. |
| Technology | Relevant, sometimes included | Example of Risk: In 2020 our first commercial battery went live at our Avalon White Plains community. This technology will form an essential part of our ability both to increase resiliency of our communities, and to decarbonize our buildings by connecting the battery to onsite solar generation. In 2021 we will conduct a major study of battery applicability across our portfolio, starting with how we can leverage batteries at the 55 communities which will have onsite solar generation by the end of 2022. |
| Legal | Relevant, sometimes included | Example of Risk: An example here includes our ongoing monitoring to ensure that the statements we are making about our emissions offsets due to solar are stated correctly. For example, in our Washington, DC region we monetize our SREC income generated from the 7 solar installations we have on the portfolio. Therefore, we do not claim those credits against our emissions and science-based target calculations. We do this to ensure that we stay ahead of any legal risk from organizations that are more actively challenging corporate claims around emissions reductions and offsets. |
| Market | Relevant, always included | Example of Risk: An example here includes the ongoing conversations the VP of CR has with each AvalonBay Market's sustainability leaders during 2020 to better understand their plans for climate change, emissions reductions, environmental risks and stronger storm cycles, and to offer support to innovative ideas regarding the build environment's contribution to solutions. These ongoing conversations happen periodically with the heads of sustainability in Boston, NYC, Washington, DC, San Diego, Los Angeles, San Francisco and Seattle. |
| Reputation | Relevant, sometimes included | Example of Risk: With the U.S. rejoining the Paris Climate Accord and a more favorable National approach to climate change, as well as increasing pressure from investors to understand climate risks (i.e., Blackrock), we anticipate increased reputational exposure to those who want to see AvalonBay decarbonize and address climate-related risks. We are in a good place with all of this due to our recently set science-based emissions reduction targets. In addition, in 2020 we made significant investment with an outside firm to do a much more comprehensive review of our portfolio with respect to climate-related risks. The firm uses multiple data sources and analyzed 274 AvalonBay properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. Anyone who looks “under the covers’ of AvalonBay from a reputational standpoint will see a Company making significant investments in and taking committed, serious steps toward decarbonization and addressing climate change. |
| Acute physical | Relevant, always included | Example of Risk: In 2018 the VP of Corporate Responsibility, in conjunction with our Chief Investment Officer, analyzed our portfolio for risks associated with chronic climate-change-related events. These included sea-level rise modeling and longer and more intense wildfire seasons in the West. In addition we looked at earthquake potential and liquefaction in our Western markets. This analysis was further updated in 2020 with additional investment in an outside firm to analyze 274 properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. As a result of this analysis, we created a combined climate and emissions risk dashboard which shows each property’s risk profile and emissions intensity. This dashboard has been integrated into our investments and asset management decision-making and will be used in our new developments (each new development will undergo the same analysis and be added to the dashboard), dispositions and acquisitions, and capital investment decisions made by our asset management team to make the portfolio more resilient. |
| Chronic physical | Relevant, always included | Example of Risk: In 2018 the VP of Corporate Responsibility, in conjunction with our Chief Investment Officer, analyzed our portfolio for risks associated with chronic climate-change-related events. These included sea-level rise modeling and longer and more intense wildfire seasons in the West. In addition we looked at earthquake potential and liquefaction in our Western markets. This analysis was further updated in 2020 with additional investment in an outside firm to analyze 274 properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. As a result of this analysis, we created a combined climate and emissions risk dashboard which shows each property’s risk profile and emissions intensity. This dashboard has been integrated into our investments and asset management decision-making and will be used in our new developments (each new development will undergo the same analysis and be added to the dashboard), dispositions and acquisitions, and capital investment decisions made by our asset management team to make the portfolio more resilient. |

## C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**
Yes

## C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**
Risk 1

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Current regulation | Mandates on and regulation of existing products and services |

**Primary potential financial impact**
Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**Company-specific description**
In 2020 we created a comprehensive climate and emissions risk dashboard for 274 properties in our portfolio. The dashboard has multiple uses, but provides an essential central point for understanding the emissions intensities of each property along with 11 categories of climate risk. In 2022, we added 3 new climate risk indicators. The creation of this dashboard is the culmination of years of internal study and analysis of the portfolio and supports a number of risk mitigation efforts, including those related to city and market regulations aimed at reducing emissions and better mitigating for climate change. In 2021, we also created a Climate, Energy, and Emission Legislation Tracking Dashboard which allows us to view and track current and potential future Climate, Energy, and Emission Legislations that would impact our current portfolio of potential new developments. An example of one of these legislations that we tracked and prepared for would be New York Cities Local Law 97 (LL97). LL97 set increasingly stringent limits on carbon emissions/square foot in 2024 and ramps those up in 2030 for buildings larger than 25,000 square feet. LL97 requires buildings larger than 25,000 square feet to meet these emissions limits or risk being fined each year they do not meet them. AvalonBay has done an in-depth study of our portfolio and determined that 2 properties are at potent risk of not meeting the 2024 requirements. Missing the 2024 emissions reductions targets for these 2 buildings would mean millions of dollars in fines. In addition, we have determined that additional properties in our NYC portfolio would require upgrades to meet the 2030 requirements. This would require large investments in higher efficiency operating equipment potentially deteriorating net operating income of these properties. We are constantly reviewing additional measures and investments that will enable AVB to comply with the law and reduce emissions. These could include: energy conservation measures, renewable energy + battery technology and/or operational changes similar to what we already enact as part of our building automation and demand response program. Other jurisdictions/markets where we operate in are creating similar laws including Washington, DC, California, and Boston. Our climate and emissions risk dashboard will provide key support to this work.

**Time horizon**
Short-term

**Likelihood**
Virtually certain

**Magnitude of impact**
Medium-low

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
316000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact figure**
If we do nothing the penalties for the two properties where the NY LL97 fines could occur are estimated to be $23,367 annually for Avalon Clinton North and $29,000 for Avalon Clinton South. This aggregates to a total penalty for 2024 when the penalties start through to 2029 of (6 years x $52,667) = $316,000

**Cost of response to risk**
150000

**Description of response and explanation of cost calculation**
Case Study: SITUATION: In 2019, New York City passed Local Law 97 which requires buildings over 25,000 sq ft to lower their emissions to levels defined at year 2024 and again at 2030. All of the buildings in our New York City portfolio surpass the size requirement for this Law meaning that all buildings in our New York City portfolio must comply with this Law. TASK: In 2020 and 2021, we brought in a third party industry expert to assess our portfolio to assist in understanding which of our properties will comply with this law in 2024 and which will not. Two of our properties were identified as at potential risk of not complying with Local Law 97. These properties are Avalon Clinton North and Avalon Clinton South. ACTIONS/RESULTS: Having identified the properties mentioned above as at potential risk, we were able to conduct a comprehensive study of the potential measures that we can implement to bring these buildings into compliance. We estimate the costs to bring the emissions of Avalon Clinton North and Avalon Clinton South down into compliance at a one-time cost of approximately $150,000. These costs were determined through the above-mentioned comprehensive energy/emissions audits studies that we conducted on these property to better determine what actions we could take to reduce demand and emissions through building improvements, better insulation, and more efficient equipment. We plan to begin implementation of some of these items between 2022-2023 in order to comply by 2024. These do not include costs related to onsite solar generation combined with battery technology or renewable energy procurement, which are additional

options being considered. In fact, in 2021 began to shift our NYC procurable load to 100% renewable wind energy, thereby mitigating a sizeable component of our building emissions covered by this law.

**Comment**
No additional comment

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**Identifier**
Risk 2

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Emerging regulation | Mandates on and regulation of existing products and services |

**Primary potential financial impact**
Increased capital expenditures

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**Company-specific description**
Example of Risk: An example of this risk can be seen in Colorado where certain cities have discusses implementing new climate change and building emissions performance statutes that require increase energy efficiency and decreased emissions following city defined timelines. This will affect a number of our Denver properties. We have engaged an outside firm to help map how these regulations will impact our portfolio in these areas and to help understand what efforts will need to be taken, as well as the cost of these measures, to meet the legislation. In 2021 we created a task force to address emerging regulations titled the Emissions Regulations Taskforce, comprised of a cross-functional group from CR, Engineering, Residential Services' maintenance teams and our development teams. This Task Force is a good example of how the climate-related risk analysis related to emerging regulations translates into business planning to address them. And we are leveraging this for other regions and markets considering similar regulations.

**Time horizon**
Medium-term

**Likelihood**
Likely

**Magnitude of impact**
Medium

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure – minimum (currency)**
500000

**Potential financial impact figure – maximum (currency)**
1000000

**Explanation of financial impact figure**
Example of Risk: An example of this risk can be seen in Colorado where certain cities have discusses implementing new climate change and building emissions performance statutes that require increase energy efficiency and decreased emissions following city defined timelines. This will affect a number of our Denver properties. We have engaged an outside firm to help map how these regulations will impact our portfolio in these areas and to help understand what efforts will need to be taken, as well as the cost of these measures, to meet the legislation.

**Cost of response to risk**
1000000

**Description of response and explanation of cost calculation**
Example of Risk: An example of this risk can be seen in Colorado where certain cities have discusses implementing new climate change and building emissions performance statutes that require increase energy efficiency and decreased emissions following city defined timelines. This will affect a number of our Denver properties. We have engaged an outside firm to help map how these regulations will impact our portfolio in these areas and to help understand what efforts will need to be taken, as well as the cost of these measures, to meet the legislation. In 2021 we created a task force to address emerging regulations titled the Emissions Regulations Taskforce, comprised of a cross-functional group from CR, Engineering, Residential Services' maintenance teams and our development teams. This Task Force is a good example of how the climate-related risk analysis related to emerging regulations translates into business planning to address them. And we are leveraging this for other regions and markets considering similar regulations.

**Comment**
No additional comment

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**Identifier**
Risk 3

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Acute physical | Flood (coastal, fluvial, pluvial, groundwater) |

**Primary potential financial impact**
Increased capital expenditures

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**Company-specific description**
In 2020 we built on an already strong understanding of physical climate risks in our portfolio by investing in an outside firm to do a comprehensive evaluation of 274 properties against 11 climate-related risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three "future" risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. Finally, we are also monitoring the fire risks associated with certain properties in our CA portfolio. In 2022, we expanded this study to include 3 additional climate risk indicators including: FEMA NRI, Tsunami, and Wildfire. The results of these studies show that we do have risk in our eastern markets related to stronger storms and flooding. And clearly events related to flooding and extreme weather could lead to multiple challenges, including disruption of power and water service. As such we are integrating these risks in these northeast and SE Florida into our decision making around new construction design (e.g., moving critical building infrastructure up several floors, installing flood barriers, raising the overall elevation of the building). And we are looking at how to better prepare operationally. In addition, we know that with the grid shutdowns due the CA wildfires we can be exposed to longer shut-down times placing greater need for support from our partnership with the American Red Cross and better backup power. Our four-year, $1M commitment to the American Red Cross is a partnership designed to leverage their disaster planning resources and to better prepare existing communities in the event of these emergencies related to climate risk.

**Time horizon**
Short-term

**Likelihood**
Likely

**Magnitude of impact**
Medium-low

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure – minimum (currency)**
2000000

**Potential financial impact figure – maximum (currency)**
3000000

**Explanation of financial impact figure**
Construction expense increases for disaster preparedness and resiliency are a function of the building type, location where it is constructed and overall design. Therefore as a % of the cost of a new building's construction the costs to improve resiliency through activities like improving storm water runoff, raising the building and designing equipment to reside on higher floors as part of the design/construction process can vary widely. Generally we estimate them to run anywhere from 0.5% to 3% of the total construction cost, depending, again, on the factors outlined above. A recent development in the northeast required just such measures, costing approximately $2.5 - 3.0M in cost against a total cost of 117M, or 2-2.5%. In addition, we know from the experience of Hurricane Sandy that the cost to repair storm damage can be variable depending on the location of the property and the amount of resiliency built into the property. In one example, a property we own that was hit by Hurricane Sandy required over $2M in renovations done as a result of the storm. Part of this was in repair to the building itself, but other components including moving equipment and better preparing the building for future storms. Hence we estimate the financial impact to run in a potential range of $2-$3M per property. Thankfully, however, we have only a handful of properties at this level of potential risk in the portfolio which would not already be prepared for these risks and require investment.

**Cost of response to risk**
3250000

**Description of response and explanation of cost calculation**
We are managing this on two fronts: 1) The Vice President of CR, in coordination with our risk management team and Chief Investment Officer has created a climate and emissions risk dashboard which includes the 14 climate-related risks and the emissions intensities of each property. This dashboard will be maintained and used for investment/divestment decisions and for asset management decisions, and has been integrated into asset plans. 2) On the operational front, our Vice President of CR has established a team of regional liaisons that he meets with bi-monthly to coordinate disaster preparedness activities in coordination with the American Red Cross in each region. CASE Study: SITUATION: In 2020 this process was put into full effect with a series of local disasters, including a coordinated response to the California wildfires and consequential grid shutdowns which affected certain communities in our CA portfolio. TASK: The wildfires and associated grid shutdowns required strong coordination between AVB and the Red Cross, and we began communication with our onsite associates and our residents early, ensuring they the necessary life-safety resources and could handle grid shut-downs. ACTION-RESULT: This early preparation and coordination with the Red Cross and our team ensured a number of very positive outcomes: 1) all our residents and associates were ultimately safe, 2) we sustained minimal property damage, and 3) our properties were able to continue to operate with minimal deleterious effect. In addition, these experiences are informing our plans to combine battery storage with the solar projects we currently are installing in CA to provide better onsite emergency backup power generation. COST CALCULATION: We have budgeted a $250,000 annual donation to the American Red Cross which supports the preparedness activities. The climate change and sea level rise analysis which we currently are integrating into our new development, redevelopment and disposition and acquisition activity cost about $25,000 in 2021 and we anticipate mitigation efforts to run approximately $50,000 ongoing for properties in need of them, all adding up to the $325,000 figure.

**Comment**
No additional comment

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**Identifier**
Risk 4

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Chronic physical | Sea level rise |

**Primary potential financial impact**
Increased capital expenditures

**Climate risk type mapped to traditional financial services industry risk classification**
<Not Applicable>

**Company-specific description**
In 2022 we built on our internal work in 2020 and several years of analyzing the portfolio for climate risks by investing in an outside firm to do a comprehensive evaluation of 274 properties against 11 climate-related risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three “future” risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. In 2022, 3 new risk categories were added: FEMA NRI, Tsunami, and Wildfire. In the category of sea-level rise we determined that 2% of the portfolio was at high risk (5 properties), 1% was at moderate risk, and the remaining 97% of the portfolio was at low risk. These properties at moderate and high risk represent less than 2% of our gross asset valuation. This work was used to create a climate and emissions risk dashboard which was, in turn, presented to the AvalonBay Board of Directors in early 2021. In addition, the dashboard is being used by our asset management team in their asset plans as well as our investments team as they look at potential acquisitions and divestitures. In 2021 we will further refine the dashboard and continue to onboard new developments and acquisitions into the analysis as we move forward.

**Time horizon**
Long-term

**Likelihood**
About as likely as not

**Magnitude of impact**
Low

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure – minimum (currency)**
100000

**Potential financial impact figure – maximum (currency)**
200000

**Explanation of financial impact figure**
This risk could affect which sub-markets we build in and have moderate financial implications for our development and redevelopment budgets. Based on our calculations of how other weather-related events have affected insurance costs on various properties (e.g., earthquake coverage in CA), we estimate that it may also impact our insurance costs, raising them in the long-term by 1-3% or $100,000 to $200,000. In addition, the costs associated with making a new property more resilient by raising elevations and moving equipment locations is too site and property specific to calculate generically.

**Cost of response to risk**
100000

**Description of response and explanation of cost calculation**
Led by the Vice President of Corporate Responsibility, we now have a climate and emissions risk dashboard that clearly defines the risk, by property, of the AvalonBay portfolio. By engaging a respected outside firm and using their variety of sources to model each climate risk for a specific location, we now understand where we have the greatest chronic physical risk vulnerability within our current portfolio. The costs associated with making a property more resilient is very building and location specific. And so for the purposes of this calculation ($100,000) we looked at the variety of measures that could be employed on the properties where we are at risk (currently 5 on the East Coast) and estimated potential per-property investments depending on the solutions chosen. These solutions include a variety of measures, including: Sump pumps (roughly $750 each), Storm blockers and rapidly deployable flood barriers (Can run from $400 each for the blockers to a whole-building solution of $12,000 per building), window upgrades, temporary door protective barriers ($6,500 each), emergency generators (often already on-site), and potable water equipment. We calculate that the costs related to making the five current properties more resilient would run approximately $20,000 per property using pumps, flood blockers and temporary protective barriers. Hence the calculation of 5 properties x $20,000 = 100,000. CASE STUDY SITUATION: Hurricane Sandy literally came through the front door of one of our properties on Long Island. TASK: We had to renovate and redevelop the property and determine how to do so in a way that better protected the equipment in the building. ACTION/RESULT: The new design brought the equipment to a higher level, lowering the risk of future water intrusion and also informed our construction standards for future developments that may be at risk of flooding events.

**Comment**
No additional comment

## C2.4

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**
Yes

## C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**
Opp1

**Where in the value chain does the opportunity occur?**
Direct operations

**Opportunity type**
Resource efficiency

**Primary climate-related opportunity driver**
Other, please specify (Development and/or expansion of low emission goods and services)

**Primary potential financial impact**
Reduced indirect (operating) costs

**Company-specific description**

In the course of developing our communities we continually look for ways to build more efficient units, lower building energy and water costs and reduce our emissions. Improving product efficiency regulations and standards as well as energy codes and standards could support our efficiency efforts by improving the products we use to build the building and the apartment homes, as well as influence how we procure energy. For example, we completed construction of 9 apartment communities in 2021, finishing 2,752 apartment homes. Thanks to our sustainability standards for new construction, these new communities will generate over 320,000 kWh in electricity savings per year, a 30% reduction in heating and cooling costs, and over 20M gallons of water savings per year compared to minimum code requirements. These savings translate into thousands of dollars saved across our portfolio in utility costs. In addition, regulation changes that require more efficient buildings could create a broader market for more efficient building products, thereby resulting in better pricing and performance of our buildings. The current moves by our state and local regulators toward net zero building is driving a push to improve HVAC efficiency, for example, and is driving the costs of battery technology down. This will enable us to use batteries in combination with our solar installations, starting with the 55 communities which will have solar by the end of 2022. This significant one-two combination has tremendous benefits in lowering electricity costs, providing resiliency and backup power generation, and reducing our emissions.

**Time horizon**
Short-term

**Likelihood**
Likely

**Magnitude of impact**
Medium-low

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
250000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact figure**
The $250,000 financial impact number is based on calculations made for our green labeling program, which calculates the efficiency and utility savings of an individual apartment home we build new vs. existing stock in the neighborhood that surrounds our community. Those calculations are based on several energy modeling components, including: the building envelope, more efficient, Energy-Star Rated appliances, and window and door ratings. These then are used to determine potential future savings. Taken together these components would potentially lower operating costs 250,000 a year and be attractive to our residents. There is potential savings in their utility bills of 3-5% (e.g., by using EnergyStar rated appliances, for example, as well as the efficiencies which result from a new building) and potential brand-uplift to AvalonBay as we attract residents who care about environmental sustainability. In addition, we may see more favorable pricing and building performance as we attract residents who care about living in a greener apartment home.

**Cost to realize opportunity**
50000

**Strategy to realize opportunity and explanation of cost calculation**
Our design and construction teams in conjunction with our Corporate Responsibility team communicate regularly with internal and external stakeholders (construction/design teams and partners) on changes in product efficiency regulations and standards. CASE STUDY: SITUATION: In 2015 we developed a strategy to increase the amount of solar generated onsite in light of our goals to reduce energy intensity and emissions. In addition, the markets in which we do business were moving to require lower emissions in our buildings. This effort had certain implications for how we would construction new buildings to make them solar-ready and so required a comprehensive updated of our construction standards relative to solar readiness. TASK: We wanted to take advantage of the opportunity to lower our building emissions through onsite solar generation, and the best way to do this was to write a new, comprehensive construction standard to make all communities capable of onsite solar installation. Further, we knew that we needed to clarify through policy where solar made sense in the portfolio and to provide guidance to development teams on how to go about getting a community solar-ready. ACTION/RESULT: In 2020 we promulgated both an updated solar construction standard and a new solar policy, requiring solar design in certain markets. These were written in anticipation of code changes and standards being developed in several key markets, including California. This standard and new policy have been released as part of our official construction standards, which are used in all new and redevelopment construction projects. COST CALCULATION: Management costs of $50,000 are calculated by estimating employee time in the design and sustainability functions. We estimated what it would take to get a community solar-ready at the time of construction. This primarily related to costs associated with conduit runs, design time to ensure the roof space was free of obstructions, and other electrical design/construction components to ensure solar could easily tie into the building load.

**Comment**
No additional comment

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**Identifier**
Opp2

**Where in the value chain does the opportunity occur?**
Direct operations

**Opportunity type**
Resource efficiency

**Primary climate-related opportunity driver**
Reduced water usage and consumption

**Primary potential financial impact**
Reduced indirect (operating) costs

**Company-specific description**
In areas experiencing extreme droughts, or in areas where water costs are rising rapidly (which is the case in almost all of our markets), we are finding good return on investment in implementing more efficient weather-based irrigation controls. This is enabling us to implement more efficient watering systems and apartment home fixtures, thereby reducing our overall watering costs significantly. It is also a potential attraction point for prospective residents as we move to increase water efficiency in our apartment homes and lower their costs. Beyond irrigation systems, the ongoing challenges with water scarcity and cost are opportunities for us to look at water consumption and use in all of our communities. in 2021 our Water Reduction Task Force continued their efforts, begun in 2019, to work on water efficiency across the portfolio, where we are looking to continue to drive improvements in efficient fixtures and toilets, improve construction standards, and change operational procedures that will benefit AvalonBay in all of our regions. One result of their work is the installation of 31 more weather-based irrigation systems that completing installation at the end of 2021. In 2021, these systems saved $1.2M and over 143M gallons of water. That type of return is indicative of what this opportunity represents from a financial perspective.

**Time horizon**
Short-term

**Likelihood**
Virtually certain

**Magnitude of impact**
Medium-low

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
1200000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact figure**
We are seeing significant savings in water bills associated with more efficient weather-based irrigation systems. Our 31 systems installed in 2020-21 are savings us $1,200,000 and over 143 Million gallons of water based on actual data from the systems output reports. The annual savings are calculated by comparing the irrigation consumption from a one month to that month's consumption from one year ago, and then multiplying it by the water rate of that given year, and adding all 12 months for an annual number. This number is significant when multiplied across the total number of communities where we plan to implement these more efficient systems. In addition, the implementation of water task force recommendations on additional water saving measures will continue to drop our water consumption. and add to these savings and the financial impact.

**Cost to realize opportunity**
1150000

**Strategy to realize opportunity and explanation of cost calculation**
We determined that the best strategy for realizing this opportunity and gain consensus across the organization was through a multi-disciplinary task force. This task force is led by our VP of Corporate Responsibility, and includes members of Marketing, Residential Services, Energy & Utilities Management, Engineering and Development. CASE STUDY SITUATION: Water costs are increasing in many of our markets as the costs to upgrade old infrastructure get rolled into the utility charges. In addition, we have our own water use intensity goal which is designed to reduce consumption. Therefore we knew we needed to move even more forcefully on the area of water conservation and management. TASK: The task was to identify as many areas of potential water savings as possible, both in existing buildings and in our new construction standards. ACTION/RESULT: The multi-disciplinary water task force identified a series of opportunities for improving our construction standards and reducing water consumption. One of the biggest areas related to irrigation water. Hence the task force recommended we increase our weather-based irrigation systems and make it a construction standard that is mandatory in certain water-stressed areas. In addition to the 29 existing system, the task force recommended 31 more be installed in 2020-21. Through our sustainability capex funds, these installations are now completed. The VP of CR and our energy analyst each receive a weekly report on how the weather-based irrigation systems are performing, including any alerts and outliers that may show leakage. The VP of CR is using the report data to influence other activities to reduce water consumption across the portfolio. COST EXPLANATION: We have budgeted over $1.15M on the weather-based irrigation systems in 2020-21.

**Comment**
No additional comment

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**Identifier**
Opp3

**Where in the value chain does the opportunity occur?**
Direct operations

**Opportunity type**
Energy source

**Primary climate-related opportunity driver**
Use of lower-emission sources of energy

**Primary potential financial impact**
Reduced indirect (operating) costs

**Company-specific description**
As the markets we do business in set goals to move to low carbon, low emissions future, we have significant opportunity to play our part and move our own sources of energy to a renewable, lower emissions sources. In 2021 we installed solar on 23 communities, adding 4.7 Megawatts of renewable power to our portfolio. This is in addition to the 15 communities generating over 2.2 Megawatts of solar power. In 2022 we are finishing and starting onsite solar projects at 21 more communities. There are still an additional 26 communities undergoing feasibility which can potentially add another 12.5 Megawatts of renewable energy. If all of these projects are completed, AvalonBay would have a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us 15.8 metric tons of CO2. Note that we have removed from this number the communities in DC and NJ where we monetize the SRECs so as to not double count those RECs. These 85 projects would $3.9M in annual electricity costs, annually. The installed communities include Avalon at Foxhall, Avalon at Gallery Place, H Street, The Albemarle, The Statesman, Van Ness, First and M, and Princeton. Others that are complete or still in the final phase of installation include Warner Center (72kW), Studio City II (69kW), Pasadena (69kW), Walnut Creek (30kW), Cahill Park (213kW), Willow Glen (129kW), Creekside (64kW), Vista (59kW), Rancho Penasquitos (91kW), Old Town Pasadena (60kW), Dublin Station I (171kW), Dublin Station III (139kW), Pacific Beach (222kW), Toluca Hills (344kW), Woodland Hills (497kW), and West Valley (209kW) among others. In 2020 we created a strategic plan to achieve our Science-Based Targets, with three foci: 1) a focus on onsite and virtual renewable energy and shifting our procurable load to renewables, 2) a focus on embedded carbon in our construction materials, and, 3) engagement with our residents on renewable procurement and renewable energy. The opportunities here reflect our commitment to move to a fundamentally low carbon operating model. In fact, in 2021, we were able to expand of the 56% of our current procurable common area electric load to renewable wind energy. In 2021 we completed a study to understand the scope of potential virtual power and lower embedded carbon in our concrete and rebar mixes.

**Time horizon**
Short-term

**Likelihood**
Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
3900000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact figure**
The financial impact of solar on the company is now estimated to be a return of $3.9M annually. This is a figure which represents the U.S. Federal Tax Credit, Depreciation, and the savings in utilities from the solar itself. We expect this figure to continue to rise as we start to combine solar and battery technologies, increase our participation in demand response programs (which themselves are on the rise with utilities in our markets), and install more renewable energy across the portfolio.

**Cost to realize opportunity**
4000000

**Strategy to realize opportunity and explanation of cost calculation**
There are three components to our strategy, here. 1) In 2016 we established renewable energy strategy for the Company and have been executing on that strategy across the last 5 years. 2) We are working on a battery strategy to extend commercial batteries to our communities with onsite solar. And, 3) We have an over 5 year program to install interval meters, onsite equipment monitoring and participate in demand response programs. Taken together, the strategy will ultimately be in support of and tied to our approved Science-Based Targets to form a cohesive whole, with the Target being the "NorthStar" and the integrated solar-battery-demand response-data programs being the means for achieving decarbonization and a shift to renewable energy sources. CASE STUDY: SITUATION: As our markets require lower emissions from our buildings and we ourselves set ambition emission reduction goals in line with a 1.5 degree scenario, we know we need to maximize the amount of onsite solar generation we can produce. TASK: We needed to implement the renewable energy strategy established in 2016 and find the right vendors to help support its execution. ACTION/RESULTS Led by the Vice President of Corporate Responsibility, we have developed a phased approach to our solar installations. Phase 1 included 9 communities, primarily in our DC market plus one in New Jersey and 1 in California. Phase 2 added 26 more in California. Phase 3 includes 24 communities in California, NJ and MA. And an additional 26 are being scoped for Phase 4. Concurrent to these phases, we have been lining up installation and operations/maintenance vendors who can maintain the systems ongoing. This involves participation of key vendors, who support the financial analysis, design, contracting, and installation of the 85 solar projects we plan to implement by the end of 2023. Ultimately we will have 24MW of solar saving us over $3.9M annually and offsetting roughly 15,800 metric tons of CO2. COST EXPLANATION: The cost to realize this opportunity, alone, in both hard and soft net costs is $40M This includes an investment of $37M in solar and our battery at our White Plains community and our demand response programs in NY, Boston, DC and CA, which rely on solar and will add an additional $3M.

**Comment**
No additional comment

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**Identifier**
Opp4

**Where in the value chain does the opportunity occur?**
Downstream

**Opportunity type**
Products and services

**Primary climate-related opportunity driver**
Shift in consumer preferences

**Primary potential financial impact**
Increased revenues resulting from increased demand for products and services

**Company-specific description**
AvalonBay has an opportunity to lead in the multi-family space when it comes to the sustainable design, development, construction and operation of our 278 communities. In taking a position of leadership we have an opportunity to improve our reputation with key stakeholders, including those looking to reduce their energy costs by renting with a more efficient and greener multi-family builder. Our internal green labeling system, for example, shows the operational savings and green features prospective residents can expect when renting an AvalonBay apartment home. In addition, in markets like San Francisco, we are trying new innovations like solar pre-heated water heating and food waste composting, all of which attract prospective residents who care about greener buildings and apartment homes. And as we expand our onsite solar and study battery technology for implementation, we are finding opportunities to build solar-battery combination systems with a size large enough to cover our resident electric bills, too. In 2020 we expanded our demand response program to enable residents to participate in it in New York. This allows them to earn income and participate in utility demand response programs, reducing their load a peak event periods. In 2021, we have become scoping out possible demand response opportunities in California. We have also begun the pilot of 4 residential solar projects in 2021 in California that would provide clean renewable solar energy to residents. Ultimately we see real opportunity to extend the environmental sustainability efforts focused on a low/no carbon future to our residents in ways that have a material effect on their utility bills and carbon footprint. We believe this will be a real attraction point to residents and increase demand for sustainable living solutions in their apartment homes.

**Time horizon**
Short-term

**Likelihood**
More likely than not

**Magnitude of impact**
Medium-low

**Are you able to provide a potential financial impact figure?**
Yes, an estimated range

**Potential financial impact figure (currency)**
<Not Applicable>

**Potential financial impact figure – minimum (currency)**
500000

**Potential financial impact figure – maximum (currency)**

1000000

**Explanation of financial impact figure**

Improving the preference of both prospects and existing residents for the AvalonBay brand has, in certain markets, the potential to increase resident retention 1-2% and has some impact on our ability to lease-up new communities more quickly and to retain existing residents at lease-end. This calculation is based on data regarding resident retention which shows the correlation between our net promoter score and retention rates. We know that our positive brand impressions lead to net promoter scores which are higher, and hence we conservatively estimate the 1-2% retention impact as a result which translates into a range of $500,000-$1,000,000 in additional rent. Also, a recent survey of our residents showed that they are more likely to recommend AvalonBay based on our ESG initiatives and performance which is another component of how we calculated this percentage.

**Cost to realize opportunity**

47000000

**Strategy to realize opportunity and explanation of cost calculation**

Our Corporate Responsibility (CR) team in coordination with our brand, marketing, communications, and PR team manages how sustainability initiatives could support brand uplift. A representative from Marketing/Communications/PR serves on the Corporate Responsibility Committee and ensure that our activities are consistently evaluated from the angle of marketing and branding. For example, a cross-functional team currently being led by the VP of CR currently is installing solar across our portfolio. This initiative has great brand uplift potential, too, as residents can see a sustainability initiative in plain view. Therefore, we are working with our marketing and local community management teams to ensure that when solar is installed we are communicating our sustainability commitments effectively to our residents. We have seen a significant increases in our Net Promoter Score, a measure of customer loyalty, which increased due to customer engagement efforts, including our sustainability initiatives. With an overall Capex budget in the millions we are putting significant resources behind initiatives that will support environmental improvements and reduce GHG. Our 2019-2021 sustainability capital budget is $47 million to make these improvements.

**Comment**

No additional comment

## C3. Business Strategy

### C3.1

**(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?**

**Row 1**

**Transition plan**

Yes, we have a transition plan which aligns with a 1.5°C world

**Publicly available transition plan**

No

**Mechanism by which feedback is collected from shareholders on your transition plan**

We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

**Description of feedback mechanism**

<Not Applicable>

**Frequency of feedback collection**

<Not Applicable>

**Attach any relevant documents which detail your transition plan (optional)**

2022 Business Plan_CR-Utilities-Diversity - FINAL - CDP.pdf

**Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future**

<Not Applicable>

**Explain why climate-related risks and opportunities have not influenced your strategy**

<Not Applicable>

### C3.2

**(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?**

| | Use of climate-related scenario analysis to inform strategy | Primary reason why your organization does not use climate-related scenario analysis to inform its strategy | Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future |
|---|---|---|---|
| Row 1 | Yes, qualitative and quantitative | <Not Applicable> | <Not Applicable> |

### C3.2a

**(C3.2a) Provide details of your organization's use of climate-related scenario analysis.**

| Climate-related scenario | Scenario analysis coverage | Temperature alignment of scenario | Parameters, assumptions, analytical choices |
|---|---|---|---|
| Physical climate scenarios: RCP 4.5 | Company-wide | <Not Applicable> | In 2020, we completed a climate risk assessment of 274 communities across 11 climate risk indicators including 3 future risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three "future" risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. In 2022, we expanded the number of indicators used to 14 adding FEMA NRI, Tsunami, and Wildfire risks. Two of the future risks below have been assessed using the RCP 4.5 and 8.5 scenarios: Extreme Heat Extreme heat risks related to the projected increase in maximum daily air temperature. Datasets from Representative Concentration Pathways 4.5 and 8.5 are used to determine the percentage change in number of days per year for annual maximum daily air temperature greater than 85°F (~29.44° Celsius) averaged over 2026-2030, 2036-2040 and 2046-2050 compared with no. of days per year averaged over 2021-2025. Extreme Rainfall Extreme rainfall risks related to the projected increase in maximum daily rainfall (precipitation). Datasets from Representative Concentration Pathway 4.5 and 8.5* are used to determine the percentage change in annual maximum daily precipitation averaged over 2026-2030, 2036-2040 and 2046-2050 compared with the annual maximum daily precipitation averaged over 2021-2025. This assessment directly impacts the way we manage our properties informing us of communities that may need mitigation measures as well as markets to be weary of in the future. This assessment is required for all new development and acquisition properties so that we can incorporate this risk assessment when making investment decisions. |
| Physical climate scenarios: RCP 8.5 | Company-wide | <Not Applicable> | In 2020, we completed a climate risk assessment of 274 communities across 11 climate risk indicators including 3 future risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three "future" risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. In 2022, we expanded the number of indicators used to 14 adding FEMA NRI, Tsunami, and Wildfire risks. Two of the future risks below have been assessed using the RCP 4.5 and 8.5 scenarios: Extreme Heat Extreme heat risks related to the projected increase in maximum daily air temperature. Datasets from Representative Concentration Pathways 4.5 and 8.5 are used to determine the percentage change in number of days per year for annual maximum daily air temperature greater than 85°F (~29.44° Celsius) averaged over 2026-2030, 2036-2040 and 2046-2050 compared with no. of days per year averaged over 2021-2025. Extreme Rainfall Extreme rainfall risks related to the projected increase in maximum daily rainfall (precipitation). Datasets from Representative Concentration Pathway 4.5 and 8.5* are used to determine the percentage change in annual maximum daily precipitation averaged over 2026-2030, 2036-2040 and 2046-2050 compared with the annual maximum daily precipitation averaged over 2021-2025. This assessment directly impacts the way we manage our properties informing us of communities that may need mitigation measures as well as markets to be weary of in the future. This assessment is required for all new development and acquisition properties so that we can incorporate this risk assessment when making investment decisions. |
| Transition scenarios: Bespoke transition scenario | Company-wide | 1.5ºC | SCENARIO 1 As part of the process for AvalonBay (AVB) to set approved SBTs, we aligned with a 1.5 degree C scenario. To conduct this analysis, we did the following: 1) INPUTS/ANALYTICAL METHODS: Inputs included data from our utilities team and our construction and development team to analyze our scope 1, 2, and 3 emissions. 2) TIME HORIZONS: Our time-horizon was 10 yrs (2030) which provides enough time to work on the Scope 3 resident emissions. 3) AREAS OF ORGANIZATION: We analyzed 5 main areas: community consumption, resident use, construction use, waste, and maintenance. 4) RESULTS: We determined that with a 1.5 degree scenario we had three reduction options: (1) (50% Scope 1 & 2 - 35% Scope 3). (2) (55% Scope 1 & 2 - 37% Scope 3), (3) (65% Scope 1 & 2 - 37% Scope 3). 5) CASE STUDY: From this analysis we set approved SBTs (53% reduction Scope 1 & 2 and 47% Scope 3) aligning with the 1.5 degree scenario. SCENARIO 2 CASE STUDY SITUATION: As a new administration more favorable to climate action has taken office. we planned to look at two potential carbon tax scenarios. TASK: We engaged an outside firm to develop a model for two potential carbon tax scenarios and wanted to model a more conservative and more liberal approach to understanding of the financial impact on AvalonBay of two regulatory scenarios: Scenario 1: The Business Climate Leaders proposal of a $15/ton of CO2eq, covering all principal GHGs. This would increase $10/year. Scenario 2: The Climate Leadership Council's $40/ton of CO2eq. This is set to increase each year. We modeled it increasing at 2%/year. These 2 scenarios were modeled over a 5 year period using 2019 AVB GHG emissions baseline. We found there would be a negligible effect on AVB in either scenario. In Scenario 1, for Scope 1 & 2 modeling (most likely scenario to affect AVB), the tax would go from $1.2M to $4.35M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.07% in 2021 and 0.27% in 2025. In Scenario 2, for Scope 1 & 2 modeling (most likely scenario to affect AVB) the tax would go from $3.17M to $3.43M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.2% in 2021 and 0.21% in 2025. ACTION/RESULTS: Our VP of Tax is now incorporating this into the business planning and risk mitigation plans. |

## C3.2b

**(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.**

**Row 1**

**Focal questions**

At AvalonBay communities, some of the questions we seek answers to per our climate related scenario assessments are as follows: 1. What climate related impact can we expect from changing climate on our existing and development portfolio? 2. How can we use climate related understanding to guide development, acquisition, and disposition information? 3. How might legislation geared towards lowering climate change impact revenue?

**Results of the climate-related scenario analysis with respect to the focal questions**

1. What climate related impact can we expect from changing climate on our existing and development portfolio. - In 2020, we conducted an initial climate risk assessment of 274 existing assets in our portfolio against 11 climate risk indicators including 3 future risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three "future" risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. In 2022, we updated this analysis to include 3 additional climate risk indicators: FEMA NRI, Tsunami, and Wildfire. These assessments have allowed us to understand which properties or regions are more at risk than others and for what climate related risks. Using this knowledge, we have begun to undergo mitigation measures analysis to understand what can be done to improve resiliency. 2. How can we use climate related understanding to guide development, acquisition, and disposition information. - In 2021, we published a policy that requires all new development and acquisitions to undergo the above mentioned climate risk assessment. For developments and acquisitions, this helps us map any potential mitigation measures we need to build in. For dispositions, this assessment has helped inform what locations are not suitable for our communities in the long term. 3. How might legislation geared towards lowering climate change impact revenue. As a new administration more favorable to climate action has taken office. we planned to look at two potential carbon tax scenarios. TASK: We engaged an outside firm to develop a model for two potential carbon tax scenarios and wanted to model a more conservative and more liberal approach to understanding of the financial impact on AvalonBay of two regulatory scenarios: Scenario 1: The Business Climate Leaders proposal of a $15/ton of CO2eq, covering all principal GHGs. This would increase $10/year. Scenario 2: The Climate Leadership Council's $40/ton of CO2eq. This is set to increase each year. We modeled it increasing at 2%/year. These 2 scenarios were modeled over a 5 year period using 2019 AVB GHG emissions baseline. We found there would be a negligible effect on AVB in either scenario. In Scenario 1, for Scope 1 & 2 modeling (most likely scenario to affect AVB), the tax would go from $1.2M to $4.35M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.07% in 2021 and 0.27% in 2025. In Scenario 2, for Scope 1 & 2 modeling (most likely scenario to affect AVB) the tax would go from $3.17M to $3.43M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.2% in 2021 and 0.21% in 2025. ACTION/RESULTS: Our VP of Tax is now incorporating this into the business planning and risk mitigation plans.

## C3.3

**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|---|---|
| Products and services | Yes | As the markets in which we do business mitigate climate change and require low carbon buildings, they are changing codes and regulations. We identified this as a Current Regulation Risk (CurrRegRisk1) and Emerging Regulatory Risk [EmRegRisk1]. These requirements directly impact our products and services (the apartment communities we build and operate) and require greater investment in lower carbon building materials, more efficient systems, and onsite/virtual renewable energy combined with battery technology. This activity also supports an opportunity with a direct effect on operational costs. We identified this as a Resource Efficiency Opportunity (ResEffOpp1). More efficient properties lead to higher Net Operating Income (NOI) and lower operational costs. The best example of the interplay between this risk and opportunity has been our investment in LED lighting, providing annual savings of over $4.16 Million operationally on an investment that will payback in just under 4 years all while reducing our emissions. TIME HORIZON: The time horizon for these activities is both short-term and medium-term. Climate Change Adaptation/Mitigation and Most Substantial Strategic Decisions Influenced by these risks/opportunities. As a result of these codes and lower emissions requirements, we have made a significant strategic decision to establish two main tracks that will help achieve our science-based targets: TRACK 1: invest in renewable energy and battery technology and TRACK 2: evaluate and transition our high embedded carbon materials to lower embedded carbon alternatives. In addition, we made a strategic decision to better integrate climate science into our investment decisions through climate risk reports on a per-property basis. We engaged a third party and made a substantial investment in 2020 in evaluating 274 properties against 11 climate-risk factors. This study was updated in 2022 to include 3 additional risks. Our new Climate and Emissions Risk Dashboard now centralizes this data and supports our investments, divestitures, and capital asset allocation decisions all with an eye toward mitigating against climate change and achieving our science-based targets. Taken together these strategic decisions have set a decarbonization/climate mitigation course for the 2020s that is a direct result of the identified risks and opportunities. |
| Supply chain and/or value chain | Yes | How our strategy has been influenced by climate-related risks and opportunities and time horizon: As we mitigate the risks we identified under chronic physical and acute physical categories (CPRisk1 and APRisk1), we have found that there is an opportunity to engage our supply chain and suppliers. In fact, our own science-based targets require us now to focus on Scope 3, which directly implicates our suppliers. That is why we created, as a framework for supplier expectations and engagement, our Responsible Supply Chain program and the principles associated with this program (found here: https://www.avaloncommunities.com/~/media/Files/CorporateResponsibility/SupplyChainPolicy.pdf?la=en). And in 2020 we conducted a study of the highest embedded carbon materials in our supply chain, identifying 3 materials that contribute the most to our embedded emissions: Concrete, Steel Rebar, and Gypsum Core Drywall. In 2021, we have piloted the tracking of embodied impacts on 2 projects. TIME HORIZON: The time horizon for our supply chain strategy is short- and medium-term with some long-term components such as the full shift to low embedded carbon materials. Climate Change Adaptation/Mitigation and Most Substantial Strategic Decisions Influenced by these risks/opportunities. There is a direct correlation between climate change mitigation and lowering our carbon emissions through supplier engagement in the construction of our apartment communities. Our most important strategic decision here is the work to understand our high embedded carbon materials. Directly tied to our science-based targets implementation and the risks we identified related to acuate physical and chronic physical categories, we are working now to address carbon in the supply chain and achieve our ambitious scope 3 targets. CASE STUDY: SITUATION: We set two primary tracks for achieving our science-based targets and one of them involved embedded carbon in our construction materials. This track heavily implicates our vendor management and engagement approach. TASK: Engaged our vendors on low embedded carbon materials in the top emission materials, including concrete (#1) and rebar (#2). ACTION/RESULTS: We have established a cross-functional committee to investigate lower embedded material alternatives and are in the initial stages of determining what vendors can source these materials and how they perform. |
| Investment in R&D | Yes | How our strategy has been influenced by climate-related risks and opportunities and time horizon: As we take advantage of opportunities to build and operate our communities more efficiently and to lower our scope 1, 2 and 3 emissions (particularly the risks CPRisk1 and APRisk1 and opportunities ResEffOpp1 and ResEffOpp2), we have significant opportunity to innovate and invest in our properties and in our construction processes. Our strategy has been significantly influenced here by these risks and opportunities in that our plan to achieve our science-based targets is going to focus investment on R&D in our construction materials in an attempt to reduce high embedded carbon materials. This includes concrete, steel rebar and gypsum core drywall. All three of these were scoped for investment and analysis in 2020. In 2021, we piloted a tracking program to sucessfully track embodied impact during construction. In 2022-2023 we plan to incorporate the use of lower embodied carbon products. and reducing materials. TIME HORIZON: The time horizon for this strategy is medium- and long-term. As noted in the section on our supply chain, we are working to reduce embedded carbon in construction materials we use to construct our apartment communities. This has led to our most strategic decision to invest in the R&D necessary to achieve this and find alternate materials and alternate suppliers. In addition, we continue to make strategic decisions on the scope 1 and 2 emissions front to reduce load, invest in onsite renewable energy generation, and renewable power purchase agreements, all of which require some investment in the R&D necessary to change to more efficient equipment and energy sourcing strategies so that we can move our electrical load to renewable sources. CASE STUDY: SITUATION: Innovation is one of our core values and we know that we will need significant amounts of innovation and R&D investment to achieve our plans. TASK: We had to build an internal innovation platform to percolate ideas and help germinate them so they could grow. ACTION/RESULTS: We launched an internal innovation platform, titled AVB Labs. AVB Labs provides support for sustainability-related innovation that changes how we build, redevelop and operate our communities, and supports an enhanced investment in R&D. |
| Operations | Yes | How our strategy has been influenced by climate-related risks and opportunities and time horizon: Undoubtedly every risk and opportunity outlined has influenced our strategies related to operational improvements and change. We have invested heavily in efficiency measures to reduce our carbon emissions and energy and water consumption and costs. And we are replacing common area electricity sourced from power plants with onsite solar generation in over 1/3 of our portfolio. These investments, since 2014, tally to over $70M while providing significant financial returns and reducing our emissions. In addition, we have invested in programs to improve our operational approach, integrating efficiency considerations into how we manage, operate and even clean our communities. We have made significant investments in data and IoT technology to better monitor our equipment and provide near-real-time meter data so that we can more efficiently operate equipment and participate in utility demand response programs. On the construction and development side we have integrated a set of Green Construction standards and Operational Principles into how we design and build our properties, again in response to the risks and opportunities outlined in our CDP response. TIME HORIZON: The time horizon for this strategy around operations encompasses all three: Short- Medium- and Long-term. Climate Change Adaptation/Mitigation and Most Substantial Strategic Decisions Influenced by these risks/opportunities. Operationally the biggest strategic decisions influenced by our risks and opportunities include reviewing our properties for exposure to physical climate risks and developing climate mitigation and adaptation plans for the properties most at risk. Also, we are strategizing around building electrification, and are installing significant onsite solar generation, and moving our procurable electric load to renewable sources. CASE STUDY: SITUATION: Operationally we need to move to a low-carbon/low-emissions platform. TASK: Install as much onsite solar generation as possible. ACTIONS/RESULTS: We have now installed or are now installing onsite solar at 85 communities. Ultimately we will have 24MW of solar saving us over $3.8M annually and offsetting roughly 15,000 metric tons of CO2. |

## C3.4

**(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

| | Financial planning elements that have been influenced | Description of influence |
|---|---|---|
| Row 1 | Capital expenditures Acquisitions and divestments | Capital Expenditures Details on how climate-related risks and opportunities have influenced this element of our financial planning and the time-horizon. Our time horizon for this planning is short and medium-term, as annually, the VP of CR develops a strategic plan, partly based on climate-related risks and opportunities and outlines initiatives and the near and medium-term capital expenditures required to achieve the plan. We want to be a leader in building and operating low/no carbon buildings in the cities of the future. Therefore, with our markets in which we do business moving more and more to a low/no carbon economy and requiring the buildings in their cities to significantly reduce emissions, our capital expenditures, and the planning related to them described in the previous paragraph are increasing in the following areas – designed to mitigate these risks and take advantage of the opportunities: Building and equipment efficiency, low-carbon emissions technology (building electrification), and onsite renewable energy generation. Case Study: A good case study of this shift in capital expenditure is our solar strategy created in 2016, and now in execution during the past 5 years. In 2020 we installed solar on 7 communities, adding 560 Kilowatts of renewable power to our portfolio. This is in addition to the 9 communities generating over 1 Megawatt of solar power that were built in 2019. In 2021 installed onsite solar at 23 more communities contributing an additional 4.7 Megawatts of renewable power. In 2022, we will be adding an additional 21 solar projects. And we recently approved another 26 communities to have solar feasibility done, totally 12.5 Megawatts of additional power. If all of these projects are completed, AvalonBay would have achieved its solar strategy in large part, and own a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us over 15 metric tons of CO2. Note that we have removed from this number the communities in DC and NJ where we monetize the SRECs so as to not double count those RECs. These 85 projects would $3.8M in annual electricity costs, annually. This particular program's achievements offer insight into how our risk planning then influenced large capital decisions, as follows: 1) A risk was identified regarding our markets moving toward a low carbon future and enacting more stringent legislation (CA, NY, DC, Boston, wil CO and WA quickly on their heels) regarding installation of renewable energy as well as rising energy costs. We also identified an opportunity regarding solar due to costs dropping and the fact that our markets are very favorable to solar. 2) The VP of CR engaged the cross-disciplinary CR Committee to discuss this risk/opportunity, and it was determined that we should engage a consultant to establish a solar strategy and begin to install solar on our properties, which we began in 2016 3) When the strategy was complete, it was presented to senior management, who gave the green light to fund phase I of solar (9 communities). As we proved out this first phase we began to incrementally shift and increase capital expenditures to implement phase II of the plan (26 communities). In 2020-2021 we scoped phase III, and at the beginning of 2021 we received management approval to start capital allocation for Phase IV. Acquisitions and divestments Details on how climate-related risks and opportunities have influenced this element of our financial planning and the time-horizon. As climate risk and the need for climate mitigation becomes more pronounced, we have made a significant change to our acquisition due-diligence to take into account climate-related risk in new acquisitions. In addition, as we look to divest properties, we are taking into account their carbon footprint and looking for ways to remove older, less efficient and higher-emitting buildings from our portfolio. The time horizon for this shift is medium-term, as the acquisition and divestment activity varies depending on the year. In 2020 we took a large step forward in this financial planning area with additional investment in an outside firm to analyze 274 properties individually against 11 climate-risks. These include: Pluvial Flooding (rainfall), Fluvial Flooding (riverine), Hurricane, FEMA flood rating, Wind, Tornado, Earthquakes, and Tidal Flooding (sea-level rise). In addition, three "future" risks were analyzed, including: Extreme Heat, Extreme Rainfall, and Extreme Drought. In 2022, we updated this analysis to include 3 additional climate risk indicators: FEMA NRI, Tsunami, and Wildfire. As a result of this analysis, we created a combined climate and emissions risk dashboard which shows each property's risk profile and emissions intensity. This dashboard has been integrated into our investments and asset management decision-making and will be used in our new developments (each new development will undergo the same analysis and be added to the dashboard), dispositions and acquisitions, and capital investment decisions made by our asset management team to make the portfolio more resilient. Case Study An excellent case study of how climate-related risks and opportunities are influencing our acquisitions is the recent climate risk report we completed on a potential acquisition in Florida. Using the vendor tool we acquired during our portfolio review of 14 climate risks, we conducted this report as part of our due diligence on the acquisition. We used this report in conjunction with floodplain and elevation analysis prior to our investment commitment to confirm the assets micro location was protected and building infrastructure was also elevated. In addition, two divestitures (one complete, one in process) were influenced by the climate-risk modeling we did on these communities. |

## C3.5

**(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?**

Yes

## C3.5a

**(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's transition to a 1.5°C world.**

**Financial Metric**

CAPEX

**Percentage share of selected financial metric aligned with a 1.5°C world in the reporting year (%)**

2.67

**Percentage share of selected financial metric planned to align with a 1.5°C world in 2025 (%)**

2.67

**Percentage share of selected financial metric planned to align with a 1.5°C world in 2030 (%)**

2.67

**Describe the methodology used to identify spending/revenue that is aligned with a 1.5°C world**

We have developed and are executing on a strategic plan to achieve our approved SBTs which includes movement on multiple fronts including reduction of consumption across all emissions impact areas (like energy, waste, water, fuel, etc.), such as our programs to install weather based irrigation systems and LED Lighting, increased adoption of renewable energy installation/procurement, which can be seen though our expansive solar panel program, and transition to renewable wind procurement, and reduction of embodied carbon impacts through material substitutions and replacements. Our Sustainability CAPEX budget is defined at the beginning of each year and is adjusted throughout the year, but in some cases, planned CAPEX not established by the Corporate Responsibility department also contributes to our ESG goals. Our CAPEX tracking allows us to identify which items contribute to our corporate ESG goals out of all work completed during that year.

# C4. Targets and performance

## C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Intensity target

## C4.1b

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**
Int 1

**Year target was set**
2019

**Target coverage**
Company-wide

**Scope(s)**
Scope 1
Scope 2

**Scope 2 accounting method**
Market-based

**Scope 3 category(ies)**
<Not Applicable>

**Intensity metric**
Metric tons CO2e per square foot

**Base year**
2017

**Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)**
0.9283

**Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)**
3.114

**Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)**
4.04

**% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure**
100

**% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure**
100

**% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure**
<Not Applicable>

**% of total base year emissions in all selected Scopes covered by this intensity figure**
100

**Target year**
2030

**Targeted reduction from base year (%)**
53

**Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]**
1.8988

**% change anticipated in absolute Scope 1+2 emissions**
15.43

**% change anticipated in absolute Scope 3 emissions**
0

**Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)**
0.8527

**Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)**
1.9049

**Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)**
2.76

**% of target achieved relative to base year [auto-calculated]**
59.7795628619466

**Target status in reporting year**
Underway

**Is this a science-based target?**
Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**
1.5°C aligned

**Please explain target coverage and identify any exclusions**
AvalonBay commits to reduce scope 1 and 2 GHG emissions by 53% per square foot and scope 3 emissions by 47% per square foot by 2030 from a 2017 base-year.

**Plan for achieving target, and progress made to the end of the reporting year**
Plan for achieving target, and progress made to the end of the reporting year: In 2020 we created a strategic plan to achieve our Science-Based Targets, with three foci: 1) a focus on onsite and virtual renewable energy and shifting our procurable load to renewables, 2) a focus on embedded carbon in our construction materials, and, 3) engagement with our residents on renewable procurement and renewable energy. The opportunities here reflect our commitment to move to a fundamentally low carbon operating model. In 2021, we were able to expand of the 56% of our current procurable common area electric load moving to 91% renewable wind energy.. We also completed a study to understand the scope of potential virtual power and lower embedded carbon in our concrete and rebar mixes. List the emissions reduction initiatives which contributed most to achieving this target: Additionally, in 2021, we completed the installation of 23 solar projects adding 4.7MW of renewable energy to our existing 15 solar projects producing 2.2MW of solar. We have an additional 21 solar projects scheduled for 2022 that will produce 4.2MWs. In 2021, we began to incorporate embodied carbon tracking in our development process by piloting this program on 2 of our development communities. In 2021, we also started wrapping up of LED replacement program as we have now retrofitted roughly 200 communities with LED lights saving us roughly $3.8M/year.

**List the emissions reduction initiatives which contributed most to achieving this target**
<Not Applicable>

---

**Target reference number**
Int 2

**Year target was set**
2019

**Target coverage**
Company-wide

**Scope(s)**
Scope 3

**Scope 2 accounting method**
<Not Applicable>

**Scope 3 category(ies)**
Category 1: Purchased goods and services
Category 5: Waste generated in operations
Category 13: Downstream leased assets

**Intensity metric**
Metric tons CO2e per square foot

**Base year**
2017

**Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)**
5.52

**Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)**
5.52

**% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure**
<Not Applicable>

**% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure**
<Not Applicable>

**% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure**
91

**% of total base year emissions in all selected Scopes covered by this intensity figure**
91

**Target year**
2030

**Targeted reduction from base year (%)**
47

**Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]**
2.9256

**% change anticipated in absolute Scope 1+2 emissions**
0

**% change anticipated in absolute Scope 3 emissions**
15.99

**Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)**
<Not Applicable>

**Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)**

4.23

**Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)**
4.23

**% of target achieved relative to base year [auto-calculated]**
49.7224791859389

**Target status in reporting year**
Underway

**Is this a science-based target?**
Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**
1.5°C aligned

**Please explain target coverage and identify any exclusions**
AvalonBay commits to reduce scope 1 and 2 GHG emissions by 53% per square foot and scope 3 emissions by 47% per square foot by 2030 from a 2017 base-year.

**Plan for achieving target, and progress made to the end of the reporting year**
In 2020 we created a strategic plan to achieve our Science-Based Targets, with three foci: 1) a focus on onsite and virtual renewable energy and shifting our procurable load to renewables, 2) a focus on embedded carbon in our construction materials, and, 3) engagement with our residents on renewable procurement and renewable energy. The opportunities here reflect our commitment to move to a fundamentally low carbon operating model. In 2021, we were able to expand of the 56% of our current procurable common area electric load to renewable wind energy. We also completed a study to understand the scope of potential virtual power and lower embedded carbon in our concrete and rebar mixes. Additionally, in 2021, we completed the installation of 23 solar projects adding 4.7MW of renewable energy to our existing 15 solar projects producing 2.2MW of solar. We have an additional 21 solar projects scheduled for 2022 that will produce 4.2MWs. In 2021, we began to incorporate embodied carbon tracking in our development process by piloting this program on 2 of our development communities. In 2021, we also started wrapping up of LED replacement program as we have now retrofitted roughly 200 communities with LED lights saving us roughly $3.8M/year.

**List the emissions reduction initiatives which contributed most to achieving this target**
<Not Applicable>

## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**
Other climate-related target(s)

## C4.2b

**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

**Target reference number**
Oth 1

**Year target was set**
2018

**Target coverage**
Company-wide

**Target type: absolute or intensity**
Intensity

**Target type: category & Metric (target numerator if reporting an intensity target)**

| | |
|---|---|
| Waste management | Other, please specify (Pounds) |

**Target denominator (intensity targets only)**
Other, please specify (Per Apartment Home)

**Base year**
2017

**Figure or percentage in base year**
1671

**Target year**
2023

**Figure or percentage in target year**
1631

**Figure or percentage in reporting year**
1639

**% of target achieved relative to base year [auto-calculated]**
80

**Target status in reporting year**
Underway

**Is this target part of an emissions target?**
Our waste goal is also being integrated into the plan and progress reporting for our approved science-based emissions target.

**Is this target part of an overarching initiative?**
Science Based targets initiative - other

**Please explain target coverage and identify any exclusions**
Please explain target coverage and identify any exclusions: In 2019 we set approved science-based emissions targets, which included waste as part of the baseline calculation and our overall 2030 goal. This target is applicable company wide and is inclusive of our resident waste. Plan for achieving target, and progress made to the end of the reporting year: Since we established our waste goal in 2018, baselined to 2017 data, the landscape for recycling has changed significantly. With countries accepting less “dirty” recycled materials, we are finding certain jurisdictions where we do business dramatically reducing and, in some cases, eliminating recycling altogether. While our waste totals have gone up since then, our diversion rate has improved each year and we continue to focus on waste diversion improvements. List the actions which contributed most to achieving this target: In 2020 we started a Waste Task Force which is looking at a variety of ways to improve diversion rates and reduce the amount of unclean recycling. For example, throughout 2020 and 2021, we have been running a pilot with a vendor partner to do a more intensive recycling sorting to reduce unclean recycling in our recycle stream. We have seen dramatic results from this pilot and plan to expand it with additional partners in 2021. Also, in 2020 we again further expanded our partnership with GreenDrop to collect used household donations, which included a large amount of waste that may have otherwise gone into a landfill. We have continued this program in 2021 as well.

**Plan for achieving target, and progress made to the end of the reporting year**
Please explain target coverage and identify any exclusions: In 2019 we set approved science-based emissions targets, which included waste as part of the baseline calculation and our overall 2030 goal. This target is applicable company wide and is inclusive of our resident waste. Plan for achieving target, and progress made to the end of the reporting year: Since we established our waste goal in 2018, baselined to 2017 data, the landscape for recycling has changed significantly. With countries accepting less “dirty” recycled materials, we are finding certain jurisdictions where we do business dramatically reducing and, in some cases, eliminating recycling altogether. While our waste totals have gone up since then, our diversion rate has improved each year and we continue to focus on waste diversion improvements. List the actions which contributed most to achieving this target: In 2020 we started a Waste Task Force which is looking at a variety of ways to improve diversion rates and reduce the amount of unclean recycling. For example, throughout 2020 and 2021, we have been running a pilot with a vendor partner to do a more intensive recycling sorting to reduce unclean recycling in our recycle stream. We have seen dramatic results from this pilot and plan to expand it with additional partners in 2021. Also, in 2020 we again further expanded our partnership with GreenDrop to collect used household donations, which included a large amount of waste that may have otherwise gone into a landfill. We have continued this program in 2021 as well.

**List the actions which contributed most to achieving this target**
<Not Applicable>

## C4.3

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**
Yes

## C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

| | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|---|---|---|
| Under investigation | 90 | 13000 |
| To be implemented* | 47 | 12630.12 |
| Implementation commenced* | 21 | 3707.27 |
| Implemented* | 52 | 5054.95 |
| Not to be implemented | 0 | 0 |

## C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

**Initiative category & Initiative type**

| | |
|---|---|
| Low-carbon energy generation | Solar PV |

**Estimated annual CO2e savings (metric tonnes CO2e)**
3716.71

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
908543

**Investment required (unit currency – as specified in C0.4)**
11085349

**Payback period**
11-15 years

**Estimated lifetime of the initiative**
21-30 years

**Comment**
No additional comment

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Lighting |

**Estimated annual CO2e savings (metric tonnes CO2e)**
1037

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
562516

**Investment required (unit currency – as specified in C0.4)**
612772

**Payback period**
1-3 years

**Estimated lifetime of the initiative**
>30 years

**Comment**
No additional comment

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Other, please specify (Boiler Systems) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
239.19

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
104116

**Investment required (unit currency – as specified in C0.4)**
1206907

**Payback period**
11-15 years

**Estimated lifetime of the initiative**
>30 years

**Comment**
No additional comment

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**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Heating, Ventilation and Air Conditioning (HVAC) |

**Estimated annual CO2e savings (metric tonnes CO2e)**
17.76

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
8962

**Investment required (unit currency – as specified in C0.4)**
89623

**Payback period**
4-10 years

**Estimated lifetime of the initiative**
21-30 years

**Comment**
no additional comment

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**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Insulation |

**Estimated annual CO2e savings (metric tonnes CO2e)**
43.48

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 1
Scope 2 (location-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
17215

**Investment required (unit currency – as specified in C0.4)**
219403

**Payback period**
11-15 years

**Estimated lifetime of the initiative**
21-30 years

**Comment**
no additional comment

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## C4.3c

### (C4.3c) What methods do you use to drive investment in emissions reduction activities?

| Method | Comment |
|---|---|
| Dedicated budget for energy efficiency | Our dedicated sustainability capex budget funded an additional $10M in energy efficiency projects in 2021, including 8 LED retrofit projects and a continued set of solar projects. LED retrofits completed since 2015 are now saving $4.16M in energy costs and have reduced GHG emissions equivalent to taking more than 3,000 cars off the road. In 2021 we installed solar on 23 communities, adding 4.7 MWs of renewable power to our portfolio. This is in addition to the 15 communities generating over 2.2 Megawatts of solar power. In 2022 we are finishing and starting onsite solar projects at 21 more communities. These will contribute an additional 5.2 Megawatts of renewable power. And we recently approved another 26 communities to have solar feasibility done, totally 12.6 Megawatts of additional power. If all of these projects are completed, AvalonBay would have a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us roughly 15 metric tons of CO2. Note that we have removed from this number the communities in DC and NJ where we monetize the SRECs so as to not double count those RECs. These 85 projects would $3.8M in annual electricity costs, annually. Among these set of solar projects we are installing onsite solar generation at the following properties: Eaves Warner Center (72kW), Studio City II (69kW), AVA Pasadena (69kW), Walnut Creek (30kW), Cahill Park (213kW), Willow Glen (129kW), Creekside (64kW), Vista (59kW), Rancho Penasquitos (91kW), Old Town Pasadena (60kW), Dublin Station I (171kW), Dublin Station III (139kW), Pacific Beach (222kW), Toluca Hills (344kW), Morrison Park (127kW), Studio City (130kW), Woodland Hills (497kW), West Valley (209kW), Burbank (231kW), Pleasanton (75kW), San Jose (39kW), Mountain View (658 kW), Campbell (75kW), Foster City (54kW), Burbank (345kW), Studio City III (301kW) Our The investments we are making through a dedicated energy efficiency budget will continue to grow as we execute on plans to achieve our approved science-based targets. |
| Employee engagement | Our Vice President of Corporate Responsibility engages our employees in a variety of sustainability initiatives throughout the year designed to lower energy consumption and reduce emissions. A good example of this is our data-driven demand response and smart building data program. This program aligns operational behaviors to demand response programs and reduces carbon emissions in these portfolios. This program includes 40 properties representing over 13.5 million SQFT. Utilization of our continuous demand management generated over $275,000 in annual savings from demand response payments, load reduction, and utility tariff rate optimization. Our interval smart metering platform measured and verified an additional $500,000 of savings associated with implementation of various energy efficiency measures that reduced energy consumption and peak demand. Our associate behaviors show that AvalonBay now has the ability to support utility grid stress with over a 2 MW reduction. And this program ties directly into our energy supply procurement program which can now translate summer peak demand management reductions into lower supply rates executed on an online reverse auction platform that support renewable energy credits. Our smart building operations platform monitors our fleet of CHP generation coast-to-coast to maximize energy conservation and carbon reductions, and now supports battery storage dispatch optimization. The platform has expanded to support smart thermostats, water efficiency devices, and preventative maintenance protocols. |
| Partnering with governments on technology development | We are working with New York City's Retrofit Accelerator Program with two buildings enrolled in the program. We will work with the city over the coming years to test and implement technologies to deeply cut emissions in these buildings and help the city achieve its goal of an 80% emissions reduction by 2050. Our participation in the program will help the city better understand how buildings can be retrofitted to dramatically reduce carbon emissions. In addition, in late 2019 we offered two properties to be studied by Boston's Green Ribbon commission in support of the city's goal of carbon neutrality by 2050. These buildings will serve as pilot projects to advance the understanding of the challenges and advantages of performing deep carbon emissions retrofits in a multi-family context. Where possible we are trying to partner with our markets as they set ambitious carbon reduction goals so that we can work together on the technologies that will enable us to support these goals in our existing buildings and new construction. |
| Lower return on investment (ROI) specification | Our dedicated sustainability capex budget has an internal threshold of 6.5 years simple return on investment on our sustainability-related initiatives. Although with certain types of projects, like Solar, we have additional metrics we track like IRR. We will also adjust ROI's in cases where we are testing new technologies or trying something innovative and new. |
| Internal incentives/recognition programs | Our bi-annual sustainability awards support and encourage employee innovation and action relative to emissions reductions in our portfolio. |
| Compliance with regulatory requirements/standards | An example of this relates to New York's Local Law 97, which sets increasingly stringent limits on carbon emissions per square foot in 2024. As part of our ongoing participation in the NYC Carbon Challenge and Retrofit Accelerator, we were able to begin planning for the new law ahead of its passing, thereby developing a scenario analysis of this law that allowed us to see the impact it could have on our NY portfolio. This planning has served us well in tying our planning together for the emissions reductions of the affected properties and coordinate our response across departments, leveraging what we are already doing to reduce consumption, improve equipment efficiency, and achieve our approved science-based targets. In addition, we are leveraging what we learned here in other markets that are considering similar legislation, such as Washington, DC, Boston, and California. |

## C4.5

### (C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

## C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.**

**Level of aggregation**
Group of products or services

**Taxonomy used to classify product(s) or service(s) as low-carbon**
Green Bond Principles (ICMA)

**Type of product(s) or service(s)**

| | |
|---|---|
| Buildings construction and renovation | Other, please specify (High Density, Environmentally Preferable Housing ) |

**Description of product(s) or service(s)**
By providing high density housing frequently located in close proximity to transit we enable our customers to minimize their carbon footprint and facilitate ride sharing, biking, and other alternatives to single occupancy vehicle (SOV) transportation, thereby reducing their energy use and carbon emissions. We also provide highly efficient multifamily housing options which tend to generate fewer emissions per resident than larger, less efficient single family housing in lower density formats. In addition, we are driving energy and water efficiency in our apartment homes, thereby reducing our residents' scope 2 emissions by reducing their energy and water consumption. Also, we are focusing on starting to reducing the embodied carbon of the buildings that we build by selecting environmentally preferable materials, specifically those with high impact like concrete, drywall and rebar/steel.

**Have you estimated the avoided emissions of this low-carbon product(s) or service(s)**
No

**Methodology used to calculate avoided emissions**
<Not Applicable>

**Life cycle stage(s) covered for the low-carbon product(s) or services(s)**
<Not Applicable>

**Functional unit used**
<Not Applicable>

**Reference product/service or baseline scenario used**
<Not Applicable>

**Life cycle stage(s) covered for the reference product/service or baseline scenario**
<Not Applicable>

**Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario**
<Not Applicable>

**Explain your calculation of avoided emissions, including any assumptions**
<Not Applicable>

**Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year**
80

## C5. Emissions methodology

### C5.1

**(C5.1) Is this your first year of reporting emissions data to CDP?**
No

### C5.1a

**(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?**

**Row 1**

**Has there been a structural change?**
No

**Name of organization(s) acquired, divested from, or merged with**
<Not Applicable>

**Details of structural change(s), including completion dates**
<Not Applicable>

### C5.1b

**(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?**

| | Change(s) in methodology, boundary, and/or reporting year definition? | Details of methodology, boundary, and/or reporting year definition change(s) |
|---|---|---|
| Row 1 | No, but we have discovered significant errors in our previous response(s) | <Not Applicable> |

## C5.1c

**(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?**

| | Base year recalculation | Base year emissions recalculation policy, including significance threshold |
|---|---|---|
| Row 1 | Yes | AvalonBay's policy on base year emissions recalculation requires emissions restatement and recalculation for any change in emissions calculation methodology, boundary, or company structure that results in a change in excess of a 10% increase or a calculation/scoping error has occurred in the methodology, boundary, or company structure which, if not restated, would be misleading. |

## C5.2

**(C5.2) Provide your base year and base year emissions.**

**Scope 1**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
15396

**Comment**
No additional comment

**Scope 2 (location-based)**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
51651

**Comment**
No additional comment

**Scope 2 (market-based)**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
51651

**Comment**
No additional comment

**Scope 3 category 1: Purchased goods and services**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
157052

**Comment**
This includes upstream emissions from construction materials and activity as well as maintenance materials and services. Both are estimated using spend and DEFRA's input output factors.

### Scope 3 category 2: Capital goods

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. Any capital goods purchased are reported as Purchased Goods when we are able to collect and report on this information

### Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
571

**Comment**
Calculated based on electricity and fuel use activity data with emissions upstream well-to-tank/T&D emissions factors from DEFRA

### Scope 3 category 4: Upstream transportation and distribution

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. We do not produce physical products. We do not receive any significant amount of supplies from upstream transportation and distribution

### Scope 3 category 5: Waste generated in operations

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
38176

**Comment**
Emissions are calculated using total solid waste and water use data and the appropriate solid waste/wastewater treatment emission factors from DEFRA.

### Scope 3 category 6: Business travel

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
376

**Comment**
We use the distance methodology to calculate flights and rental car emissions. Hotel use is calculated per night stay. Reporting is limited to travel booked through AvalonBay Communities' travel vendor.

### Scope 3 category 7: Employee commuting

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
5891

**Comment**
No additional comment.

### Scope 3 category 8: Upstream leased assets

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. Emissions related to upstream leased assets (ex. computing equipment) are already accounted for in our Scope 2 emissions.

### Scope 3 category 9: Downstream transportation and distribution

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale.

### Scope 3 category 10: Processing of sold products

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale

### Scope 3 category 11: Use of sold products

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale or customer use.

### Scope 3 category 12: End of life treatment of sold products

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale or customer use.

### Scope 3 category 13: Downstream leased assets

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
224729

**Comment**
For leased space in the portfolio, energy bills were collected by a third party data provider. The leased space energy consumption was then evaluated using the same methodology as Scope 1 and 2 calculations to provide emissions for the leased space.

### Scope 3 category 14: Franchises

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. AvalonBay does not have franchises.

### Scope 3 category 15: Investments

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
This category has been marked as not relevant. We have included Investments as part of our Scope 3 downstream leased assets. We do not have additional significant amounts of Investments.

**Scope 3: Other (upstream)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
Not relevant as there are no "other" upstream items.

**Scope 3: Other (downstream)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**
Not relevant as there are no "other" downstream items.

## C5.3

**(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**
Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019
IEA CO2 Emissions from Fuel Combustion
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Emissions & Generation Resource Integrated Database (eGRID)

# C6. Emissions data

## C6.1

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**
15156.03

**Start date**
<Not Applicable>

**End date**
<Not Applicable>

**Comment**
No additional comment.

## C6.2

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**
We are reporting a Scope 2, location-based figure

**Scope 2, market-based**
We are reporting a Scope 2, market-based figure

**Comment**
No additional comment

## C6.3

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?**

**Reporting year**

**Scope 2, location-based**
46200.43

**Scope 2, market-based (if applicable)**
33786.2

**Start date**
<Not Applicable>

**End date**
<Not Applicable>

**Comment**
No additional comment

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**
No

## C6.5

**(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
132751

**Emissions calculation methodology**
Other, please specify (includes upstream emissions from construction materials and activity as well as maintenance materials and services. Both are estimated using spend and DEFRA's input output factors.)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
0

**Please explain**
Our calculations includes upstream emissions from construction materials and activity as well as maintenance materials and services. Both are estimated using spend and DEFRA's input output factors.

**Capital goods**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
Any capital goods purchased are reported as Category 1: Purchased Goods and Services when we are able to collect and report on this information.

**Fuel-and-energy-related activities (not included in Scope 1 or 2)**

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
994

**Emissions calculation methodology**
Other, please specify (Calculated based on electricity and fuel use activity data with emissions upstream well-to-tank/T&D emissions factors from DEFRA, 2011 (adjusted for inflation and converted to USD).)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
25

**Please explain**
Calculated based on electricity and fuel use activity data with emissions upstream well-to-tank/T&D emissions factors from DEFRA, (adjusted for inflation and converted to USD).

### Upstream transportation and distribution

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
We do not produce physical products. We do not receive any significant amount of supplies from upstream transportation and distribution.

### Waste generated in operations

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
36869

**Emissions calculation methodology**
Other, please specify (Emissions are calculated using total solid waste and water use data and the appropriate solid waste/wastewater treatment emission factors from DEFRA, 2018.)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
100

**Please explain**
Emissions are calculated using total solid waste and water use data and the appropriate solid waste/wastewater treatment emission factors from DEFRA.

### Business travel

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
64

**Emissions calculation methodology**
Other, please specify (We use the distance methodology to calculate flights and rental car emissions. Hotel use is calculated per night stay. Business travel breakdown: Flights 60 MTCO2e - Rental car 0.89 MTCO2e - Hotel 3.52 MTCO2e)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
100

**Please explain**
Reporting is limited to travel booked through AvalonBay Communities' travel vendor

### Employee commuting

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
5135.54

**Emissions calculation methodology**
Other, please specify (See "Please explain" section)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
0

**Please explain**
We estimate that the average distance travelled for a commute for each employee is 10.3 miles (one-way), which results in a total commuting distance of 20.6 miles per day. Note that we calculate the average distance as follows and that this year's calculation takes into account a mixture of associates working in our offices and working from home: 1) We source our employee headcount from the Peoplesoft system using a "data cube" built in Excel to pull that data into a readable format. 2) The average distance is calculated by: • Computing, for each employee, the distance from their home address to their location of employment (either AVB office or AVB community). • Removing 84 "outliers" whereby an associate lives remotely, and their home office is greater than 100 miles away. These represent 2.75% of total population as of 12/31/2021 (3071 associates). This year we made two pandemic related enhancements to better calculate average distance so our model reflects working from home although the majority of our onsite team was still commuting throughout the pandemic. In addition, we estimate that our employees work a total of 240 days per year, which assumes a five-day work week, excludes weekends, and includes an average of 2 weeks off and 10 paid holidays. Based on these estimates, we calculate that each employee commutes a total of 4,944 miles per year (i.e., 20.6 miles per day x 240 days per year). We estimate the average fuel economy of our employee cars to be 25.3 miles per gallon. (Fuel economy numbers are based on the "Real-World Fuel Economy" calculations in this report (see table 2.1 on page 11 of the following: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013L1O.pdf Consequently, to calculate the CO2e emissions based on the annual distance travelled by employees during their commute, AvalonBay utilizes the Carbon Offsets to Alleviate Poverty (COTAP) Carbon Emissions Calculator (http://cotap.org/carbon-footprint-calculator/) The calculation results in 1.72 metric tonnes CO2e per employee annually. 2021: Total Scope 3 emissions for employee commuting in 2021 for our 3,071 employees equals 4,261.86 metric tonnes CO2 (vs. 2020 number of 5,213 metric tonnes CO2). This total likely overestimates AvalonBay's Scope 3 emissions for employee commuting given that it assumes that each employee commutes by car and always commutes alone to work.

### Upstream leased assets

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
Emissions related to upstream leased assets (ex. computing equipment) are already accounted for in our Scope 2 emissions.

### Downstream transportation and distribution

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale.

### Processing of sold products

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale.

### Use of sold products

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale or for customer use.

### End of life treatment of sold products

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
AvalonBay Communities is part of the real estate industry and does not process a significant amount of physical products for sale or for customer use.

**Downstream leased assets**

**Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
201945

**Emissions calculation methodology**
Other, please specify ( (i) Energy utility provider data for buildings was used to calculate emissions. (ii) Reported data comes from building energy utility provider bills via third party data collector. (iii) Data was evaluated using same methodology as Scope 1 and 2.)

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
25

**Please explain**
For downstream leased space in our portfolio, energy bills were collected by a third party data provider. The leased space energy consumption is then evaluated using the same methodology as Scope 1 and 2 calculations to provide emissions for the downstream leased spaces.

**Franchises**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
AvalonBay does not have franchises.

**Investments**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
We have included Investments as part of our Scope 3 downstream leased assets. We do not have additional significant amounts of Investments.

**Other (upstream)**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
Not relevant as there are no "other" upstream items.

**Other (downstream)**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
<Not Applicable>

**Please explain**
Not relevant as there are no "other" downstream items.

## C-CN6.6/C-RE6.6

**(C-CN6.6/C-RE6.6) Does your organization assess the life cycle emissions of new construction or major renovation projects?**

| | Assessment of life cycle emissions | Comment |
|---|---|---|
| Row 1 | Yes, quantitative assessment | Our new construction projects are governed by a set of comprehensive construction standards which outline everything from building system equipment to fit and finish for all three product types, mid-rise, high-rise and garden-style walk-up apartment communities. In 2019 we began to instill building lifecycle impact tracking into our design/development process by we conducted our first analysis of the lifecycle impacts of our construction. In 2020, we analyzed the study completed in 2019 to access what areas of our construction cause the most impact in terms of embodied carbon. In 2021, we began piloting our tracking program on 2 new development projects to test our embodied carbon tracking program while working instill any lessons learned before full release which would require all new development projects to track their embodied carbon impacts. This includes the long-term operational costs of a given change as well as the impact to our emissions. While in its nascent stage, this change is a significant enhancement to the process designed, in-part, to tie into our science-based target achievement. |

## C-CN6.6a/C-RE6.6a

**(C-CN6.6a/C-RE6.6a) Provide details of how your organization assesses the life cycle emissions of new construction or major renovation projects.**

| | Projects assessed | Earliest project phase that most commonly includes an assessment | Life cycle stage(s) most commonly covered | Methodologies/standards/tools applied | Comment |
|---|---|---|---|---|---|
| Row 1 | All new construction and major renovation projects | Design phase | Whole life | Embodied Carbon in Construction Calculator (EC3) Tool<br>ISO 14040/44 | As we have improved our construction standards process to include whole life cycle analysis we are looking at tools to support this process, including the Embodied Carbon in Construction Calculator tool as well as "Tally". We are also, as part of our science-based emissions achievement plan, kicking off a workstream to look more deeply at our top 3-5 construction materials for avenues to significantly reduce their emissions |

## C-CN6.6b/C-RE6.6b

**(C-CN6.6b/C-RE6.6b) Can you provide embodied carbon emissions data for any of your organization's new construction or major renovation projects completed in the last three years?**

| | Ability to disclose embodied carbon emissions | Comment |
|---|---|---|
| Row 1 | Yes | No additional comment |

## C-CN6.6c/C-RE6.6c

**(C-CN6.6c/C-RE6.6c) Provide details of the embodied carbon emissions of new construction or major renovation projects completed in the last three years.**

**Year of completion**
2019

**Property sector**
Residential

**Type of project**
New construction

**Project name/ID (optional)**
We modeled the embodied carbon for three of our product types: garden-style apartment buildings, mid-rise, and high-rise. This line describes the embodied carbon calculation for the High-Rise type.

**Life cycle stage(s) covered**
Cradle-to-grave

**Normalization factor (denominator)**
IPMS 2 – Residential

**Denominator unit**
square meter

**Embodied carbon (kg/CO2e per the denominator unit)**
275

**% of new construction/major renovation projects in the last three years covered by this metric (by floor area)**
14

**Methodologies/standards/tools applied**
Embodied Carbon in Construction Calculator (EC3) Tool

**Comment**
Study was completed over a 3 year period ending in 2019.

**Year of completion**
2019

**Property sector**
Residential

**Type of project**
New construction

**Project name/ID (optional)**
We modeled the embodied carbon for three of our product types: garden-style apartment buildings, mid-rise, and high-rise. This line describes the embodied carbon calculation for the Mid-Rise type.

**Life cycle stage(s) covered**
Cradle-to-grave

**Normalization factor (denominator)**
IPMS 2 – Residential

**Denominator unit**
square meter

**Embodied carbon (kg/CO2e per the denominator unit)**
148

**% of new construction/major renovation projects in the last three years covered by this metric (by floor area)**
50

**Methodologies/standards/tools applied**
Embodied Carbon in Construction Calculator (EC3) Tool

**Comment**
Study was completed over a 3 year period ending in 2019.

---

**Year of completion**
2019

**Property sector**
Residential

**Type of project**
New construction

**Project name/ID (optional)**
We modeled the embodied carbon for three of our product types: garden-style apartment buildings, mid-rise, and high-rise. This line describes the embodied carbon calculation for the Mid-Rise type.

**Life cycle stage(s) covered**
Cradle-to-grave

**Normalization factor (denominator)**
IPMS 2 – Residential

**Denominator unit**
square meter

**Embodied carbon (kg/CO2e per the denominator unit)**
109

**% of new construction/major renovation projects in the last three years covered by this metric (by floor area)**
36

**Methodologies/standards/tools applied**
Embodied Carbon in Construction Calculator (EC3) Tool

**Comment**
Study was completed over a 3 year period ending in 2019.

---

## C6.7

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**
No

## C6.10

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**
0.0000217

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**
49810

**Metric denominator**
unit total revenue

**Metric denominator: Unit total**
2294850000

**Scope 2 figure used**
Market-based

**% change from previous year**
13.59

**Direction of change**
Decreased

**Reason for change**
In 2021 we made significant progress on three fronts in reducing our emissions: 1) We continued to invest in emissions reduction activities through equipment efficiency (e.g., LED's, more efficient HVAC, building envelope improvements). 2) We shifted a large part of our procurable load to green e-certified wind energy, and 3) We had additional solar projects under our renewable strategy come online. These contributed to our 13.59% Scope 1 and Scope 2 emissions/unit of revenue this year.

## C7. Emissions breakdowns

### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**
Yes

### C7.1a

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

| Greenhouse gas | Scope 1 emissions (metric tons of CO2e) | GWP Reference |
|---|---|---|
| CO2 | 14852.7 | IPCC Sixth Assessment Report (AR6 - 100 year) |
| CH4 | 278.2 | IPCC Sixth Assessment Report (AR6 - 100 year) |
| N2O | 27.8 | IPCC Sixth Assessment Report (AR6 - 100 year) |

### C7.2

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

| Country/Region | Scope 1 emissions (metric tons CO2e) |
|---|---|
| United States of America | 15156.03 |

### C7.3

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**
By facility
By activity

### C7.3b

**(C7.3b) Break down your total gross global Scope 1 emissions by business facility.**

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| NY049_Avalon Harrison | 10.156 | 40.969357 | -73.710297 |

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| MD032_Avalon Foundry Row | 357.222 | 39.409347 | -76.770261 |
| CO005_AVA RiNo | 6.793 | 39.757946 | -104.983948 |
| CA125_Avalon Monrovia | 10.369 | 34.14287 | -118.00151 |
| MD033_Avalon Arundel Crossing East | 29.305 | 39.203955 | -76.675191 |
| CA101_Avalon Playa Vista | 11.647 | 33.980166 | -118.41498 |
| FL003_Avalon West Palm Beach | 21.374 | 26.710653 | -80.053378 |
| FL002_Avalon Doral | 84.011 | 25.810735 | -80.326112 |
| FL001_Avalon 850 Boca | 0 | 26.397639 | -80.106783 |
| CA800_Avalon at Mission Bay North II | 233.453 | 37.775844 | -122.393869 |
| CA121_Avalon Public Market II | 9.781 | 37.842992 | -122.293926 |
| WA032_Avalon Newcastle Commons II | 16.34 | 47.544662 | -122.162336 |
| NJ032_Avalon Old Bridge | 21.756 | 40.38654 | -74.323038 |
| MA058_Avalon Marlborough II | 1.286 | 42.329537 | -71.583522 |
| MA028_Avalon Acton II | 2.601 | 42.525017 | -71.424788 |
| FL005_Avalon Toscana | 0 | 26.266774 | -80.203769 |
| CAC50_Avalon Studio 4041 | 17.215 | 34.146266 | -118.39252 |
| DC509_eaves Tunlaw Gardens | 70.483 | 38.923798 | -77.077873 |
| DC504_Avalon The Albemarle | 209.205 | 38.948461 | -77.065232 |
| DC511_eaves Glover Park | 107.404 | 38.925004 | -77.077065 |
| VA035_Avalon Dunn Loring | 0 | 38.878721 | -77.228116 |
| DC510_Avalon The Statesman | 157.359 | 38.896852 | -77.046068 |
| DC519_Avalon First and M | 64.318 | 38.905277 | -77.006211 |
| DC518_AVA Van Ness | 2.335 | 38.9428 | -77.061268 |
| MA046_Avalon Burlington | 19.996 | 42.503074 | -71.176471 |
| MA512_Avalon Bear Hill | 17.571 | 42.377972 | -71.272184 |
| MAD01_Avalon North Point | 286.802 | 42.370126 | -71.073179 |
| MAC67_Avalon Station 250 | 15.357 | 42.228867 | -71.176285 |
| MDC52_Avalon Grosvenor Tower | 54.761 | 39.026087 | -77.106704 |
| MD542_Avalon Russett | 11.584 | 39.106498 | -76.79447 |
| NY501_Avalon Westbury | 252.495 | 33.020682 | -97.029408 |
| NY036_Avalon Huntington Station | 5.535 | 40.852324 | -73.401813 |
| NY533_Avalon Clinton North | 434.742 | 40.766499 | -73.991614 |
| NY525_Avalon Midtown West | 260.252 | 40.761986 | -73.985676 |
| NY534_Avalon Clinton South | 136.03 | 40.766499 | -73.991614 |
| NY043_Avalon Rockville Centre II | 71.961 | 40.659584 | -73.650402 |
| VA559_Avalon Ballston Square | 156.561 | 38.880389 | -77.109258 |
| VA556_eavesTysons Corner | 0 | 38.920505 | -77.238057 |
| CA573_AVA Toluca Hills | 182.339 | 34.141728 | -118.340665 |
| VA563_Avalon Arlington North | 4.906 | 38.896149 | -77.122371 |
| VA561_Avalon Courthouse Place | 40.644 | 38.88881 | -77.085464 |
| VA565_Avalon Reston Landing | 33.307 | 38.966963 | -77.360578 |
| WA509_eaves Redmond Campus | 36.972 | 47.647698 | -122.13012 |
| WA025_Avalon Alderwood Phase I | 54.338 | 47.849876 | -122.269368 |
| WA539_Archstone Redmond Lakeview | 0 | 47.648959 | -122.108326 |
| MA052_Avalon Easton | 22.743 | 42.025607 | -71.14398 |
| MA053_Avalon Hingham Shipyard | 48.543 | 42.249829 | -70.915484 |
| VA566_Avalon Falls Church | 12.792 | 38.874946 | -77.169062 |
| CA119_Avalon Public Market I | 32.799 | 37.843365 | -122.294111 |
| CA117_Avalon Dogpatch | 269.743 | 37.759207 | -122.391606 |
| CO004_Avalon Southlands | 197.838 | 39.592204 | -104.690001 |
| MA055_Avalon Saugus | 42.478 | 42.474429 | -71.025023 |
| CO002_Avalon Castle Rock | 52.529 | 39.404782 | -104.888492 |
| CO003_Avalon Red Rocks | 93.621 | 39.621259 | -105.008521 |
| CA120_AVA Hollywood | 486.503 | 34.091053 | -118.33596 |
| CA124_Avalon Cerritos | 18.121 | 33.873744 | -118.062015 |
| MD027_Avalon Fairway Hills - Woods | 0 | 39.232594 | -76.846195 |
| MD029_Avalon Arundel Crossing | 0 | 39.203318 | -76.675862 |
| NJ042_Avalon at Edgewater Phase II | 71.833 | 40.820701 | -73.978531 |
| CA110_Avalon Dublin Station II | 21.858 | 37.704592 | -121.899852 |
| WA030_Avalon Belltown Towers | 41.751 | 47.615624 | -122.347777 |
| WA033_Avalon North Creek | 37.218 | 47.8192 | -122.2087 |
| NJ029_Avalon Boonton | 34.789 | 40.9038 | -74.397196 |
| NJ030_Avalon Teaneck | 0.69 | 40.911322 | -74.001276 |
| MA057_Avalon Norwood | 10.756 | 42.190166 | -71.198427 |
| MD031_Portico at Silver Spring | 52.216 | 38.995784 | -77.030374 |
| NY823_Avalon Morningside Park | 0 | 40.802312 | -73.961303 |
| NY026_Avalon Fort Greene | 294.866 | 40.694099 | -73.982859 |
| NY018_Avalon Riverview North | 211.708 | 40.744902 | -73.956844 |
| NY821_Avalon Bowery Place II | 0 | 40.724641 | -73.991247 |
| NY009_Avalon Bronxville | 5.179 | 40.940277 | -73.836089 |
| NY022_Avalon White Plains | 151.329 | 41.035782 | -73.769237 |

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| Construction Data | 527.799 | 38.878782 | -77.111395 |
| NY006_Avalon Mamaroneck | 29.618 | 40.956534 | -73.739414 |
| NY007_Avalon Court | 45.252 | 40.76191 | -73.413802 |
| NY012_Avalon at Glen Cove | 36.232 | 40.862606 | -73.630172 |
| NY032_Avalon Green Phase II | 15.457 | 41.05442 | -73.831924 |
| NY001_Avalon Commons | 30.19 | 40.851143 | -73.169068 |
| NY031_Avalon Rockville Centre | 24.957 | 40.660878 | -73.65187 |
| NY016_Avalon Glen Cove North | 13.343 | 40.863581 | -73.627838 |
| NJ008_Avalon at Florham Park | 21.17 | 40.783619 | -74.373882 |
| NY033_Avalon Garden City | 13.716 | 40.734544 | -73.594114 |
| NJ002_Avalon Cove | 58.15 | 40.722542 | -74.035446 |
| NJ017_Avalon Hackensack at Riverside | 11.185 | 40.908358 | -74.031581 |
| NJ019_Avalon at Wesmont Station II | 0 | 40.861631 | -74.089565 |
| NJ015_Avalon North Bergen | 20.78 | 40.789622 | -74.024073 |
| NJ016_Avalon at Wesmont Station | 15.919 | 40.861631 | -74.089565 |
| MD007_Eaves Washingtonian Center 2 | 0 | 39.113386 | -77.197615 |
| MD012_Eaves Columbia Town Center 2 | 0 | 39.206197 | -76.870959 |
| MD006_Eaves Washingtonian Center 1 | 11.462 | 39.113386 | -77.197615 |
| DC001_Avalon at Foxhall | 42.298 | 38.934949 | -77.081889 |
| DC002_Avalon at Gallery Place I | 102.897 | 38.898811 | -77.019187 |
| MD015_Avalon at Grosvenor Station | 108.87 | 39.02607 | -77.101988 |
| MD016_Avalon at Traville | 45.989 | 39.089931 | -77.205522 |
| VA004_AVA Ballston | 35.845 | 38.884889 | -77.11808 |
| VA012_Eaves Fairfax City | 0 | 38.83859 | -77.314052 |
| DC003_AVA H Street | 1.428 | 38.901537 | -77.000913 |
| VA001_Eaves Fair Lakes | 17.252 | 38.859205 | -77.398941 |
| WA001_Avalon Redmond Place | 3.165 | 47.681315 | -122.127824 |
| WA003_Avalon at Bear Creek | 24.672 | 47.701534 | -122.095699 |
| VA029_Avalon Park Crest | 0.858 | 38.927662 | -77.230145 |
| VA030_Eaves Fairfax Towers | 0 | 38.900634 | -77.204399 |
| WA010_Avalon ParcSquare | 32.292 | 47.67889 | -122.12617 |
| WA006_Avalon Bellevue | 48.52 | 47.619586 | -122.192814 |
| WA007_Avalon RockMeadow | 40.385 | 47.817943 | -122.206556 |
| WA019_Avalon Towers Bellevue | 86.425 | 47.619021 | -122.202741 |
| WA021_AVA Queen Anne | 31.146 | 47.621387 | -122.360576 |
| WA014_AVA Belltown | 0 | 47.616097 | -122.352719 |
| WA018_Avalon Meydenbauer | 0 | 47.612025 | -122.200901 |
| CA005_Avalon Campbell | 2.124 | 37.28201 | -121.945817 |
| CA010_Eaves San Jose | 13.063 | 37.402324 | -121.881228 |
| WA023_AVA Ballard | 16.965 | 47.669076 | -122.373968 |
| CA062_Avalon at Cahill Park | 35.462 | 37.331588 | -121.905141 |
| CA064_Avalon Towers on the Peninsula | 53.637 | 37.398588 | -122.107473 |
| CA029_Avalon on the Alameda | 43.429 | 37.333674 | -121.911249 |
| CA049_Avalon Mountain View | 1.925 | 37.39794 | -122.087524 |
| CA027_Eaves Union City | 11.425 | 37.585785 | -122.022285 |
| CA053_Eaves Fremont | 0.448 | 37.493385 | -121.926741 |
| CA001_Avalon Fremont | 22.112 | 37.543396 | -121.971798 |
| CA019_Eaves Pleasanton | 62.918 | 37.695776 | -121.87992 |
| CA007_Eaves Daly City | 36.617 | 37.654611 | -122.454349 |
| CA009_AVA Nob Hill | 20.406 | 37.788085 | -122.416103 |
| CA082_Avalon Union City | 61.547 | 37.589402 | -122.016267 |
| CA085_Avalon Walnut Creek | 50.468 | 37.927442 | -122.055611 |
| NJ031_Avalon Piscataway | 29.701 | 40.563057 | -74.455079 |
| FL008_Avalon Fort Lauderdale | 33.872 | 26.101096 | -80.137892 |
| MA001_Avalon at Lexington | 24.632 | 42.414925 | -71.233536 |
| MA010_Avalon Oaks West | 28.972 | 42.575962 | -71.18116 |
| MA003_Eaves Quincy | 122.439 | 42.247082 | -71.01794 |
| MA018_Eaves Peabody | 81.509 | 42.54271 | -70.949569 |
| MA019_Avalon at Bedford Center | 26.765 | 42.494486 | -71.291172 |
| MA014_Avalon at Newton Highlands | 14.445 | 42.314319 | -71.212749 |
| MA016_Avalon at The Pinehills | 26.637 | 41.879988 | -70.603645 |
| MA024_Avalon at Lexington Hills | 89.069 | 42.408223 | -71.212441 |
| MA025_Avalon Acton | 12.569 | 42.524288 | -71.425015 |
| MA020_Avalon Chestnut Hill | 3.261 | 42.31958 | -71.17373 |
| MA030_Avalon Northborough | 22.603 | 42.248748 | -72.162014 |
| MA027_Avalon at Hingham Shipyard | 35.37 | 42.25027 | -70.917924 |
| MA029_Avalon Sharon | 12.914 | 42.14682 | -71.199349 |
| MA041_Avalon Prudential Center 2 | 0 | 42.348156 | -71.080817 |
| MA042_Avalon Prudential Center 1 | 0 | 42.348051 | -71.079622 |
| MA502_AVA North Point | 16.269 | 42.370556 | -71.074213 |
| CT002_Eaves Stamford | 0 | 41.057584 | -73.529457 |

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| CT005_Avalon Wilton 1 | 4.373 | 41.188224 | -73.431736 |
| RI001_Avalon at Center Place | 94.449 | 41.828515 | -71.412587 |
| CT017_Avalon Darien | 2.554 | 41.069079 | -73.501127 |
| CT014_Avalon New Canaan | 4.678 | 41.146305 | -73.495626 |
| CT022_Avalon Norwalk | 12.431 | 41.118528 | -73.417103 |
| NJ005_Avalon Run | 108.809 | 40.301638 | -74.736101 |
| MA054_Avalon Sudbury | 31.291 | 42.377178 | -71.40055 |
| NJ006_Avalon Princeton Junction | 0 | 40.297756 | -74.641077 |
| NY011_Avalon Riverview I | 255.73 | 40.740786 | -73.943254 |
| NY815_Avalon Bowery Place | 0 | 40.724349 | -73.991712 |
| NJ014_Avalon at West Long Branch | 19.33 | 40.292337 | -74.025472 |
| NY829_West Chelsea | 0 | 40.752242 | -74.004166 |
| NY037_AVA DoBro | 298.232 | 40.6919 | -73.984613 |
| NJ022_Avalon Bloomfield Station | 6.971 | 40.792741 | -74.198589 |
| NJ023_Avalon Roseland | 15.675 | 40.815281 | -74.321873 |
| WA026_AVA Capitol Hill | 16.567 | 47.614305 | -122.324138 |
| CA002_Eaves Dublin | 19.587 | 37.729027 | -121.911734 |
| NY038_Avalon Green III | 4.652 | 41.05442 | -73.831924 |
| VA031_Avalon Mosaic District | 12.696 | 38.869506 | -77.231231 |
| DC520_AVA NoMa | 30.951 | 38.905387 | -77.006906 |
| MA040_AVA Back Bay | 25.539 | 42.34811 | -71.080427 |
| NY003_Avalon Green | 5.75 | 41.05442 | -73.831924 |
| CA025_AVA Pacific Beach | 55.188 | 32.79077 | -117.236925 |
| CA047_Avalon Silicon Valley | 129.459 | 37.388608 | -121.993803 |
| NY044_Avalon Somers | 23.96 | 41.341617 | -73.761029 |
| VA023_Avalon at Arlington Square | 29.89 | 38.84562 | -77.076347 |
| MD026_Avalon Fairway Hills - Meadows | 0 | 39.232594 | -76.846195 |
| VA034_Avalon Columbia Pike | 55.232 | 38.861861 | -77.087162 |
| MA060_Avalon Woburn | 44.475 | 42.50508 | -71.134554 |
| VA033_Avalon Clarendon | 97.983 | 38.887523 | -77.092072 |
| WA028_Avalon Alderwood II | 0 | 47.849876 | -122.269368 |
| WA027_Avalon Esterra Park | 47.907 | 47.6338 | -122.137324 |
| WA029_Avalon Newcastle Commons I | 55.572 | 47.543283 | -122.161745 |
| MD023_Avalon Hunt Valley | 24.842 | 39.498566 | -76.652177 |
| MD017_AVA Wheaton | 0.741 | 39.043039 | -77.050907 |
| NJ024_Avalon Princeton | 19.578 | 40.356726 | -74.661898 |
| MD024_Avalon Laurel | 2.682 | 39.080747 | -76.88714 |
| CA091_eaves Phillips Ranch | 84.715 | 34.045594 | -117.796744 |
| NY039_Avalon Willoughby | 0 | 40.691771 | -73.984302 |
| NJ027_Avalon Hoboken | 167.392 | 40.747753 | -74.037037 |
| CA093_eaves San Dimas Canyon | 32.75 | 34.103682 | -117.794628 |
| VA032_Avalon Potomac Yards | 2.169 | 38.831276 | -77.04852 |
| CA092_eaves San Dimas | 22.123 | 34.107044 | -117.798945 |
| CA095_eaves Rancho Penasquitos | 16.428 | 32.951827 | -117.109478 |
| NY041_Avalon Brooklyn Bay | 108.795 | 40.585908 | -73.95379 |
| CA094_eaves San Marcos | 20.098 | 33.133503 | -117.120685 |
| CA504_eaves Walnut Creek | 67.292 | 37.926952 | -122.052031 |
| CA096_eaves Lake Forest | 50.367 | 33.63265 | -117.711138 |
| CA522_eaves La Mesa | 26.433 | 32.785496 | -117.003112 |
| CA510_Avalon Simi Valley | 85.14 | 34.285714 | -118.767324 |
| CA539_Avalon Studio City III | 125.077 | 34.142351 | -118.369856 |
| CA524_Avalon Studio City II | 74.909 | 34.142351 | -118.369856 |
| CA541_Avalon Calabasas | 111.866 | 34.128349 | -118.706815 |
| CA540_Avalon Willow Glen | 95.606 | 37.279082 | -121.874752 |
| CA554_Avalon Santa Monica on Main | 18.471 | 34.006599 | -118.488787 |
| CA123_Avalon Brea Place | 22.392 | 33.918311 | -117.88304 |
| CA551_Avalon Oak Creek | 91.643 | 34.14775 | -118.758274 |
| CA561_Avalon La Jolla Colony | 28.018 | 32.862802 | -117.2287 |
| NY040_Avalon Great Neck | 72.494 | 40.796572 | -73.711238 |
| CA556_Avalon Del Mar Station | 32.18 | 34.141618 | -118.147985 |
| CA563_eaves Thousand Oaks | 17.622 | 34.182699 | -118.869351 |
| CA562_eaves Old Town Pasadena | 20.141 | 34.140176 | -118.14325 |
| CA566_eaves Los Feliz | 139.773 | 34.112801 | -118.268472 |
| CA564_Avalon Walnut Ridge I | 31.876 | 37.930727 | -122.051487 |
| CA571_eaves Seal Beach | 106.357 | 33.749275 | -118.10785 |
| CA569_eaves West Valley | 57.051 | 37.313397 | -121.976708 |
| CO001_Denver West | 57.7 | 39.743886 | -105.161368 |
| CA575_eaves Mt. View at Middlefield | 56.543 | 37.398639 | -122.071849 |
| CA574_eaves Woodland Hills | 178.412 | 34.185127 | -118.608857 |
| MA059_Avalon Easton II | 0.013 | 42.027147 | -71.145007 |
| CA583_Avalon San Bruno | 52.359 | 37.634545 | -122.421312 |

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| CA581_Avalon Thousand Oaks Plaza | 39.81 | 34.177467 | -118.844118 |
| CA585_Avalon San Bruno III | 58.461 | 37.634545 | -122.421312 |
| CA584_Avalon San Bruno II | 25.44 | 37.634545 | -122.421312 |
| CA588_Avalon Berkeley | 19.444 | 37.865916 | -122.301284 |
| CA587_Avalon Walnut Ridge II | 37.581 | 37.929888 | -122.05216 |
| CA591_Avalon Pasadena | 20.046 | 34.145479 | -118.135421 |
| NJ028_Avalon Maplewood | 12.462 | 40.723678 | -74.252138 |
| CA592_Avalon Studio City | 55.009 | 34.142351 | -118.369856 |
| CA039_Eaves Pacifica | 65.178 | 37.662857 | -122.479249 |
| CA043_Avalon Sunset Towers | 161.008 | 37.759087 | -122.462898 |
| CA033_Eaves Foster City | 38.673 | 37.530548 | -122.245657 |
| CA084_Avalon at Mission Bay PhaseIII | 34.958 | 37.774542 | -122.395725 |
| CA090_Avalon Ocean Avenue | 26.217 | 37.723984 | -122.455629 |
| CA067_Avalon at Mission Bay North | 30.658 | 37.776454 | -122.393294 |
| CA074_Avalon Wilshire | 20.509 | 34.062351 | -118.341153 |
| CA056_Eaves Warner Center | 41.948 | 34.174563 | -118.598368 |
| CA068_Avalon at Glendale | 30.91 | 34.162906 | -118.256946 |
| CA099_Eaves Cerritos | 28.702 | 33.863128 | -118.090255 |
| CA048_Avalon Woodland Hills | 88.81 | 34.166817 | -118.579264 |
| CA077_Avalon Encino | 20.189 | 34.156914 | -118.48929 |
| MAD02_Avalon North Point Lofts | 7.989 | 42.37032 | -71.072863 |
| CA078_Avalon Warner Place | 29.005 | 34.193107 | -118.592071 |
| CA113_Avalon Mission Oaks | 29.311 | 34.230346 | -118.999968 |
| CA069_Avalon Burbank | 68.793 | 34.179858 | -118.306104 |
| NJ026_Avalon Union | 16.868 | 40.708251 | -74.278328 |
| CA072_Avalon Camarillo | 49.041 | 34.232218 | -119.014072 |
| NJ021_Avalon Wharton | 22.41 | 40.905789 | -74.579658 |
| CA024_Eaves South Coast | 60.5 | 33.681665 | -117.880088 |
| CA050_Eaves Santa Margarita | 29.736 | 33.644552 | -117.595879 |
| CA021_AVA Newport | 14.834 | 33.634678 | -117.914153 |
| CA023_Avalon Mission Viejo | 36.659 | 33.599416 | -117.655907 |
| CA083_Avalon Irvine | 49.344 | 33.689717 | -117.832225 |
| CA086_Avalon Irvine II | 68.817 | 33.689717 | -117.832225 |
| CA059_Eaves Huntington Beach | 32.765 | 33.714776 | -118.012025 |
| CA060_AVA Cortez Hill | 16.019 | 32.719332 | -117.15612 |
| CA026_Eaves Mission Ridge | 45.995 | 32.792377 | -117.154315 |
| CA108_Avalon Baker Ranch | 81.809 | 33.677928 | -117.676643 |
| CA022_AVA Burbank | 61.365 | 34.156466 | -118.34656 |
| CA109_Avalon Irvine III | 50.112 | 33.690294 | -117.833726 |
| CA055_Eaves Creekside | 45.246 | 37.390986 | -122.071734 |
| CA116_Avalon Chino Hills | 40.034 | 33.953091 | -117.682903 |
| MD018_Kanso Twinbrook | 0 | 39.06493 | -77.117505 |
| CA111_Avalon West Hollywood | 246.752 | 34.090741 | -118.349386 |
| WA031_AVA Esterra Park | 28.798 | 47.634075 | -122.137386 |
| FL004_Avalon Bonterra | 0 | 25.912522 | -80.356647 |
| CA102_Avalon Morrison Park | 42.116 | 37.334257 | -121.908434 |
| CA590_Huntington Beach | 64.159 | 33.732896 | -117.998662 |
| CA103_Avalon San Dimas | 28.929 | 34.108102 | -117.79446 |
| CA118_AVA North Hollywood | 23.824 | 34.162883 | -118.373422 |
| CA097_AVA Pasadena | 18.556 | 34.139241 | -118.12958 |
| MA050_Avalon Quincy | 66.265 | 42.247134 | -71.017401 |
| FL009_Avalon Miramar | 0 | 25.967479 | -80.297066 |
| CA100_AVA at 55 Ninth | 26.242 | 37.777117 | -122.415166 |
| MA048_Avalon North Station | 199.062 | 42.365742 | -71.063543 |
| MA002_Avalon Oaks | 22.731 | 42.58084 | -71.158846 |
| MD025_Avalon Towson | 3.238 | 39.402346 | -76.60043 |
| CT026_Avalon East Norwalk | 14.108 | 41.111488 | -73.392966 |
| MA043_Eaves Burlington | 169.448 | 42.502194 | -71.19137 |
| NJ007_Avalon at Edgewater | 4.417 | 40.820701 | -73.978531 |
| MA037_Avalon Natick | 59.104 | 42.305458 | -71.379255 |
| MA038_Avalon at Assembly Row | 10.144 | 42.395619 | -71.08082 |
| NY834_AVA High Line | 0 | 40.751582 | -74.003209 |
| NY047_Avalon Yonkers | 107.177 | 40.940161 | -73.902357 |
| NY035_Avalon Ossining | 24.854 | 41.173946 | -73.867508 |
| NJ020_Avalon Bloomingdale - Union Av | 17.106 | 41.016855 | -74.31369 |
| CA122_Avalon Walnut Creek II | 27.89 | 37.927442 | -122.055611 |
| CA087_AVA Little Tokyo | 29.457 | 34.065317 | -117.749141 |
| CA098_Avalon Dublin Station | 39.489 | 37.703888 | -121.897898 |
| VA014_Avalon Tysons Corner | 22.253 | 38.927478 | -77.228714 |
| MD030_Avalon 555 President | 6.854 | 39.284994 | -76.602512 |

| Facility | Scope 1 emissions (metric tons CO2e) | Latitude | Longitude |
|---|---|---|---|
| CA107_Avalon Vista | 50.983 | 33.190476 | -117.260613 |
| MA036_Avalon Exeter | 55.654 | 42.348686 | -71.079643 |
| CA104_Avalon Hayes Valley | 23.557 | 37.774817 | -122.424241 |
| CA106_Avalon Glendora | 37.027 | 34.129512 | -117.862911 |
| MA047_Avalon Marlborough | 21.874 | 42.110696 | -72.54998 |
| MA049_Avalon Framingham | 26.306 | 42.32833 | -71.386448 |
| MA039_AVA Somerville | 1.032 | 42.395141 | -71.079302 |
| MA044_AVA Theater District | 53.673 | 42.351072 | -71.064032 |
| 11 West 61st Street | 0 | 40.770259 | -73.982769 |
| CT026_Avalon East Norwalk | 14.108 | 41.111488 | -73.392966 |
| MA043_Eaves Burlington | 169.448 | 42.502194 | -71.19137 |
| NJ007_Avalon at Edgewater | 4.417 | 40.820701 | -73.978531 |
| MA037_Avalon Natick | 59.104 | 42.305458 | -71.379255 |
| MA038_Avalon at Assembly Row | 10.144 | 42.395619 | -71.08082 |
| NY834_AVA High Line | 0 | 40.751582 | -74.003209 |
| NY047_Avalon Yonkers | 107.177 | 40.940161 | -73.902357 |
| NY035_Avalon Ossining | 24.854 | 41.173946 | -73.867508 |
| NJ020_Avalon Bloomingdale - Union Av | 17.106 | 41.016855 | -74.31369 |
| CA122_Avalon Walnut Creek II | 27.89 | 37.927442 | -122.055611 |
| CA087_AVA Little Tokyo | 29.457 | 34.065317 | -117.749141 |
| CA098_Avalon Dublin Station | 39.489 | 37.703888 | -121.897898 |
| VA014_Avalon Tysons Corner | 22.253 | 38.927478 | -77.228714 |
| MD030_Avalon 555 President | 6.854 | 39.284994 | -76.602512 |
| CA107_Avalon Vista | 50.983 | 33.190476 | -117.260613 |
| MA036_Avalon Exeter | 55.654 | 42.348686 | -71.079643 |
| CA104_Avalon Hayes Valley | 23.557 | 37.774817 | -122.424241 |
| CA106_Avalon Glendora | 37.027 | 34.129512 | -117.862911 |
| MA047_Avalon Marlborough | 21.874 | 42.110696 | -72.54998 |
| MA049_Avalon Framingham | 26.306 | 42.32833 | -71.386448 |
| MA039_AVA Somerville | 1.032 | 42.395141 | -71.079302 |
| MA044_AVA Theater District | 53.673 | 42.351072 | -71.064032 |
| 11 West 61st Street | 0 | 40.770259 | -73.982769 |

## C7.3c

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

| Activity | Scope 1 emissions (metric tons CO2e) |
|---|---|
| Natural Gas | 15064.86 |
| Propane | 10.1 |
| Fuel Oil No 2 | 84.57 |

## C7.5

**(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

| Country/Region | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| United States of America | 46200.43 | 33786.2 |

## C7.6

**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By facility
By activity

## C7.6b

**(C7.6b) Break down your total gross global Scope 2 emissions by business facility.**

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| NY049_Avalon Harrison | 23.166 | 23.166 |

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| MD032_Avalon Foundry Row | 507.305 | 507.305 |
| CO005_AVA RiNo | 0 | 0 |
| CA125_Avalon Monrovia | 21.658 | 21.658 |
| MD033_Avalon Arundel Crossing East | 120.48 | 120.48 |
| CA101_Avalon Playa Vista | 104.617 | 104.617 |
| FL003_Avalon West Palm Beach | 624.98 | 624.98 |
| FL002_Avalon Doral | 644.319 | 644.319 |
| FL001_Avalon 850 Boca | 225.821 | 225.821 |
| CA800_Avalon at Mission Bay North II | 182.935 | 182.935 |
| CA121_Avalon Public Market II | 32.027 | 32.027 |
| WA032_Avalon Newcastle Commons II | 142.833 | 142.833 |
| NJ032_Avalon Old Bridge | 130.741 | 118.647 |
| MA058_Avalon Marlborough II | 32.314 | 32.314 |
| MA028_Avalon Acton II | 21.19 | 21.19 |
| FL005_Avalon Toscana | 119.101 | 119.101 |
| CAC50_Avalon Studio 4041 | 74.512 | 74.512 |
| DC509_eaves Tunlaw Gardens | 30.531 | 0 |
| DC504_Avalon The Albemarle | 169.912 | 54.233 |
| DC511_eaves Glover Park | 52.779 | 0 |
| VA035_Avalon Dunn Loring | 380.871 | 380.871 |
| DC510_Avalon The Statesman | 129.625 | 36.123 |
| DC519_Avalon First and M | 737.317 | 30.477 |
| DC518_AVA Van Ness | 241.571 | 81.264 |
| MA046_Avalon Burlington | 125.464 | 0 |
| MA512_Avalon Bear Hill | 82.827 | 48.876 |
| MAD01_Avalon North Point | 709.962 | 709.962 |
| MAC67_Avalon Station 250 | 129.002 | 0 |
| MDC52_Avalon Grosvenor Tower | 265.72 | 0 |
| MD542_Avalon Russett | 38.69 | 38.69 |
| NY501_Avalon Westbury | 236.724 | 236.724 |
| NY036_Avalon Huntington Station | 242.15 | 242.15 |
| NY533_Avalon Clinton North | 258.635 | 88.169 |
| NY525_Avalon Midtown West | 511.765 | 234.03 |
| NY534_Avalon Clinton South | 184.56 | 43.298 |
| NY043_Avalon Rockville Centre II | 306.88 | 306.88 |
| VA559_Avalon Ballston Square | 1261.78 | 1261.78 |
| VA556_eavesTysons Corner | 34.31 | 34.31 |
| CA573_AVA Toluca Hills | 366.665 | 366.665 |
| VA563_Avalon Arlington North | 188.876 | 188.876 |
| VA561_Avalon Courthouse Place | 421.384 | 421.384 |
| VA565_Avalon Reston Landing | 86.954 | 86.954 |
| WA509_eaves Redmond Campus | 102.474 | 102.474 |
| WA025_Avalon Alderwood Phase I | 148.924 | 148.924 |
| WA539_Archstone Redmond Lakeview | 35.998 | 35.998 |
| MA052_Avalon Easton | 145.523 | 14.261 |
| MA053_Avalon Hingham Shipyard | 132.733 | 132.733 |
| VA566_Avalon Falls Church | 133.316 | 133.316 |
| CA119_Avalon Public Market I | 92.403 | 92.403 |
| CA117_Avalon Dogpatch | 145.559 | 145.559 |
| CO004_Avalon Southlands | 191.075 | 191.075 |
| MA055_Avalon Saugus | 112.75 | 105.749 |
| CO002_Avalon Castle Rock | 86.991 | 86.991 |
| CO003_Avalon Red Rocks | 113.022 | 113.022 |
| CA120_AVA Hollywood | 276.647 | 276.647 |
| CA124_Avalon Cerritos | 96.324 | 87.665 |
| MD027_Avalon Fairway Hills - Woods | 83.124 | 83.124 |
| MD029_Avalon Arundel Crossing | 173.737 | 173.737 |
| NJ042_Avalon at Edgewater Phase II | 269.036 | 249.046 |
| CA110_Avalon Dublin Station II | 41.282 | 41.282 |
| WA030_Avalon Belltown Towers | 316.891 | 316.891 |
| WA033_Avalon North Creek | 149.435 | 149.435 |
| NJ029_Avalon Boonton | 367.285 | 322.88 |
| NJ030_Avalon Teaneck | 218.072 | 195.458 |
| MA057_Avalon Norwood | 77.307 | 77.307 |
| MD031_Portico at Silver Spring | 162.269 | 0 |
| NY823_Avalon Morningside Park | 143.876 | 39.681 |
| NY026_Avalon Fort Greene | 283.71 | 106.76 |
| NY018_Avalon Riverview North | 415.961 | 149.33 |
| NY821_Avalon Bowery Place II | 209.293 | 72.039 |
| NY009_Avalon Bronxville | 72.475 | 72.475 |
| NY022_Avalon White Plains | 128.651 | 33.205 |

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Construction Data | 1265.754 | 1265.754 |
| NY006_Avalon Mamaroneck | 190.186 | 96.31 |
| NY007_Avalon Court | 172.637 | 172.637 |
| NY012_Avalon at Glen Cove | 447.179 | 447.179 |
| NY032_Avalon Green Phase II | 111.78 | 64.374 |
| NY001_Avalon Commons | 87.087 | 87.087 |
| NY031_Avalon Rockville Centre | 518.262 | 518.262 |
| NY016_Avalon Glen Cove North | 119.692 | 119.692 |
| NJ008_Avalon at Florham Park | 32.096 | 30.922 |
| NY033_Avalon Garden City | 171.674 | 171.674 |
| NJ002_Avalon Cove | 228.982 | 207.343 |
| NJ017_Avalon Hackensack at Riverside | 188.592 | 166.941 |
| NJ019_Avalon at Wesmont Station II | 88.122 | 81.363 |
| NJ015_Avalon North Bergen | 167.361 | 147.713 |
| NJ016_Avalon at Wesmont Station | 205.164 | 177.159 |
| MD007_Eaves Washingtonian Center 2 | 0 | 0 |
| MD012_Eaves Columbia Town Center 2 | 74.611 | 74.611 |
| MD006_Eaves Washingtonian Center 1 | 60.898 | 0 |
| DC001_Avalon at Foxhall | 492.815 | 22.608 |
| DC002_Avalon at Gallery Place I | 228.25 | 26.424 |
| MD015_Avalon at Grosvenor Station | 208.44 | 1.355 |
| MD016_Avalon at Traville | 201.21 | 48.612 |
| VA004_AVA Ballston | 124.827 | 124.827 |
| VA012_Eaves Fairfax City | 41.327 | 41.327 |
| DC003_AVA H Street | 176.403 | 11.058 |
| VA001_Eaves Fair Lakes | 33.625 | 33.625 |
| WA001_Avalon Redmond Place | 20.743 | 20.743 |
| WA003_Avalon at Bear Creek | 49.876 | 49.876 |
| VA029_Avalon Park Crest | 198.309 | 198.309 |
| VA030_Eaves Fairfax Towers | 374.804 | 374.804 |
| WA010_Avalon ParcSquare | 75.588 | 75.588 |
| WA006_Avalon Bellevue | 157.026 | 157.026 |
| WA007_Avalon RockMeadow | 45.77 | 45.77 |
| WA019_Avalon Towers Bellevue | 383.529 | 383.529 |
| WA021_AVA Queen Anne | 122.104 | 122.104 |
| WA014_AVA Belltown | 73.506 | 73.506 |
| WA018_Avalon Meydenbauer | 188.63 | 188.63 |
| CA005_Avalon Campbell | 29.202 | 29.202 |
| CA010_Eaves San Jose | 48.667 | 48.667 |
| WA023_AVA Ballard | 109.229 | 109.229 |
| CA062_Avalon at Cahill Park | 73.88 | 73.88 |
| CA064_Avalon Towers on the Peninsula | 162.402 | 162.402 |
| CA029_Avalon on the Alameda | 82.615 | 82.615 |
| CA049_Avalon Mountain View | 14.857 | 14.857 |
| CA027_Eaves Union City | 24.515 | 24.515 |
| CA053_Eaves Fremont | 19.663 | 19.663 |
| CA001_Avalon Fremont | 74.062 | 74.062 |
| CA019_Eaves Pleasanton | 16.883 | 16.883 |
| CA007_Eaves Daly City | 23.926 | 23.926 |
| CA009_AVA Nob Hill | 70.241 | 70.241 |
| CA082_Avalon Union City | 110.201 | 110.201 |
| CA085_Avalon Walnut Creek | 203.102 | 203.102 |
| NJ031_Avalon Piscataway | 161.191 | 151.133 |
| FL008_Avalon Fort Lauderdale | 625.905 | 625.905 |
| MA001_Avalon at Lexington | 77.526 | 0.512 |
| MA010_Avalon Oaks West | 57.977 | 57.977 |
| MA003_Eaves Quincy | 119.969 | 0.492 |
| MA018_Eaves Peabody | 83.781 | 83.781 |
| MA019_Avalon at Bedford Center | 40.504 | 22.22 |
| MA014_Avalon at Newton Highlands | 180.739 | 0 |
| MA016_Avalon at The Pinehills | 71.38 | 32.199 |
| MA024_Avalon at Lexington Hills | 197.247 | 23.709 |
| MA025_Avalon Acton | 154.694 | 2.367 |
| MA020_Avalon Chestnut Hill | 162.832 | 0.44 |
| MA030_Avalon Northborough | 92.414 | 22.263 |
| MA027_Avalon at Hingham Shipyard | 128.474 | 128.474 |
| MA029_Avalon Sharon | 63.749 | 6.273 |
| MA041_Avalon Prudential Center 2 | 849.161 | 125.151 |
| MA042_Avalon Prudential Center 1 | 498.917 | 168.342 |
| MA502_AVA North Point | 170.169 | 0.068 |
| CT002_Eaves Stamford | 0 | 0 |

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| CT005_Avalon Wilton 1 | 25.065 | 6.587 |
| RI001_Avalon at Center Place | 306.568 | 306.568 |
| CT017_Avalon Darien | 54.905 | 23.741 |
| CT014_Avalon New Canaan | 50.516 | 2.005 |
| CT022_Avalon Norwalk | 91.513 | 91.513 |
| NJ005_Avalon Run | 157.787 | 157.787 |
| MA054_Avalon Sudbury | 69.025 | 56.959 |
| NJ006_Avalon Princeton Junction | 126.917 | 118.286 |
| NY011_Avalon Riverview I | 182.463 | 69.19 |
| NY815_Avalon Bowery Place | 255.799 | 135.011 |
| NJ014_Avalon at West Long Branch | 68.26 | 68.26 |
| NY829_West Chelsea | 178.724 | 37.407 |
| NY037_AVA DoBro | 252.045 | 85.368 |
| NJ022_Avalon Bloomfield Station | 189.725 | 175.553 |
| NJ023_Avalon Roseland | 68.315 | 66.867 |
| WA026_AVA Capitol Hill | 123.508 | 123.508 |
| CA002_Eaves Dublin | 17.334 | 17.334 |
| NY038_Avalon Green III | 21.418 | 10.964 |
| VA031_Avalon Mosaic District | 239.313 | 239.313 |
| DC520_AVA NoMa | 667.033 | 14.942 |
| MA040_AVA Back Bay | 422.307 | 97.06 |
| NY003_Avalon Green | 67.567 | 46.297 |
| CA025_AVA Pacific Beach | 172.962 | 172.962 |
| CA047_Avalon Silicon Valley | 254.98 | 254.98 |
| NY044_Avalon Somers | 39.927 | 39.927 |
| VA023_Avalon at Arlington Square | 258.82 | 258.82 |
| MD026_Avalon Fairway Hills - Meadows | 50.627 | 50.627 |
| VA034_Avalon Columbia Pike | 438.661 | 438.661 |
| MA060_Avalon Woburn | 132.43 | 132.43 |
| VA033_Avalon Clarendon | 319.906 | 319.906 |
| WA028_Avalon Alderwood II | 18.722 | 18.722 |
| WA027_Avalon Esterra Park | 218.01 | 218.01 |
| WA029_Avalon Newcastle Commons I | 215.675 | 215.675 |
| MD023_Avalon Hunt Valley | 191.338 | 191.338 |
| MD017_AVA Wheaton | 205.8 | 0 |
| NJ024_Avalon Princeton | 243.614 | 223.011 |
| MD024_Avalon Laurel | 83.685 | 83.685 |
| CA091_eaves Phillips Ranch | 72.41 | 72.41 |
| NY039_Avalon Willoughby | 159.186 | 53.916 |
| NJ027_Avalon Hoboken | 173.871 | 160.17 |
| CA093_eaves San Dimas Canyon | 26.807 | 26.807 |
| VA032_Avalon Potomac Yards | 363.851 | 363.851 |
| CA092_eaves San Dimas | 20.961 | 20.175 |
| CA095_eaves Rancho Penasquitos | 18.992 | 18.992 |
| NY041_Avalon Brooklyn Bay | 246.561 | 93.2 |
| CA094_eaves San Marcos | 22.592 | 22.592 |
| CA504_eaves Walnut Creek | 36.57 | 36.57 |
| CA096_eaves Lake Forest | 47.643 | 46.357 |
| CA522_eaves La Mesa | 26.661 | 26.661 |
| CA510_Avalon Simi Valley | 96.855 | 96.855 |
| CA539_Avalon Studio City III | 119.632 | 119.632 |
| CA524_Avalon Studio City II | 48.885 | 48.885 |
| CA541_Avalon Calabasas | 69.595 | 69.595 |
| CA540_Avalon Willow Glen | 70.315 | 70.315 |
| CA554_Avalon Santa Monica on Main | 87.946 | 87.946 |
| CA123_Avalon Brea Place | 46.558 | 46.558 |
| CA551_Avalon Oak Creek | 106.921 | 98.774 |
| CA561_Avalon La Jolla Colony | 40.035 | 40.035 |
| NY040_Avalon Great Neck | 331.962 | 331.962 |
| CA556_Avalon Del Mar Station | 15.005 | 15.005 |
| CA563_eaves Thousand Oaks | 26.837 | 25.119 |
| CA562_eaves Old Town Pasadena | 4.628 | 4.628 |
| CA566_eaves Los Feliz | 70.863 | 70.863 |
| CA564_Avalon Walnut Ridge I | 26.137 | 26.137 |
| CA571_eaves Seal Beach | 107.632 | 101.142 |
| CA569_eaves West Valley | 169.033 | 169.033 |
| CO001_Denver West | 294.498 | 294.498 |
| CA575_eaves Mt. View at Middlefield | 60.554 | 60.554 |
| CA574_eaves Woodland Hills | 130.692 | 130.692 |
| MA059_Avalon Easton II | 2.64 | 2.64 |
| CA583_Avalon San Bruno | 137.324 | 137.324 |

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| CA581_Avalon Thousand Oaks Plaza | 46.933 | 46.933 |
| CA585_Avalon San Bruno III | 74.164 | 74.164 |
| CA584_Avalon San Bruno II | 47.713 | 47.713 |
| CA588_Avalon Berkeley | 36.267 | 36.267 |
| CA587_Avalon Walnut Ridge II | 63.347 | 63.347 |
| CA591_Avalon Pasadena | 83.24 | 83.24 |
| NJ028_Avalon Maplewood | 171.581 | 158.97 |
| CA592_Avalon Studio City | 146.42 | 146.42 |
| CA039_Eaves Pacifica | 22.462 | 22.462 |
| CA043_Avalon Sunset Towers | 43.537 | 43.537 |
| CA033_Eaves Foster City | 11.589 | 11.589 |
| CA084_Avalon at Mission Bay PhaseIII | 137.36 | 137.36 |
| CA090_Avalon Ocean Avenue | 72.166 | 72.166 |
| CA067_Avalon at Mission Bay North | 142.686 | 142.686 |
| CA074_Avalon Wilshire | 68.516 | 68.516 |
| CA056_Eaves Warner Center | 34.451 | 34.451 |
| CA068_Avalon at Glendale | 86.71 | 86.71 |
| CA099_Eaves Cerritos | 24.156 | 24.156 |
| CA048_Avalon Woodland Hills | 170.167 | 170.167 |
| CA077_Avalon Encino | 84.603 | 84.603 |
| MAD02_Avalon North Point Lofts | 0 | 0 |
| CA078_Avalon Warner Place | 84.088 | 84.088 |
| CA113_Avalon Mission Oaks | 13.756 | 12.964 |
| CA069_Avalon Burbank | 98.26 | 98.26 |
| NJ026_Avalon Union | 81.085 | 77.217 |
| CA072_Avalon Camarillo | 39.093 | 36.822 |
| NJ021_Avalon Wharton | 140.763 | 128.841 |
| CA024_Eaves South Coast | 36.066 | 34.872 |
| CA050_Eaves Santa Margarita | 54.917 | 53.165 |
| CA021_AVA Newport | 14.157 | 13.311 |
| CA023_Avalon Mission Viejo | 34.052 | 33.037 |
| CA083_Avalon Irvine | 106.241 | 101.184 |
| CA086_Avalon Irvine II | 86.87 | 82.283 |
| CA059_Eaves Huntington Beach | 24.177 | 22.896 |
| CA060_AVA Cortez Hill | 45.673 | 45.673 |
| CA026_Eaves Mission Ridge | 33.86 | 33.86 |
| CA108_Avalon Baker Ranch | 76.954 | 72.367 |
| CA022_AVA Burbank | 110.825 | 110.825 |
| CA109_Avalon Irvine III | 75.756 | 75.756 |
| CA055_Eaves Creekside | 34.568 | 34.568 |
| CA116_Avalon Chino Hills | 83.006 | 78.524 |
| MD018_Kanso Twinbrook | 3.74 | 3.74 |
| CA111_Avalon West Hollywood | 251.691 | 235.004 |
| WA031_AVA Esterra Park | 170.939 | 170.939 |
| FL004_Avalon Bonterra | 179.841 | 179.841 |
| CA102_Avalon Morrison Park | 46.249 | 46.249 |
| CA590_Huntington Beach | 84.666 | 78.968 |
| CA103_Avalon San Dimas | 40.373 | 38.394 |
| CA118_AVA North Hollywood | 70.191 | 70.191 |
| CA097_AVA Pasadena | 9.08 | 9.08 |
| MA050_Avalon Quincy | 182.231 | 0.273 |
| FL009_Avalon Miramar | 45.21 | 45.21 |
| CA100_AVA at 55 Ninth | 121.268 | 121.268 |
| MA048_Avalon North Station | 569.571 | 0 |
| MA002_Avalon Oaks | 85.383 | 85.383 |
| MD025_Avalon Towson | 508.871 | 508.871 |
| CT026_Avalon East Norwalk | 75.34 | 75.34 |
| MA043_Eaves Burlington | 46.085 | 0 |
| NJ007_Avalon at Edgewater | 147.996 | 137.326 |
| MA037_Avalon Natick | 137.637 | 0 |
| MA038_Avalon at Assembly Row | 210.278 | 2.208 |
| NY834_AVA High Line | 201.54 | 42.182 |
| NY047_Avalon Yonkers | 426.888 | 272.654 |
| NY035_Avalon Ossining | 67.616 | 33.747 |
| NJ020_Avalon Bloomingdale - Union Av | 55.402 | 55.402 |
| CA122_Avalon Walnut Creek II | 26.63 | 26.63 |
| CA087_AVA Little Tokyo | 225.029 | 225.029 |
| CA098_Avalon Dublin Station | 32.466 | 32.466 |
| VA014_Avalon Tysons Corner | 90.239 | 90.239 |
| MD030_Avalon 555 President | 310.227 | 310.227 |
| CA107_Avalon Vista | 23.486 | 23.486 |

| Facility | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| MA036_Avalon Exeter | 384.637 | 12.539 |
| CA104_Avalon Hayes Valley | 53.443 | 53.443 |
| CA106_Avalon Glendora | 114.842 | 105.333 |
| MA047_Avalon Marlborough | 121.641 | 21.348 |
| MA049_Avalon Framingham | 43.553 | 8.841 |
| MA039_AVA Somerville | 254.583 | 0 |
| MA044_AVA Theater District | 582.814 | 0.058 |
| 11 West 61st Street | 338.575 | 338.575 |

## C7.6c

**(C7.6c) Break down your total gross global Scope 2 emissions by business activity.**

| Activity | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Electricity | 45810.01 | 33395.78 |
| Steam | 390.42 | 390.42 |

## C7.9

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Decreased

## C7.9a

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

| | Change in emissions (metric tons CO2e) | Direction of change | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in renewable energy consumption | 3346 | Decreased | 4.15 | Our sustainability capex budget funded over $10M in energy efficiency projects in 2021, including 8 LED retrofits and 23 solar systems including the following properties: Eaves Mountain View at Middlefield, Waves West Valley, Avalon Cahill Park, Eaves Creekside, Eaves San Jose, Avalon Willow Glen, Avalon Campbell, AVA Pacific Beach, AVA Burbank, Avalon Burbank, Eaves Warner Center. AVA Pasadena, Eaves Rancho Penasquitos, Avalon Vista, Avalon Public Market, Avalon on the Alameda, Eaves Dublin. By the end of 2021 we had 4.7mWs of solar generation with a $9.5M investment. In 2022 we will add 5.2mW with a $13M investment. By the end of 2023 we will add 12.5 mW of solar generation with an additional $37M investment. We are also moving our procurable electric load to renewable energy, with 80% now green e-certified. We have developed and are executing on a strategic plan to achieve our approved SBTs. We completed 26 projects in 2021 to reduce emissions. These include LED Lighting, more efficient boilers, HVAC, boiler upgrades and various activities designed to improve the building envelope insulation. Collectively, this investment was over $1.6M. With roughly $10M investment, these activities together will reduce emissions by 4,213.48 MTCO2e. We calculated the 2021 emissions reduction due to emissions reduction activities of 6.16% as follows: Change in scope 1+2 attributable to 2021 Emissions Reduction Activities: 867 MTCO2e 2020 Scope 1 and 2 emissions = 68,827.97 Metric Tons CO2e. CALCULATION EQUATION: (Change in scope 1+2 attributable to 2021 Emissions Reduction Activities)/(2020 Total Scope 1 and 2 Emissions) x 100 CALCULATION NUMBERS: 867MTCO2e/68,827.97 MTCO2e x 100 = 1.3% reduction in our SBT. That plan will include lower emissions sources of energy, expanding our solar, exploring ways of engaging residents on renewable procurement and additional opportunities such as a VPPAs and lower embedded carbon construction materials. We calculated the emissions decrease due to renewable energy of 4.15% in 2021 as follows: Change in scope 1+2 attributable to Renewable Energy = 3,346 MTCO2e. Previous Year (2020) Scope 1 and 2 emissions = 68,827.97 Metrics Tons CO2e. CALCULATION EQUATION: (Change in scope 1+2 attributable to Renewable Energy)/(2020 Total Scope 1 and 2 Emissions) x 100 CALCULATION NUMBERS: 3,346 MTCO2e/80,677.05 MTCO2e x 100 = 4.86% reduction. |
| Other emissions reduction activities | 867 | Decreased | 1.3 | Our sustainability capex budget funded over $10M in energy efficiency projects in 2021, including 8 LED retrofits and 23 solar systems including the following properties: Eaves Mountain View at Middlefield, Waves West Valley, Avalon Cahill Park, Eaves Creekside, Eaves San Jose, Avalon Willow Glen, Avalon Campbell, AVA Pacific Beach, AVA Burbank, Avalon Burbank, Eaves Warner Center. AVA Pasadena, Eaves Rancho Penasquitos, Avalon Vista, Avalon Public Market, Avalon on the Alameda, Eaves Dublin. By the end of 2021 we had 4.7mWs of solar generation with a $9.5M investment. In 2022 we will add 5.2mW with a $13M investment. By the end of 2023 we will add 12.5 mW of solar generation with an additional $37M investment. We are also moving our procurable electric load to renewable energy, with 80% now green e-certified. We have developed and are executing on a strategic plan to achieve our approved SBTs. We completed 26 projects in 2021 to reduce emissions. These include LED Lighting, more efficient boilers, HVAC, boiler upgrades and various activities designed to improve the building envelope insulation. Collectively, this investment was over $1.6M. With roughly $10M investment, these activities together will reduce emissions by 4,213.48 MTCO2e. We calculated the 2021 emissions reduction due to emissions reduction activities of 6.16% as follows: Change in scope 1+2 attributable to 2021 Emissions Reduction Activities: 867 MTCO2e 2020 Scope 1 and 2 emissions = 68,827.97 Metric Tons CO2e. CALCULATION EQUATION: (Change in scope 1+2 attributable to 2021 Emissions Reduction Activities)/(2020 Total Scope 1 and 2 Emissions) x 100 CALCULATION NUMBERS: 867MTCO2e/68,827.97 MTCO2e x 100 = 1.3% reduction in our SBT. That plan will include lower emissions sources of energy, expanding our solar, exploring ways of engaging residents on renewable procurement and additional opportunities such as a VPPAs and lower embedded carbon construction materials. We calculated the emissions decrease due to renewable energy of 4.15% in 2021 as follows: Change in scope 1+2 attributable to Renewable Energy = 3,346 MTCO2e. Previous Year (2020) Scope 1 and 2 emissions = 68,827.97 Metrics Tons CO2e. CALCULATION EQUATION: (Change in scope 1+2 attributable to Renewable Energy)/(2020 Total Scope 1 and 2 Emissions) x 100 CALCULATION NUMBERS: 3,346 MTCO2e/80,677.05 MTCO2e x 100 = 4.86% reduction. |
| Divestment | 0 | No change | 0 | Not applicable this year |
| Acquisitions | 0 | No change | 0 | Not applicable this year |
| Mergers | 0 | No change | 0 | Not applicable this year |
| Change in output | 0 | No change | 0 | Not applicable this year |
| Change in methodology | 0 | No change | 0 | Not applicable this year |
| Change in boundary | 0 | No change | 0 | Not applicable this year |
| Change in physical operating conditions | 0 | No change | 0 | Not applicable this year |
| Unidentified | 0 | No change | 0 | Not applicable this year |
| Other | 0 | No change | 0 | Not applicable this year |

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Market-based

# C8. Energy

## C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 0% but less than or equal to 5%

## C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|---|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | No |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | No |
| Generation of electricity, heat, steam, or cooling | Yes |

## C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

| | Heating value | MWh from renewable sources | MWh from non-renewable sources | Total (renewable and non-renewable) MWh |
|---|---|---|---|---|
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 0 | 83510.1 | 83510.1 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 46461.25 | 116856.9 | 163318.14 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 1723.28 | 1723.28 |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 1474.98 | <Not Applicable> | 1474.98 |
| Total energy consumption | <Not Applicable> | 47936.23 | 202090.28 | 250026.51 |

## C8.2b

**(C8.2b) Select the applications of your organization's consumption of fuel.**

| | Indicate whether your organization undertakes this fuel application |
|---|---|
| Consumption of fuel for the generation of electricity | No |
| Consumption of fuel for the generation of heat | No |
| Consumption of fuel for the generation of steam | No |
| Consumption of fuel for the generation of cooling | No |
| Consumption of fuel for co-generation or tri-generation | Yes |

## C8.2c

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Sustainable biomass**

**Heating value**
Please select

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

**Comment**
Not used.

**Other biomass**

**Heating value**
Please select

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

**Comment**
Not used.

**Other renewable fuels (e.g. renewable hydrogen)**

**Heating value**
Please select

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

**Comment**
Not used.

**Coal**

**Heating value**
Please select

**Total fuel MWh consumed by the organization**

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

**Comment**
Not used.

**Oil**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
332

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
0

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
0

**Comment**
No additional comment

**Gas**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
83134.22

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
0

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
0

**Comment**
No additional comment

**Other non-renewable fuels (e.g. non-renewable hydrogen)**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
52.42

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
0

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
0

**Comment**
Propane consumption.

**Total fuel**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
83518.64

**MWh fuel consumed for self-generation of electricity**
<Not Applicable>

**MWh fuel consumed for self-generation of heat**
0

**MWh fuel consumed for self-generation of steam**
<Not Applicable>

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
0

**Comment**
No additional comment.

## C8.2d

**(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

| | Total Gross generation (MWh) | Generation that is consumed by the organization (MWh) | Gross generation from renewable sources (MWh) | Generation from renewable sources that is consumed by the organization (MWh) |
|---|---|---|---|---|
| Electricity | 2562.8 | 1474.98 | 2562.8 | 1474.98 |
| Heat | 0 | 0 | 0 | 0 |
| Steam | 0 | 0 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 0 |

## C8.2e

**(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.**

**Sourcing method**
Green electricity products from an energy supplier (e.g. green tariffs)

**Energy carrier**
Electricity

**Low-carbon technology type**
Wind

**Country/area of low-carbon energy consumption**
United States of America

**Tracking instrument used**
US-REC

**Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)**
55218.64

**Country/area of origin (generation) of the low-carbon energy or energy attribute**
United States of America

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2020

**Comment**
In 2021 we shifted 91% of our procurable electric load to renewable energy through green e-certified wind energy.

## C8.2g

**(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.**

**Country/area**
United States of America

**Consumption of electricity (MWh)**
163619

**Consumption of heat, steam, and cooling (MWh)**
1723

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
165342

**Is this consumption excluded from your RE100 commitment?**
<Not Applicable>

# C9. Additional metrics

## C9.1

**(C9.1) Provide any additional climate-related metrics relevant to your business.**

**Description**
Waste

**Metric value**
1639

**Metric numerator**
Lbs

**Metric denominator (intensity metric only)**
Apartment Home

**% change from previous year**
2.1

**Direction of change**
Decreased

**Please explain**
In a year when our residents still majorly lived and worked from their apartment homes full-time, we were pleased that our waste remained flat. This is primarily due to our Waste Task Force efforts.

## C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

**(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?**

| | Investment in low-carbon R&D | Comment |
|---|---|---|
| Row 1 | Yes | AvalonBay has invested millions into the research and development of the components that go into low-carbon multi-family buildings. We began with the development of a Net Zero building study which focused on how to get to Net Zero in a multi-family context. As a result, we focused on three main areas: building systems technology, renewable energy, and battery technology. Building Systems Technology: Through our participation in Boston's Green Ribbon Commission, New York City's Retrofit Accelerator, and the LA Better Buildings Challenge, we are researching and participating in the development of lower carbon emission equipment. Our participation includes providing access to our properties for "test" equipment. For example, we are installing a compact, packaged heat pump unit designed for new and existing buildings with variable speed fans and compressor. Unlike traditional PTACs that contribute to air leakage, the HPAC requires a much smaller tightly sealed opening, and provides heat even at low ambient temperatures, enabling the electrification of space heating. Renewable Energy: In 2016 we established began R&D on onsite solar with our solar strategy. Our major investments since then have resulted in new construction standards and policies for solar in a multi-family environment. As a result, in 2021 we installed solar on 23 communities, adding 4.7 mW of renewable power to our portfolio. This is in addition to the 15 current communities generating over 2.2 mW of solar power. In 2022 we are completing solar projects at 21 more communities, contributing an additional 5.2 Megawatts of renewable power. And we recently approved another 26 communities to have solar feasibility done, totally 12.5 Megawatts of additional power. If all of these projects are completed, AvalonBay would have a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us roughly 15 metric tons of CO2. These 85 projects would save $3.8M in annual electricity costs, annually. Battery Technology: We have researched commercial battery technology in our portfolio since 2018, and our first commercial battery went live at Avalon White Plains in 2021. The R&D of this installation required collaboration to ensure the battery was sized correctly and that its location was fire rated and properly conditioned. |

## C-CN9.6a/C-RE9.6a

**(C-CN9.6a/C-RE9.6a) Provide details of your organization's investments in low-carbon R&D for real estate and construction activities over the last three years.**

**Technology area**
Integration of renewable energy sources in buildings

**Stage of development in the reporting year**
Large scale commercial deployment

**Average % of total R&D investment over the last 3 years**
41 - 60%

**R&D investment figure in the reporting year (optional)**
10000000

**Comment**
As the markets in which we do business set goals to move to a low carbon, low emission future, we have significant opportunity to play our part and move our own sources of energy to a renewable, lower emissions energy source. In 2021 we installed solar on 23 communities, adding 4.7mW of renewable power to our portfolio. This is in addition to the 15 communities generating over 2.2 mW of solar power. In 2022 we are finishing and starting onsite solar projects at 21 more communities. These will contribute an additional 5.2 Megawatts of renewable power. And we recently approved another 26 communities to have solar feasibility done, totaling 12.5 Megawatts of additional power. If all of these projects are completed, AvalonBay would have a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us roughly 15 metric tons of CO2. Note that we have removed from this number the communities in DC and NJ where we monetize the SRECs so as to not double count those RECs. These 85 projects would save $3.8M in annual electricity costs, annually. From and R&D perspective these investments are yielding significant value as we have established a new solar construction standard relative to solar in a multi-family context. Further, we are researching the best methods to tie these solar systems into battery at scale having finished our first battery install in 2021. Combined with our demand response and building technology work, we have significant R&D now on the interplay between solar, battery and more efficient building technologies and meters that will continue to bear fruit for the multi-family building sector and our Company across the 2020's.

## C-RE9.9

**(C-RE9.9) Does your organization manage net zero carbon buildings?**
No, but we plan to in the future

## C-CN9.10/C-RE9.10

**(C-CN9.10/C-RE9.10) Did your organization complete new construction or major renovations projects designed as net zero carbon in the last three years?**
No, but we plan to in the future

## C-CN9.11/C-RE9.11

**(C-CN9.11/C-RE9.11) Explain your organization's plan to manage, develop or construct net zero carbon buildings, or explain why you do not plan to do so.**

As both a developer and a manager, this answer applies to both the management of and construction of net zero buildings.
In 2016 we established a solar strategy and began R&D on onsite solar. This major investment over the past 5 years has resulted in new construction standards and policies for solar applicability in a multi-family environment. As a result, In 2021 we installed solar on 23 communities, adding 4.7mW of renewable power to our portfolio. This is in addition to the 15 communities generating over 2.2 mW of solar power. In 2022 we are finishing and starting onsite solar projects at 21 more communities. These will contribute an additional 5.2 Megawatts of renewable power. And we recently approved another 26 communities to have solar feasibility done, totaling 12.5 Megawatts of additional power. If all of these projects are completed, AvalonBay would have a solar generation system at 85 communities, or roughly 1/3 of our portfolio. In total, these would generate 24.7 Megawatts of renewable power, saving us roughly 15 metric tons of CO2. Note that we have removed from this number the communities in DC and NJ where we monetize the SRECs so as to not double count those RECs. These 85 projects would save $3.8M in annual electricity costs, annually.
This commercial deployment of solar is now being extended with our approved science-based targets to look at additional low-carbon options, including power-purchase agreements, community solar, and the extension of choice to our residents to provide them with low carbon electricity generation options on their bills. In 2021, for example, we are investigated, with two key partners, a potential Virtual Power Purchase Agreement that could, in essence, offset the vast majority of our science-based target emissions and offset a large majority of the carbon in our buildings, putting us well on the path to a net zero carbon building through offsets.
Further we are "greening" our energy procurement in the regions where we have choice, and by the end of 2021 XX% of our procurable energy load is green e-certified. With all of this progress in renewable energy and with our approved science-based targets and concurrent plan to achieve them we are now close to being able to operationalize a net-zero building and offset a large majority of our carbon emissions. That is a step in our journey that I anticipate us achieving in the next 2-5 years as part of the plan to achieve our SBTs.

# C10. Verification

## C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

| | Verification/assurance status |
|---|---|
| Scope 1 | Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | Third-party verification or assurance process in place |
| Scope 3 | Third-party verification or assurance process in place |

## C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
Y
AvalonBay CY 2021 - Assurance Statement_final.pdf

**Page/ section reference**
All pages.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

**Scope 2 approach**
Scope 2 location-based

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
Y
AvalonBay CY 2021 - Assurance Statement_final.pdf

**Page/ section reference**
All Pages.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

**Scope 2 approach**
Scope 2 market-based

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
Y
AvalonBay CY 2021 - Assurance Statement_final.pdf

**Page/ section reference**
All Pages.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

## C10.1c

**(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

**Scope 3 category**
Scope 3: Business travel
Scope 3: Employee commuting

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
Y
AvalonBay CY 2021 - Assurance Statement_final.pdf

**Page/section reference**
All Pages.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

## C10.2a

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

| Disclosure module verification relates to | Data verified | Verification standard | Please explain |
|---|---|---|---|
| C9. Additional metrics | Other, please specify (Water) | ISO 14064- 3 | LRQA verifies our water consumption on a whole-building basis. AvalonBay CY 2021 - Assurance Statement_final.pdf<br>AvalonBay CY 2021 - Assurance Statement_final.pdf |
| C9. Additional metrics | Other, please specify (Waste) | ISO 14064- 3 | LRQA verifies both our construction and building (community) waste annually, in addition to emissions, energy and water AvalonBay CY 2021 - Assurance Statement_final.pdf<br>AvalonBay CY 2021 - Assurance Statement_final.pdf |

# C11. Carbon pricing

## C11.1

**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

No, but we anticipate being regulated in the next three years

## C11.1d

**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

In anticipation of potential regulation around carbon pricing our Vice President of Corporate Responsibility is working with our VP of Taxation and our risk management committee to watch this issue. We note that we anticipate being regulated here in the next three years, and would see that regulation in a US context as possible with the passage of a climate bill in the first two years of the Biden administration. If that were to come to pass, we have several fronts on which we are acting:
1) We conducted a set of scenario plans around carbon taxes that provide insight into how such a tax would effect us. We focused on two scenarios:
Scenario 1: The Business Climate Leaders (an action team of Citizens' Climate Lobby) which proposes a $15 per ton of CO2 equivalent carbon tax, covering all principal greenhouse gases, and result in equal charges for each ton of CO2 equivalent emissions potential in each type of fuel or greenhouse gas. This tax would increase at $10 per year and the "entry point" would be at the point where GHGs first enter the economy.
Scenario 2: The conservative Climate Leadership Council's proposal is for a $40 carbon tax per ton of CO2 emissions covering only emissions from fossil fuel combustion. This tax is proposed to increase each year, and for the purposes of this scenario we modeled it increasing at 2% per year. The "entry point" would be at the refinery or first point fossil fuels enter the economy. The tax in these two scenarios was modeled over a five-year period using the AvalonBay GHG emissions from a 2019 baseline. Our science-based targets modeling was used for input on emissions. We found that the tax would have a negligible effect on AvalonBay in either scenario. In Scenario 1 the Scope 1 and Scope 2 modeling (most likely scenario to affect AvalonBay) would see the tax go from $1.2M to $4.35M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.07% in 2021, 0.12% in 2022, 0.17% in 2023, 0.22% in 2024 and 0.27% in 2025. In Scenario 2 the Scope 1 and Scope 2 modeling (most likely scenario to affect AvalonBay) would see the tax go from $3.17M to $3.43M from 2021 to 2025. However, the revenue needed to offset that tax would only be 0.2% in 2021, 0.2% in 2022, 0.2% in 2023, 0.21% in 2024 and 0.21% in 2025. We therefore think that should a climate-related GHG tax come to pass it would be of negligible impact to AvalonBay, while possibly providing a good deal of benefit overall to the industry and other industries.
2) We set science-based emission reduction targets and are now working to reduce our Scope 1, 2 and 3 emissions to achieve these targets. There are two main fronts in play here: 1) Renewable Energy, and 2) Construction materials. We anticipate that this component will fundamentally address much of our carbon footprint and be a substantial means for complying with any carbon pricing systems and regulations
3) We are continuing to reduce our emission footprint through efficiency in our properties, both by retrofitting existing buildings and by building more efficiency into our design and construction processes. Again, we anticipate that this component will address a component of our carbon footprint and be a means for complying with any carbon pricing systems and regulations.

## C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

## C11.3

**(C11.3) Does your organization use an internal price on carbon?**

No, but we anticipate doing so in the next two years

## C12. Engagement

### C12.1

**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers/clients

### C12.1a

**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

**Type of engagement**
Engagement & incentivization (changing supplier behavior)

**Details of engagement**
Other, please specify (Compliance & onboarding: Climate change is integrated into supplier evaluation processes)

**% of suppliers by number**
100

**% total procurement spend (direct and indirect)**
50

**% of supplier-related Scope 3 emissions as reported in C6.5**
100

**Rationale for the coverage of your engagement**
AvalonBay is currently addressing emissions reduction in our supply chain through our Responsible Supply Chain policy and initiatives that encourage the use of products and services that minimize greenhouse gas emissions and lower embedded carbon in our construction materials. As part of our responsible supply chain program we are engaging our top suppliers and have incorporated our principles into 100% of our supplier contracts. Additionally, as part of our science-based targets, we are working with our suppliers to lower embedded carbon in the materials they supply.

**Impact of engagement, including measures of success**
All AvalonBay vendors must agree to and sign-off on our public Responsible Procurement Principles and agree to be audited periodically against them. In 2021, we surveyed 37 AVB vendors of strategic importance against our principles and ensured compliance with their intent. We also require vendors to sign the principles in all contract vehicles and in new vendor agreements. Since implementation of our climate-related supplier engagement strategy we have seen the following impacts: 1) It has raised the awareness of our key suppliers that AvalonBay not only cares about these issues, but it monitoring their compliance to them and auditing for compliance. 2) We have opened dialogues with these suppliers on the topic and increased engagement on issues related to climate change and of importance to our business going forward. An example of this is our relationship with Office Depot's head of sustainability. This vendor supplies us with all office and community supplies related to office operations. We have conducted an analysis of our purchase with them to determined how "green" the products we are purchasing actually are, and held a meeting with them to set a path forward to move our % green products toward better than 75% of our purchases with them (from a current purchase rate of about 40%). Another example includes the work we are doing to reduce embedded carbon in construction materials. In 2020 we analyzed our top materials for embedded carbon and began to target suppliers for discussion on how to reduce emissions in those materials. Our first step will be to see if alternatives exist in concrete and rebar that could be purchased now. In 2021, we piloted tracking of embodied carbon on 2 projects to understand the impact of what we current use in 2 different regions. We plan to begin material substitution work in 2022. 3) We have no data indicating that there are reported issues of suppliers not adhering to our principles. MEASURES OF SUCCESS: 1) Ensure we have zero known environmental noncompliance issues. 2) Increase engagement with key suppliers to move what we purchase from them to a more environmentally sound, low carbon set of options. Work with suppliers to source more locally to reduce travel emissions. 3) Report publicly on program progress and improve as we move to a low-carbon future for sourcing/supplying, building and operating.

**Comment**
No additional comment

---

**Type of engagement**
Innovation & collaboration (changing markets)

**Details of engagement**
Run a campaign to encourage innovation to reduce climate impacts on products and services

**% of suppliers by number**
20

**% total procurement spend (direct and indirect)**
40

**% of supplier-related Scope 3 emissions as reported in C6.5**
30

**Rationale for the coverage of your engagement**
These innovation efforts start as pilots and support the implementation of our Science-Based Targets achievement plan. For embedded carbon in materials we are focusing on concrete and rebar vendors. The rationale for this coverage is that these two material types represent vast majority of the embedded carbon in our construction materials. For supplier diversity and climate justice, we are focusing on the Mid-Atlantic and West Coast supply chain. We anticipate that the percentage of suppliers engaged and the percentage of spend will increase over time. The rationale for this coverage is that the Mid-Atlantic suppliers are located most closely to our corporate headquarters and we can more easily monitor and manage this pilot program and the West Coast suppliers are more readily informed on embodied carbon reduction.

**Impact of engagement, including measures of success**
In 2021 we worked on two fronts to innovate in the supply chain: 1) embedded carbon in materials and, 2) supplier diversity, which we see as tied to issues of climate justice. Embedded Carbon in Materials: In 2020 we conducted a significant study of the top materials in our construction supply chain for high embedded carbon. In 2021, we began piloting a program to track the embodied carbon impacts of our current construction in two major regions of development for AvalonBay. As a result we are focusing on key suppliers of concrete and rebar to determine methods either to reduce the materials or to find alternatives with lower embedded carbon. The impact here is that we are fundamentally shifting our sourcing of these materials to low carbon alternatives and changing the conversation around them to include carbon as a key metric in purchasing. The measures of success are moving our construction materials processes to a significantly lower embedded carbon material and achieving our Scope 3 Science-Based emissions reduction target of 47%. Supplier Diversity: In 2020 we began to scope a pilot to better understand supplier diversity in our supply chain. The work will progressed throughout 2021 with a pilot in AvalonBay's mid-atlantic region. The impact would be to measure and increase the use of Disadvantaged Business Enterprises (DBE) – typically defined as being minority, women, veteran, and LBGTQ owned. Measures of success here will be to eventually expand the number of DBE's doing business with AvalonBay in all regions. The goals of the pilot are as follows: Goals: 1. For all new bids and contracts, include at least one WMBE in RFP process. 2. Increase number of hired WMBE vendors by 5% more then the baseline over next 12 months. 3. Revise the RFP/bid process/questionnaire to include questions regarding diversity of a supplier/vendor's ownership, diversity of said company's supply chain, initiatives that they have underway, etc. 4. Create medium and long-term goals as well as process recommendations as part of the pilot's assessment.

**Comment**
No additional comment

---

## C12.1b

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

**Type of engagement & Details of engagement**

| | |
|---|---|
| Education/information sharing | Share information about your products and relevant certification schemes (i.e. Energy STAR) |

**% of customers by number**
100

**% of customer - related Scope 3 emissions as reported in C6.5**
75

**Please explain the rationale for selecting this group of customers and scope of engagement**
Our residents represent a size-able portion of our Scope 3 emissions. In the Multifamily sector they represent the largest portion of a building's potential emissions. Therefore, engaging them is critically important. And with the approved Science-Based Targets we are planning to engage them even further, with potential programs to offer residents renewable energy choices and with expansion of current programs to reduce apartment home energy and water consumption. in 2020 we conducted in-depth studies of two tracks to achieve our science-based targets: renewable energy and embedded carbon in materials. In 2021, we continued of work on embodied carbon by beginning a pilot project to track the embodied carbon of 2 development projects. We also commissioned a study to understand the implications and sizing of a potential VPPA. We also engaged a vendor who is scoping opportunities at three of our communities to provide residents with all renewable energy. Beyond that we are providing education to all of our residents around the importance of our emissions reduction commitments and the ways they can participate.

**Impact of engagement, including measures of success**
Impact of Engaging our Residents (Customers): The fundamental impact we hope to achieve by engaging our customers is to lower their emissions and provide them with ways to move to renewable power, thereby lowering our scope 3 emissions. Further we look to impact our customers knowledge of climate risk/change and building emissions in particular by supplying them with a number of educational programs throughout the year. Finally, through our Green Label Program for all new developments, which provides an analysis of what our new apartment homes do to reduce their emissions and save them money compared to other apartment home stock in the neighborhood, we are educating our customers on how buildings contribute to energy, emissions and water efficiency, with a goal of raising awareness. Examples of this can be seen in our development communities like those in New Jersey and California which are using these Green Labels during lease-up to ensure that all new and prospective residents are aware of the savings our apartments can provide as well as any certifications the building maintains. This important information is also housed on each individual communities website. In summary, the IMPACT here is: Reduce Scope 3 Emissions, Increase Knowledge on climate risk/change, Increase their understanding of how the built environment contributes to energy and water efficiency. Success Measures Our success measures related to education are to reach 100% of our residents with our educational materials. Our success measures with the Green Label Program are to ensure that each new development has a Green Label and that our onsite teams are trained and having sustainability-related conversations with prospective and current residents. Regarding renewable energy and energy efficiency, we are anticipating that our engagement program will result in two major outcomes (success measures): 1) Support our achievement of our Scope 3 emissions reduction target of a 47% drop in Scope 3 emissions by 2030 2) Increase the number of residents who are choosing greener electricity supply by 5-10% per year in the markets where choice is available, and 3) Scope solar systems large enough to provide certain communities with 100% renewable energy, or enough to provide all residents solar power. We will begin piloting this on 4 communities in 2022.

## C12.2

**(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?**
Yes, climate-related requirements are included in our supplier contracts

## C12.2a

**(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.**

**Climate-related requirement**
Complying with regulatory requirements

**Description of this climate related requirement**
All AvalonBay vendors must agree to and sign-off on our public responsible procurement principles and agree to be audited periodically against them. In 2020, we surveyed 37 AVB vendors of strategic importance against our principles and ensured compliance with their intent. As part of our Responsible Procurement Principles (found here: https://www.avaloncommunities.com/about-us/corporate-responsibility/-/media/ea7a783755184af3bb45ff01186d5ab2.ashx), all suppliers are required to minimize their environmental impacts in the areas of pollution, waste, and hazardous materials.

**% suppliers by procurement spend that have to comply with this climate-related requirement**
100

**% suppliers by procurement spend in compliance with this climate-related requirement**
100

**Mechanisms for monitoring compliance with this climate-related requirement**
First-party verification

**Response to supplier non-compliance with this climate-related requirement**
Suspend and engage

## C12.3

**(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?**

**Row 1**

**Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

**Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?**

Yes

**Attach commitment or position statement(s)**

See approved Science Based Targets (pg 7)

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**Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy**

We have three main processes in place that ensure all of our direct and indirect activities that influence policy are consistent with our overall climate change strategy: 1) Procedural consistency: Generally, all of our Company's procedures are governed by our corporate governance policies and principles, such as the Code of Business Conduct and Ethics and Corporate Governance Guidelines, which provide safeguards against practices that are inconsistent with the Company's objectives and govern direct and indirect activities external to the company (e.g., influencing policy). 2) CR Reporting Relationship and Internal Engagement: Additionally, our Vice President of Corporate Responsibility regularly interfaces with our Chief Investment Officer (CIO) and reports to our Chief Financial Officer. Through these meetings the VP of CR ensures that their knowledge of and participation in trade associations and advocacy is consistent with our overall climate change strategy. 3) Board Engagement: Further, through regular updates on ESG to the AvalonBay Board of Directors we ensure complete alignment at the top around the activities both internal and external (policy influence, for one) related to our climate change strategy.

**Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

**Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

## C12.3a

**(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?**

**Focus of policy, law, or regulation that may impact the climate**

Other, please specify (Building Energy & Emissions Performance Improvement policies that will require building energy and emissions to continually reduce (against their baseline) at intervals and levels set by each city/state.)

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

DC - Building Energy Performance Standards (BEPS) NY - Local Law 97 MA - Boston Building Emissions Reduction and Disclosure Ordinance (BERDO)

**Policy, law, or regulation geographic coverage**

Regional

**Country/region the policy, law, or regulation applies to**

United States of America

**Your organization's position on the policy, law, or regulation**

Support with minor exceptions

**Description of engagement with policy makers**

Many of our markets have legislated lower carbon emissions and building energy reduction requirements. AvalonBay has been engaged in supporting the execution of this legislation. The following examples outline our support and engagement in these public policy activities: • We are working with New York City's Retrofit Accelerator Program with two buildings enrolled in the program. We will work with the city over the coming years to test and implement technologies to deeply cut emissions in these buildings and help the city achieve it's goal of an 80% emissions reduction by 2050. Our participation in the program will help the city better understand how buildings can be retrofitted to dramatically reduce carbon emissions. • In addition, in late 2019 we offered two properties to be studied by Boston's Green Ribbon commission in support of the city's goal of carbon neutrality by 2050. These buildings will serve as pilot projects to advance the understanding of the challenges and advantages of performing deep carbon emissions retrofits in a multi-family context. • Finally, in Washington DC we are supporting the city's Department of Energy and Environment as they establish their first set of Building Energy Performance Standards through input and comment on the new legislation as its implementation component is formed.

**Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation**

AvalonBay has 3 main product types, High-rise, Mid-rise, and Garden style properties. Our High and Mid-rise properties, in some cases, include mixed use or retail spaces that are leased out to third party organizations. These organizations may include supermarkets, dry cleaners, or even restaurants. The way these policies are written eliminate our ability to separate out the emissions generated by these third party lease organizations from those associated with our own operational controls. This means AvalonBay would be responsible for the possible non compliance of these spaces without being able to implement improvements or reduce consumption.

**Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## C12.3b

**(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.**

**Trade association**
Other, please specify (NAREIT)

**Is your organization's position on climate change consistent with theirs?**
Consistent

**Has your organization influenced, or is your organization attempting to influence their position?**
We have already influenced them to change their position

**State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)**
NAREIT fundamentally believes that climate change is real and needs to be addressed. In addition, the built environment and their neighbors have a significant role to play in mitigating climate risk and moving to a low-carbon future.

**Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)**
0

**Describe the aim of your organization's funding**
<Not Applicable>

**Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?**
Yes, we have evaluated, and it is aligned

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

**Publication**
In mainstream reports

**Status**
Complete

**Attach the document**
Y
2021-annual report.pdf

**Page/Section reference**
Page 2-5, "Environmental, Social & Governance" Section

**Content elements**
Governance
Strategy
Emission targets
Other metrics

**Comment**
No additional comment

**Publication**
In voluntary sustainability report

**Status**
Complete

**Attach the document**
Y
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**Page/Section reference**
Emission Figures: Page 74-75, "Environmental Performance" section and "Emissions" subsection Governance: Page 52 and following "Section 3: Governance" Section Strategy: Various but see page 15--21 and following for our environmental strategy Emission targets: Page 7, ESG Goals

**Content elements**
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

**Comment**
Strategy: We outline our ESG strategies throughout our annual ESG (Corporate Responsibility) report. Each components has a chapter, with the "E" starting on page 14, the "S" starting on page 24 and the "G" starting on page 52. We also publish a comprehensive set of ESG metrics in the appendix and throughout the report. Emission targets: See our annual accounting on page 7 and 16 of our Science-Based Emission Reduction Targets.

## C15. Biodiversity

## C15.1

### (C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

| | Board-level oversight and/or executive management-level responsibility for biodiversity-related issues | Description of oversight and objectives relating to biodiversity | Scope of board-level oversight |
|---|---|---|---|
| Row 1 | No, but we plan to have both within the next two years | <Not Applicable> | <Not Applicable> |

## C15.2

### (C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

| | Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity | Biodiversity-related public commitments | Initiatives endorsed |
|---|---|---|---|
| Row 1 | No, but we plan to do so within the next 2 years | <Not Applicable> | <Not Applicable> |

## C15.3

### (C15.3) Does your organization assess the impact of its value chain on biodiversity?

| | Does your organization assess the impact of its value chain on biodiversity? | Portfolio |
|---|---|---|
| Row 1 | No, but we plan to assess biodiversity-related impacts within the next two years | <Not Applicable> |

## C15.4

### (C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

| | Have you taken any actions in the reporting period to progress your biodiversity-related commitments? | Type of action taken to progress biodiversity- related commitments |
|---|---|---|
| Row 1 | Yes, we are taking actions to progress our biodiversity-related commitments | Land/water management<br>Education & awareness |

## C15.5

### (C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

| | Does your organization use indicators to monitor biodiversity performance? | Indicators used to monitor biodiversity performance |
|---|---|---|
| Row 1 | No, we do not use indicators, but plan to within the next two years | Response indicators |

## C15.6

### (C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

| Report type | Content elements | Attach the document and indicate where in the document the relevant biodiversity information is located |
|---|---|---|
| In voluntary sustainability report or other voluntary communications | Biodiversity strategy | Please see pages 22-23<br>AVB_2021 CR Report_DIGITAL_F-Spreads.pdf |

## C16. Signoff

## C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

No Additional Comment

## C16.1

**(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Chief Financial Officer (CFO) | Chief Financial Officer (CFO) |

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

| | I understand that my response will be shared with all requesting stakeholders | Response permission |
|---|---|---|
| Please select your submission options | Yes | Public |

**Please confirm below**

I have read and accept the applicable Terms