

Ventas Inc - Climate Change 2019

C0. Introduction

C0.1

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

Note: All data below correct as of 12/31/2018.

Ventas, Inc., an S&P 500 company, is a real estate investment trust (“REIT”) with a highly diversified portfolio of seniors housing, healthcare, and research properties located throughout the United States (“U.S.”), Canada and the United Kingdom (“U.K.”). The Company generates \$2 billion of annual net operating income through its high-quality, diversified portfolio of approximately 1,200 seniors housing communities, medical office buildings (“MOBs”), life science and innovation centers, inpatient rehabilitation facilities and long-term acute care facilities, acute care hospitals and skilled nursing facilities. With 500 employees, Ventas is headquartered in Chicago, Illinois and also has a corporate office in Louisville, Kentucky. We lease all of our corporate offices.

Operating at the dynamic intersection of healthcare and real estate, which together comprise ~40% of U.S. GDP, Ventas has delivered superior long-term returns as the leading capital provider to leading senior living, healthcare and research institutions. Ventas primarily invests in seniors housing and healthcare properties through acquisitions. We lease our properties to leading, high-quality, unaffiliated tenants or operate them through independent third-party managers. Through our Lillibridge Healthcare Services, Inc. (“LHS”) subsidiary and our ownership interest in PMB Real Estate Services LLC (“PMBRES”), we also provide property management, leasing, construction management and advisory services to highly-rated hospitals and health systems throughout the U.S. In addition, Ventas funds the development of new seniors housing and healthcare properties and makes secured and non-mortgage loans and other healthcare-related investments.

Ventas maintains operational control for climate impacts in a portion of its portfolio, as defined below. Development and major redevelopment projects that are not yet operational are excluded from our operational control boundary. Once operational, they are included or excluded in our boundary according to the below. As of December 31, 2018, we had 19 properties under development.

Primarily Within Ventas Operational Control Boundary for Climate Change Impacts:

Seniors Housing Operating Portfolio (SHOP): ~31% of annualized NOI. Ventas invests in seniors housing communities throughout the U.S. and Canada and engages third-party operators, such as Atria Senior Living, Inc. and Sunrise Senior Living LLC, to manage those communities pursuant to long-term management agreements. Ventas recognizes the NOI from these communities in its consolidated financial statements including the management fees paid to its independent operators. Ventas approves and provides funding for capital expenditures (“CapEx”), including for sustainability-related initiatives such as energy, water and waste reduction projects. While we do not directly manage these properties, we include SHOP properties in our operational control boundary over climate impacts because we control the approval and funding of CapEx, which influences the climate-change impacts of these properties.

Office Portfolio: ~27% of annualized NOI. Ventas acquires, owns, develops, leases and manages MOBs and life science and innovation centers throughout the U.S. In 2018, about two-thirds of our Office Portfolio was within our operational control boundary for climate impacts. These properties are directly managed by LHS or indirectly managed by a third party operator, such as PMBRES for MOBs or Wexford Science & Technology, LLC (“Wexford”) for life science and innovation centers. The remainder of our Office Portfolio is triple-net leased or part of a hospital system utility shared services arrangement where we do not have operational control, and are excluded from our operational control boundary for climate change impacts.

Outside of Ventas Operational Control Boundary for Climate Change Impacts:

Triple-Net (NNN): ~39% of annualized NOI. Ventas owns seniors housing communities, inpatient rehabilitation and long-term acute care facilities, acute care hospitals and skilled nursing facilities throughout the U.S. and the U.K. We lease these properties to high-quality seniors housing and healthcare operating companies under “triple-net” or “absolute-net” leases that obligate the tenants to pay all property-related expenses. We have no operational control over climate change impacts from these properties.

Loans: ~3% of annualized NOI) includes loans primarily secured by healthcare real estate. We have no operational control over climate change impacts from the assets that secure these loans.

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
Row 1	January 1 2018	December 31 2018	No	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

Canada
United Kingdom of Great Britain and Northern Ireland
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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

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
Board Chair	The Ventas Board Chair and CEO (combined position) has direct oversight of climate-related issues as the Chair of the Ventas ESG Steering committee and a member of our Enterprise Risk Management (ERM) committee. The ESG committee oversees company-wide initiatives to improve our environmental footprint and energy efficiency efforts, in addition to corporate social responsibility and governance efforts. The ERM committee identifies, assesses and monitors enterprise-wide risks to our company, including those from climate change. Our Board Chair/CEO provides regular (quarterly or more frequent) ESG and ERM updates to our Executive Leadership Team and also obtains approval and buy-in for ESG initiatives. Our Board Chair/CEO also provides quarterly updates to our Board of Directors on ESG and ERM matters, including climate-change impacts to our business.

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	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies	The Ventas Chairman and CEO (combined position) provides quarterly updates of ESG and ERM (enterprise risk management) issues, including climate-related issues, at all regularly scheduled meetings of the Ventas Board of Directors. The Ventas Chairman and CEO is the Chair the Ventas ESG Steering Committee, and is therefore well-positioned to provide ESG and climate-related updates to the Board. The Board provides guidance on strategy and major plans of action related to ESG and climate change matters, as appropriate. Ventas has an integrated, multi-disciplinary company-wide risk management process, which incorporates climate risks and is managed through our Enterprise Risk Management (ERM) Committee. The ERM Committee is convened at least quarterly to review and update our Risk Heat Map. Existing risks are evaluated for changes to risk likelihood or impact, and mitigation strategies are updated as needed. ERM updates are provided to the Ventas Board of Directors at quarterly board meetings.

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)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	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).

Organizational structure and rationale: The Ventas Board Chairman and CEO has the highest level of responsibility for ESG and climate related issues as the Chair of the Ventas ESG Steering Committee and a member of our Enterprise Risk Management (ERM) Committee. The ESG committee provides oversight and monitoring of Ventas's ESG strategy, including climate-change related impacts and initiatives. The ERM committee identifies, assesses and monitors enterprise-wide risks to our company, including those from climate change.

The Ventas Chairman/CEO is vested with climate-change related responsibility (as the Chair of ESG SteerCo) in order to have centralized oversight and visibility of ESG and climate-related impacts to our business. Also, by having the most senior member of the Ventas Board and management team with this responsibility, we are able to maintain a coordinated response to climate change across all of our operations and ensure that climate-change related initiatives are effectively implemented across the company.

Specific responsibilities of the Ventas Chairman and CEO (as Chair of the ESG Committee and member of the ERM committee) include:

- Providing guidance and ultimate approval of Ventas's annual environmental goals, such as implementation of energy reduction initiatives in our portfolio
- Providing guidance and approval of Ventas's environmental disclosures on our website and other reporting
- Providing guidance and approval for Ventas's business strategies related to climate change impacts
- Assessing and mitigating Ventas's risks related to climate change (transitional and physical).

Ventas climate-related issues monitoring process: The Ventas ESG Committee is chaired by our Chairman and CEO and convened by our Director of Sustainability with representatives from our Investments, Asset Management and Marketing & Corporate Communications functions. It meets at least quarterly with additional ad hoc meetings as needed. The Committee regularly communicates findings with the Ventas ESG Reporting Working Group as well as the legal, HR, acquisitions and asset and risk management teams. Quarterly (or more frequent) ESG updates, including climate-change related topics and initiatives are provided to the Board of Directors and executive leadership team.

Corporate climate related risks are also assessed and monitored through our ERM committee. Our Chairman and CEO is a member of this committee, and our Director of Sustainability provide information and updates to this committee on climate-related risks to the company.

C1.3

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

Yes

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).

Who is entitled to benefit from these incentives?

Chief Executive Officer (CEO)

Types of incentives

Monetary reward

Activity incentivized

Energy reduction target

Comment

Per our proxy, ESG consideration for 2018 executive compensation included ESG performance (of which climate change is a component) in the Individual Performance factors for our CEO.

Who is entitled to benefit from these incentives?

Other, please specify (Members of ESG Steering Committee)

Types of incentives

Monetary reward

Activity incentivized

Energy reduction target

Comment

Compensation structure (primarily discretionary bonus incentive) is tied (in part) to successful implementation of energy reduction initiatives throughout the Ventas portfolio. Examples include, LED lighting upgrades and energy efficiency improvements to HVAC operations.

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Recognition (non-monetary)

Activity incentivized

Behavior change related indicator

Comment

Any employee that supports the company's efforts to manage climate change through the following types of activities may receive written and/or verbal recognition/praise from their managers, the Director of Sustainability and/or Ventas executives: a) Helps to improve consumption and emissions performance at the asset or corporate level b) Promotes efforts to reduce utility expenses via reduced consumption and improved, responsible purchasing efforts c) Identifies opportunities to accretively invest capital in energy-saving projects within the portfolio d) Assists in obtaining and/or maintaining ENERGY STAR certifications.

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Energy reduction project

Comment

Compensation structure (primarily discretionary bonus incentive) is tied (in part) to successful implementation of energy reduction initiatives throughout the Ventas portfolio. Examples include, LED lighting upgrades and energy efficiency improvements to HVAC operations.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	1	
Medium-term	1	3	
Long-term	3	10	

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Ventas has an integrated, multi-disciplinary company-wide risk management process, which is managed through our Enterprise Risk Management (ERM) Committee. Climate change risks and opportunities are integrated into this process. The ERM Committee meets at least quarterly to review and update our Risk Heat Map. The Ventas Director of Sustainability and Director of Corporate Risk Management have day-to-day responsibility for identifying and assessing climate-related risks. These risks are monitored on an ongoing basis. As a long-term holder of real estate, Ventas considers risks up to 10 or more years into the future, as well as near term and medium term risks.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

Risk Management Process Overview: Ventas has an integrated, multi-disciplinary company-wide risk management process, which is managed through our Enterprise Risk Management (ERM) Committee. Climate change risks and opportunities are integrated into this process. ERM Committee Members include our: CEO, CFO, General Counsel, VP of Internal Audit, and In-house legal counsel representing Compliance and Securities. The ERM Committee is convened at least quarterly to review and update our Risk Heat Map. Existing risks are evaluated for changes to risk likelihood or impact, and mitigation strategies are updated as needed. Detailed overviews of each risk and mitigating strategies are included in the materials. New risks are discussed and evaluated for potential inclusion on the heat map. Results are discussed with the Ventas Board of Directors at quarterly board meetings as needed.

How risks are identified:

The Ventas Director of Sustainability identifies and assesses climate change risks to Ventas on an ongoing (at least monthly) basis through the activities listed below. Any material updates to climate change risks faced by the company would be provided to the ERM Committee for review and discussion. The Risk Heat Map and mitigating activities would be updated as needed.

- Participation in real estate-specific, sustainability and climate-change related committees, boards, conferences and vendor discussions: Examples include the Nareit Real Estate Sustainability Council, IREM Sustainability Advisory Board and the Real Estate

Roundtable Sustainability Policy Advisory Committee. These forums provide insight into how climate change is impacting the real estate industry (via regulation, new technology, etc.).

- Sustainability and climate-change related discussions with development partners and operators/managers: Through discussions with these external parties our Director of Sustainability is able to understand and assess how climate change is impacting operations in our portfolio.
- Partnership with third party experts in climate change: Ventas engages external consultants with expertise in real estate climate-related risks, such as new regulations and technologies. These vendors provide information specific to the Ventas portfolio on exposure to these risks. An example is exposure to city ordinances to report building energy use, which are being enacting in several cities across the U.S.

The Ventas Corporate Risk Management team routinely identifies and assesses climate-related risks (primarily related to severe weather and climate events) in conjunction with our insurance brokers, carriers and consultants. For new property acquisitions, climate risks are identified through property condition reports and Phase I Environmental Surveys which are required as part of our due diligence process. For existing assets, our asset management teams conduct site visits approximately annually, and has regular (weekly to monthly) discussions with the property managers and operators to understand all aspects of the asset, which encompasses risks from climate change.

In addition, our property insurance carriers help Ventas identify climate related risks to our portfolio (primarily weather-related). As flood maps are updated, our property carrier provides a risk analysis and mitigation suggestions. Throughout the year our property carrier provides emails with bulletins and flyers alerting the Company on best practices in avoiding and mitigating damages or loss associated with climate risk changes.

How risks are assessed:

The Director of Sustainability coordinates with relevant internal resources, such as the VP of Construction and Development, Legal, Technical Operations, and Asset Management to discuss and estimate how the identified risks could impact the portfolio. If a potential substantive (as defined below) impact is identified this is shared with our ESG Steering Committee and our ERM Committee to develop a mitigation plan. Our CEO sits on both the ESG Steering Committee and ERM Committee, which provides a direct link between the activities of these committees.

The Ventas Corporate Risk Management team works with our property carries to assess weather-related climate risks by applying algorithms, data analytics and scenario analysis to our portfolio

Whether a risk has a substantive financial or strategic impact on our business is determined based on the potential for the risk to:

- Impact company Funds From Operations (FFO) on the order of ~\$500,000 or more
- Degrade Ventas's competitive position among its REIT peers
- Degrade Ventas's investor and other stakeholder relationships

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	For example, buildings in the Ventas portfolio are subject to various city energy benchmarking ordinances. These ordinances require energy reporting and fines may be charged for non-compliance.
Emerging regulation	Relevant, always included	For example, future regulation to limit carbon emissions from real estate could have a material impact on our financial and operational performance.
Technology	Relevant, always included	For example, new technologies to optimize the energy consumption by building HVAC systems could improve Ventas earnings through energy consumption savings.
Legal	Relevant, always included	As noted in 2.2b, Ventas evaluates the risk for environmental litigation claims for all new property acquisitions by conducting a Phase I Environmental Site Assessment. If issues are identified, they are mitigated or the property is not acquired
Market	Relevant, always included	For example, current and prospective tenants and residents in Ventas properties may increasingly demand low-carbon real estate options.
Reputation	Relevant, always included	For example, Ventas employees may increasingly demand to work for a company that has a track record of understanding and mitigating its climate change impacts.
Acute physical	Relevant, always included	As noted in 2.2b, the Ventas Risk Management team works with our property insurance carriers to assess the risk of increased severity of extreme weather events within our real estate portfolio.
Chronic physical	Relevant, always included	For example, as temperatures rise and/or are more volatile, this will incur greater heating and cooling costs in the Ventas real estate portfolio, which could negatively impact our earnings.
Upstream	Relevant, always included	For example, our institutional shareholders are increasingly seeking to understand the impacts of the Ventas portfolio on climate change.
Downstream	Relevant, always included	For example, consistent with our Market risks, current and prospective tenants and residents in Ventas properties may increasingly demand low-carbon real estate options.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

For **transitional** climate change-related risks and opportunities, the Ventas Director of Sustainability works with the Ventas ESG Steering Committee or the Ventas Management Capital Committee (if related to an investment opportunity) to develop a plan to mitigate the risk or capitalize on the opportunities. Working groups or task forces within the company would be formed as needed to implement the activities needed to mitigate or capitalize on the risks. The Director of Sustainability would work with the relevant groups across the Ventas organization to implement any measures approved by the ESG Steering Committee or Management Capital Committee.

For **physical** climate change-related risks and opportunities, the Ventas Corporate Risk Management team works with the Investments team (for new acquisitions) to ensure that our insurance programs are updated to incorporate the risks exposure from new properties and that our legal documents (purchase and sale agreements, management agreements, lease agreements) protect Ventas from exposure to these risks. For existing assets, the Risk Management team collaborates with our property insurance carriers, the Ventas asset management and property management teams, and our operators to ensure that our properties are prepared for severe weather and related emergencies. We are also developing corporate climate goals to mitigate our exposure to physical risks.

Transitional Risk Example:

The Ventas Director of Sustainability presents an annual budget to the Management Capital Committee for climate-change related capital investment opportunities (such as LED lighting projects) in our portfolio. This discussion includes the estimated costs, returns and climate-change mitigation potential of the projects.

Physical Risk Example:

Ventas's Corporate Risk Management group partnered with our medical office property management team to update and implement our severe-weather emergency preparedness plans, based on indications from our property carriers for increased exposure and intensity of these types of events. By applying this mitigation process we are able to limit the damage to our buildings, and the potential exposure to dangerous conditions for our tenants and our property management employees.

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

Transition risk

Primary climate-related risk driver

Policy and legal: Mandates on and regulation of existing products and services

Type of financial impact

<Not Applicable>

Company- specific description

A significant regulation-driven climate change risk faced by Ventas is the enactment of new building codes for minimum product performance. Such regulations could increase construction costs and costs of maintaining our asset base. An example is state and local adoption of stricter ASHRAE 90.1 standards and IEC Code. Increased use of specialized building materials and energy efficient equipment could increase project costs 1-5%. The time horizon for this risk is medium-term (~1-3 years).

Time horizon

Medium-term

Likelihood

About as likely as not

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)

15000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Ventas' active development/redevelopment commitments are about \$500M. Assuming a 3% increase (mid-point of the 1% - 5% estimate noted above), Ventas would face \$15M of higher costs development costs.

Management method

Mitigation includes gaining experience in construction methods and researching high performance materials/equipment to minimize additional costs (e.g., through dedicated sustainability resources and partnering with developers who focus on LEED development). A dedicated Director of Sustainability position was created in 2016 and this resource is working with our Construction and Development group on sustainable development policies to mitigate this risk.

Cost of management

50000

Comment

Based on a portion of the Director of Sustainability's time and additional time spent by existing internal employees the estimated cost to manage is approximately \$50,000 annually.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

With properties located across the United States, Canada and the United Kingdom, including coastal properties, Ventas is vulnerable to increased frequency and severity of extreme weather (primarily hurricanes and blizzards). The primary, ongoing financial impact from this risk is increased property insurance premiums. Increased frequency of weather-related insurance losses globally are increasing competition in the insurance markets. The timeframe for this risk is over the next 1-3 years.

Time horizon

Medium-term

Likelihood

More likely than not

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)

500000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Unmitigated, this could result in increased annual insurance costs to Ventas of up to \$500,000. This is based on average premium increases currently being experienced in insurance markets.

Management method

Ventas seeks to mitigate its exposure to premium increases in the near term by ensuring that we have resilient buildings that can withstand extreme weather and implementing strong emergency preparedness plans at our buildings. The costs related to this are primarily existing internal overhead, but may include costs to upgrade physical plant up to ~\$100,000. Long-term, Ventas seeks to reduce its greenhouse gas emissions to moderate climate change. These expenditures will vary widely depending of the economics of emissions-reductions projects, such as installing energy-efficient equipment and are not included here.

Cost of management

100000

Comment

Costs related to physical plant upgrades is estimated to be \$100,000. There is no incremental cost associated with negotiating competitive insurance rates through a bidding process, which is routinely conducted by our corporate risk management team. Costs to develop emergency preparedness plans are minimal and can be completed by existing internal resources.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Customer

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact

<Not Applicable>

Company- specific description

Institutional equity and debt investors are the primary source of capital for Ventas. Increasingly, these investors are incorporating climate impacts and other sustainability and ESG data into investment decisions. If Ventas does not maintain its reputation of being an environmentally and socially responsible company, it could reduce capital availability from these investors. The timeframe for this risk is over the next 3-10 years.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

7950000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

As more capital providers use climate change impacts to direct their investments, the supply of capital for companies that don't meet the criteria will be reduced. This is likely to impact a relatively small amount of capital relative to all capital available and is difficult to quantify. If it were assumed that the overall impact is a 2.5 basis points decrease to our enterprise value, due to higher costs of debt and equity, this would result in an unmitigated impact of \$7.95 million (based on Ventas enterprise value of \$31.8 billion as of 12/31/2018).

Management method

Current risk management methods include making sustainability a focal point for our existing portfolio and a factor in our acquisition and divestiture strategy. Spearheading these efforts is a Director of Sustainability (hired in 2016) and an ESG Committee. The ESG Committee is comprised of employees from different functional areas that meet regularly to consolidate and improve our awareness, information collection and disclosure regarding environmental matters. Currently our portfolio includes 28 properties built to LEED standards, 2 completed buildings with pending LEED certifications and 7 under construction. Additionally, Ventas is an ENERGY STAR partner with 69 properties ENERGY STAR Certified. As a signatory to the CDP we are committed to transparency and timely disclosure of climate change risk. Every year, we also participate in the Global Real Estate Sustainability Benchmark (GRESB) survey and the RobecoSAM Corporate Sustainability Assessment.

Cost of management

200000

Comment

Based on a portion of the Director of Sustainability's time and additional time spent by existing internal employees the estimated cost to manage is approximately \$200,000 annually.

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

Move to more efficient buildings

Type of financial impact

Reduced operating costs (e.g., through efficiency gains and cost reductions)

Company-specific description

The implementation of energy efficiency investment projects across our real estate portfolio will result in meaningful energy cost savings, which will increase our portfolio NOI and improve our company earnings. Examples of projects include LED lighting upgrades, HVAC optimization technology, and on-site solar installations. We work with our operating partners to identify, analyze and implement these types of projects, which are in progress and will continue to be an opportunity over the short, medium and long-term.

Time horizon

Short-term

Likelihood

Virtually certain

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)

2500000

Potential financial impact figure – maximum (currency)

6700000

Explanation of financial impact figure

Based on historical experience with energy efficiency projects and the anticipation of future technology improvements that create additional efficiency opportunities, we estimate that we can reduce our operating expenditures by approximately 1-2% in the short-term through energy efficiency projects in our operating portfolio. Our 2018 operating expenses for these properties were ~\$1.7 billion. A 1-2% reduction would result in ~\$2.5M - 6.7M of incremental NOI to Ventas. At our 12/31/2018 multiple of ~15x, this is \$38M - 100M of enterprise value. This is a low impact relative to our total enterprise value of \$31.8 billion at 12/31/2018.

Strategy to realize opportunity

Ventas has a dedicated Sustainability team, whose responsibility includes the identification and implementation of energy efficiency projects such as LED lighting upgrades and HVAC optimization technology. This is included in their performance goals and is supported with incentive compensation. They collaborate internally and with our operating partners and vendors to implement these projects. The estimated cost (including incentive compensation) for approximately 1/3 of the Sustainability team's time that will be dedicated to these projects over the next two years is approximately \$300,000. The estimated capital investment related to these projects is estimated to be ~\$30M to \$70M (assuming yields of ~8-10%). This investment would be an asset on our balance sheet and therefore is not included in costs.

Cost to realize opportunity

300000

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

As average global temperatures continue to rise, Ventas's low-carbon products (such as LEED and Energy Star certified buildings) will become more attractive to potential tenants, residents and customers. This increased demand for our assets could allow Ventas and its operators to earn a pricing premium through higher rents. It may also lower building operating costs as workers in our buildings may be more engaged and healthy working in a 'green' building, which could lower employee turnover and health

benefit costs. We anticipate the timeline for this opportunity to be long-term, over the next 3-10 years.

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)

4500000

Potential financial impact figure – maximum (currency)

6200000

Explanation of financial impact figure

Assuming a 0.5% to 1% revenue premium from increased consumer demand for Ventas low-carbon properties or the ability to charge higher prices for our low-carbon buildings, this would result in additional revenue of ~\$4.5M - 6.2M (total 2018 revenue for our operating boundary was \$2.7 billion). There are no anticipated increases in operating costs for these buildings, so the additional revenue would equate to additional NOI. At our 12/31/2018 multiple of ~15x, this is ~\$67M - 94M of enterprise value. This is a low impact relative to our total enterprise value of \$31.8 billion at 12/31/2018.

Strategy to realize opportunity

Specific methods to realize these opportunities include (a) collaborating with customers to improve environmental awareness (b) implementing energy conservation and renewable energy programs such as LED lighting, efficient HVAC systems and solar (c) pursuing and publicizing sustainability certifications such as LEED and Energy Star to expand our low-carbon products and attract tenants and operators focused on sustainability. These initiatives can be pursued by our Director of Sustainability in conjunction with our operating partners and construction & development team. Increased marketing costs to green-minded tenants and residents is estimated to cost ~\$250k per year. Additional 3rd party services to drive green building certifications is estimated to cost \$250k.

Cost to realize opportunity

500000

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Investment chain

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact

Other, please specify (Increased equity investment)

Company-specific description

As indicated in 2.3, institutional investors are increasingly incorporating climate change impacts in their screening process. If Ventas can position itself as a leading REIT in terms of its climate change performance (in addition to its financial performance), Ventas will have greater potential sources of capital and will drive increased equity investment in our company. We anticipate the timeline for this opportunity to be long-term, over the next 3-10 years.

Time horizon

Long-term

Likelihood

About as likely as 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)

105000000

Potential financial impact figure – maximum (currency)

210000000

Explanation of financial impact figure

As more capital providers use climate change impacts to direct their investments, the supply of capital for companies that meet the criteria will increase. We are starting to see increased creation of 'sustainable' and 'ESG' mutual and index funds based on company performance against various ESG frameworks such as CDP, GRESB, MSCI, etc. This will drive increased equity investment and will drive up our share price. We estimate that this could increase our share price by 0.5% to 1%. At 12/31/2018, our stock was at ~\$59/share with ~360M shares outstanding. A 0.5% to 1% increase in our stock price would result in ~\$105M to 210M additional enterprise value. This is a medium-low impact relative to our total enterprise value of \$31.8 billion at 12/31/2018.

Strategy to realize opportunity

Ventas's strategy to realize this opportunity is to ensure that Ventas has strong sustainability practices that make Ventas a lower-carbon investment option compared to peer companies, and ensure Ventas is considered by sustainability-focused investors and related indices and mutual funds. Spearheading these efforts is a Director of Sustainability and our ESG Steering Committee, which sets environmental goals and targets to reduce the environmental impact of our portfolio. Currently our portfolio includes the following low-carbon buildings: a) 44 LEED-certified buildings (including 11 projects where certification is pending) and b) 72 ENERGY STAR certified properties (earned in current or prior years). Ventas is also committed to transparency and timely disclosure of climate change impacts and opportunities. These disclosures ensure that Ventas is considered for investment by environmentally-focused investors. Every year we disclose to CDP, the Global Real Estate Sustainability Benchmark (GRESB) survey and the RobecoSAM Corporate Sustainability Assessment. We have also been a member of the FTSE4GOOD index since 2013. This index measures the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices and is used by a wide variety of market participants to create and assess responsible investment funds and other products. We seek to expand our inclusion on these types of indices, which will increase equity investment in our company.

Cost to realize opportunity

300000

Comment

The cost of a dedicated Director of Sustainability and additional time spent by existing internal employees is approximately \$300,000 annually.

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	How this is impacting Ventas: As average global temperatures continue to rise, Ventas's low-carbon products (such as LEED and Energy Star certified buildings) will become more attractive to potential tenants, residents and customers. This increased demand for our assets could allow Ventas and its operators to earn a pricing premium through higher rents. We are seeing this impact in our Research and Innovation property types. Tenants for these buildings, which primarily include research universities and technology start-ups, expect their buildings to obtain LEED certification to indicate a reduced environmental impact. Magnitude of impact: Low; potential for 1% revenue increase from low carbon properties Potential timeline of impact: Current (for Research and Innovation portfolio); Long-term for our other property types, over the next 3-10 years
Supply chain and/or value chain	Not yet impacted	How this will impact Ventas: If Ventas can position itself as a leading REIT in terms of it's climate change performance (in addition to its financial performance), Ventas will have greater access to capital, which will reduce it's capital costs. Capital is one of the primary components of Ventas's cost of doing business. Magnitude of impact: Medium-low; potential 2.5 basis point increase in our enterprise value Potential timeline of impact: Long-term, over the next 3-10 years
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	How this is impacting Ventas and magnitude: The enactment of new building codes for minimum building energy and emissions performance is impacting Ventas in its development and redevelopment activities. Such regulations could increase construction costs and costs of maintaining our asset base. An example is state and local carbon limits and energy benchmarking ordinances. Increased use of specialized building materials and energy efficient equipment could increase project costs 1-5%.
Investment in R&D	Impacted	How this is impacting Ventas: Ventas is committed to low-carbon products by seeking LEED certification for its new developments. Magnitude of impact: At the end of 2018, a majority of Ventas's portion of new development investment was in properties seeking LEED certification.
Operations	Impacted for some suppliers, facilities, or product lines	How this is impacting Ventas: Ventas works with its operating partners and Lillibridge subsidiary to implement energy conservation projects in it's portfolio. These projects primarily include LED lighting and HVAC efficiency measures. Magnitude of impact: In 2018, Ventas approved \$18 million in sustainable, NOI-enhancing capital investments , which included these types of energy conservation projects.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.

	Relevance	Description
Revenues	Not yet impacted	How this will impact Ventas: As average global temperatures continue to rise, Ventas's low-carbon products (such as LEED and Energy Star certified buildings) will become more attractive to potential tenants, residents and customers. This increased demand for our assets could allow Ventas and its operators to earn a pricing premium through higher rents. Magnitude of impact: Medium; potential for 1% revenue increase from low carbon properties Potential timeline of impact: Long-term, over the next 3-10 years
Operating costs	Impacted for some suppliers, facilities, or product lines	How this is impacting Ventas: Ventas works with its operating partners and Lillibridge subsidiary to implement energy conservation projects in it's portfolio. These projects primarily include LED lighting and HVAC efficiency measures. Magnitude of impact: In 2017, Ventas approved \$18 million in sustainable, NOI-enhancing capital investments , which included these types of energy conservation projects. These projects typically have ROIs from 10-20%, indicating operating cost savings of \$200,000 - 400,000. Operating costs are also impacted by the potential for higher insurance costs due to more frequent and severe extreme weather vents. The magnitude of this impact is potentially up to \$500,000 annually for higher premiums. This is based on our knowledge of current market premium increases. Another increase in operating costs related to climate change is due to increased carbon and energy regulations. An example is state and local carbon limits and energy benchmarking ordinances. Increased use of specialized building materials and energy efficient equipment could increase project costs 1-5%.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	How this is impacting Ventas: Ventas works with its operating partners and Lillibridge subsidiary to implement energy conservation projects in it's portfolio. These projects primarily include LED lighting and HVAC efficiency measures. Magnitude of impact: In 2018, Ventas approved \$18 million in sustainable, NOI-enhancing capital investments , which included these types of energy conservation projects.
Acquisitions and divestments	Impacted	How this is impacting Ventas: Ventas has incorporated sustainability and climate change into its acquisitions due diligence process. We determine if properties have implemented energy efficiency measures and if they have green building certifications such as LEED or Energy Star. In addition, we evaluate the impact of new acquisitions on our insurance policies. The exposure of new properties to extreme weather events such as hurricanes, blizzards and flooding will impact our insurance costs. Magnitude of impact: The assessments noted above our fully integrated into our due diligence process.
Access to capital	Not yet impacted	How this will impact Ventas: If Ventas can position itself as a leading REIT in terms of it's climate change performance (in addition to its financial performance), Ventas will have greater access to capital, which will reduce it's capital costs. Capital is one of the primary components of Ventas's cost of doing business. Magnitude of impact: Medium; potential 2.5 basis point increase in our enterprise value Potential timeline of impact: Long-term, over the next 3-10 years
Assets	Not yet impacted	How this will impact Ventas: Ventas's asset values may be positively or negatively impacted by climate change factors. Positive impacts include increased value from energy-efficient buildings (such as LEED and Energy Star certified buildings), which may achieve higher cash flows from higher revenues (increased tenant demand) and lower operating costs (lower energy consumption). Negative impacts include lower property values from exposure more frequent and severe extreme weather events. Magnitude of impact: Medium; potentially a 1-2% increase or decrease (on a property by property basis) in asset values Potential timeline of impact: Long term, over the next 3-10 years
Liabilities	Not impacted	Ventas is not exposed to material environmental litigation or carbon tax or trading schemes.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

1. How and why Ventas's business strategy has been influenced by climate-related issues: In 2018, Ventas conducted a materiality assessment to identify the most important environmental, social and governance topics for our company. Climate change was identified as a top tier topic for Ventas to manage risks and opportunities. In addition, the Ventas ESG Steering Committee sets annual goals which include activities to address climate related issues (such as investment in energy efficiency projects). Pursuing responsible and effective environmental practices is a key strategic objective for our existing portfolio of buildings, for future acquisitions and for the daily work of our employees. Strong environmental performance and disclosures will increase investor demand for Ventas stock and lead to improved risk-adjusted returns from our real estate holdings.
2. Link to targets: To measure our progress and ensure that we are mitigating the environmental impact of our real estate portfolio, Ventas has short-, medium- and long-term energy and emissions reduction targets that are continuously measured, and progress is reported to investors at least annually on our website. Ventas has set 10-year consumption reduction targets of 10% for energy consumption and GHG emissions, 5% for water consumption, and a 4% for waste directed to landfills. Ventas is in the process of expanding our climate-related goals and opportunities based on the 2018 materiality assessment results discussed above.
3. Business decisions influenced by climate change aspects of strategy: a) Ventas and its development partners elected to pursue LEED certification for the majority of our new development projects, representing a majority of Ventas's total share of development costs for active projects in 2018. LEED, or Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world. LEED buildings save energy, water, resources, generate less waste and support human health. Ventas also approved \$18 million in sustainable capital investments in 2018 that both mitigated our environmental impact and provided a strong financial return to Ventas. These projects include LED lighting upgrades, HVAC equipment upgrades, and building automation systems. b) In 2018, we made a business decision to add climate change risks to our Enterprise Risk Management (ERM) process. A material factor in this decision was the recognition that Ventas faces risks from climate change, which we have experienced through increased catastrophic weather events in our portfolio and through increasing climate-related regulatory activity at the state and local level in the U.S., such as energy benchmarking requirements.
4. Aspects of climate change that have influenced our strategy include: a) Investor demand and desire to invest in companies that have strong disclosures and performance on their climate impacts and strategies b) Buildings that are more energy, water and waste efficient (and thus have lower emissions and other environmental impacts) also have better financial performance from lower operating expenses. Environmentally sustainable buildings also have stronger demand from tenants and residents. c) Ventas employees are part of our strategic advantage and our employees want to work for companies with strong climate-related disclosures and performance.
5. How our short-term strategy is influenced by climate-change: Annually, we identify capital investment opportunities that will increase the energy efficiency of our properties and provide strong financial returns to Ventas. We develop a budget for these projects that is reviewed and approved by our capital committee. As these investments continue to generate strong risk adjusted returns, we continue to evaluate and invest in similar programs more broadly across our portfolio to reduce energy consumption and GHG emissions.
6. How our long-term strategy is influenced by climate-change: We work with third party consultants and vendors in our Office and seniors housing operating (SHOP) portfolios to identify outlier properties where energy consumption is above portfolio averages. We conduct further analysis to determine drivers of higher consumption and how we can improve. We continuously pursue this process to harvest emissions reduction strategies and drive cost savings in the future (>10 years). Our Director of Sustainability also researches trends in climate-change mitigation strategies relevant to real estate companies to ensure that we are evaluating the latest technologies and advancements to ensure our buildings remain energy efficient over the long-term.
7. Strategic advantages gained over competitors: Ventas' climate change strategies give us an advantage over competitors in several ways. One is that through our continuous efforts to reduce energy, water and waste from our portfolio, we lower operating costs. Lower operating costs directly benefit our financial performance and may allow us to charge higher rent, further benefiting financial performance. Another is that the positive sustainability profile makes our buildings more attractive to tenants and operators who are conscious of environmental impact and climate change risks. This lowers our lease turnover, reduces our vacancy rate and may allow us to charge higher rents than competitors. A third advantage is that institutional real estate investors are increasingly integrating climate change factors into investment decisions. By maintaining strong climate-change related strategies, we expand the investor base for our stock. Finally, our corporate focus on environmental responsibility is attractive to potential employees, and allows us to attract and retain the best talent.

C3.1d

(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify (RMS Risk Modeling Software)	<p>The primary climate-related scenario analysis implemented at Ventas is through our property insurance consultants, who utilize RMS and AIR risk modeling software, incorporating qualitative and quantitative aspects, to analyze our portfolios. The software produces metrics that assist in determining appropriate limits of insurance. It also models how portfolio additions/deletions will affect expected losses. RMS and AIR risk models use millions of data points, which are continually updated, reflecting localized hazard variations, and thus take into account the physical affects from climate change such as extreme weather and rising sea levels. How the selected scenario(s) were identified, with reference to the inputs, assumptions and analytical methods used: RMS and AIR software are industry leading extreme weather and catastrophe modeling system. Proprietary software code is used to assess weather and catastrophe inputs that are researched by a data team. A description of the time horizon(s) considered, and why they are relevant to your organization: RMS and AIR create loss estimates based on based on time periods, e.g. 100, 250, 500, 750 year events. These time horizons provide probable maximum loss for catastrophic events. Ventas utilizes this data to determine risk appropriate insurance limits. A description of the areas of your organisation that have been considered as part of the scenario analysis: All assets owned and insured by Ventas (the majority of our portfolio) are analyzed/modeled in the weather and catastrophe analysis performed with RMS and AIR software. A company specific summary of the results of the conducted scenario analysis: Ventas purchases catastrophic loss limits which are commercially reasonable based upon the Probable Maximum Loss estimates generated by the most current RMS and AIR scenario analysis. A description of how the results of the scenario analysis have INFORMED and DIRECTLY INFLUENCED Ventas business objectives and strategy: Ventas uses the results of the RMS and AIR models in determining if overall risk objectives and strategies are being met. By reviewing how exposed the portfolio of assets is to loss, and applying Ventas's overall risk appetite, Ventas is able to determine its risk appropriate limits of insurance. This also assists Ventas in risk concentration analysis in particular market areas (metropolitan statistical areas or MSAs). This scenario analysis is also conducted to determine insurance limits for each new property acquisition to make sure that Ventas's risk strategy and objectives are met and are in line with the company's risk appetite.</p>

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Scope 1

% emissions in Scope

52

Targeted % reduction from base year

10

Base year

2013

Start year

2013

Base year emissions covered by target (metric tons CO2e)

24133.3

Target year

2023

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

9.56

Target status

Underway

Please explain

A target of 10% reduction is set for 2023 with the base line year of 2013. Ventas is working towards meeting this target with energy reduction initiatives and is investigating renewable energy options. Note: The base year emissions are 100% for operations that we still owned in 2018 within our operational control boundary (it excludes emissions from properties that we no longer own).

Target reference number

Abs 2

Scope

Scope 2 (location-based)

% emissions in Scope

63

Targeted % reduction from base year

10

Base year

2013

Start year

2013

Base year emissions covered by target (metric tons CO2e)

119098.9

Target year

2023

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% of target achieved

61.64

Target status

Underway

Please explain

A target of 10% reduction is set for 2023 with the base line year of 2013. Ventas is working towards meeting this target with energy reduction initiatives and is investigating renewable energy options. We believe that the reason our % achieved is not pro-rata with time elapsed may be due to issues with our base year data. We are investigating this further. Note: The base year emissions are 100% for operations that we still owned in 2018 within our operational control boundary (it excludes emissions from properties that we no longer own).

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

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	32	
To be implemented*	113	10298.03
Implementation commenced*	15	1529.71
Implemented*	456	24201.47
Not to be implemented	0	

C4.3b

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

Initiative type

Energy efficiency: Building services

Description of initiative

Building controls

Estimated annual CO2e savings (metric tonnes CO2e)

7020

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1634000

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

9960000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Initiative type

Energy efficiency: Building fabric

Description of initiative

Insulation

Estimated annual CO2e savings (metric tonnes CO2e)

99

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

21858

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

495300

Payback period

21-25 years

Estimated lifetime of the initiative

21-30 years

Comment

Initiative type

Energy efficiency: Building services

Description of initiative

HVAC

Estimated annual CO2e savings (metric tonnes CO2e)

7215

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

1553600

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

12153100

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

Initiative type

Energy efficiency: Building services

Description of initiative

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

9866

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

2087000

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

8950000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Some sustainability measures have been mandated through legislation. Ventas strives to be compliant and often exceeds standards for minimum compliance.
Dedicated budget for energy efficiency	Energy efficiency projects are included in the annual budgets for Ventas's operating segments (Seniors Housing and Office). These projects include controls upgrades, installation of building automation systems, HVAC equipment improvements, purchase of energy efficient appliances, LED lighting retrofits and other projects.
Dedicated budget for low-carbon product R&D	Ventas's seniors housing operating budgets include allocations for ENERGY STAR certification costs. Ventas typically seeks LEED certification for new developments, and costs for certification are included in our development budgets.
Employee engagement	Employees are encouraged to proactively identify opportunities for energy and emissions reductions at Ventas properties and in their everyday corporate activities.
Other	Ventas seeks to pilot new technologies and services, such as battery storage within its portfolio. These initiatives are typically focused on Ventas's operating segments (Seniors Housing and Office).

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Company-wide

Description of product/Group of products

1. LEED Certified buildings: As of 12/31/2018, Ventas owned (primarily via development) 38 LEED-certified buildings (including 8 active developments), which avoided emissions during the construction and development from sustainable construction and waste management practices, and operate with lower GHG emissions from efficient lighting/appliances, and HVAC systems. 2. ENERGY STAR® Certified buildings ("ESTAR buildings"): As of 12/31/2018, Ventas owned 72 ESTAR buildings (currently or previously certified). These buildings save energy, save money, and help protect the environment by generating fewer greenhouse gas emissions than typical buildings. To be certified as ENERGY STAR, a building must meet strict energy performance standards set by US Environmental Protection Agency. ESTAR buildings must earn an ENERGY STAR score of 75 or higher, indicating that it performs better than at least 75 percent of similar buildings nationwide. The ENERGY STAR score accounts for differences in operating conditions, regional weather data, and other important considerations.

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product and avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Low-Carbon Investment (LCI) Registry Taxonomy

% revenue from low carbon product(s) in the reporting year

13.2

Comment

Approximately 5.3% of our 2018 revenue derived from LEED certified buildings and 8.3% from ESTAR certified buildings. There is some overlap (4 buildings) between LEED and ESTAR buildings; the 13.2% does not double-count revenue from buildings with both certifications, and is therefore less than the sum of the percent of revenue from each certification.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

78660.2

Comment

In 2017, Ventas modified its control boundary from financial control to operational control. Ventas has control over climate change impacts for properties under its operational control, which was 537 properties in 2017. Using operational control for our boundary more accurately reflects Ventas's climate change impacts and is consistent with how peer companies report their climate change impacts and emissions. We expect to use operational control for our boundary going forward. See C0.1 for more information on how operational control is defined for Ventas. Emissions from properties owned by Ventas but not within our operational control, such as NNN-leased properties, are now included in Scope 3 emissions (Category 13: Downstream Leased Assets).

Scope 2 (location-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

314820

Comment

In 2017, Ventas modified its control boundary from financial control to operational control. Ventas has control over climate change impacts for properties under its operational control, which was 537 properties in 2017. Using operational control for our boundary more accurately reflects Ventas's climate change impacts and is consistent with how peer companies report their climate change impacts and emissions. We expect to use operational control for our boundary going forward. See C0.1 for more information on how operational control is defined for Ventas. Emissions from properties owned by Ventas but not within our operational control, such as NNN-leased properties, are now included in Scope 3 emissions (Category 13: Downstream Leased Assets).

Scope 2 (market-based)

Base year start**Base year end****Base year emissions (metric tons CO2e)****Comment**

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

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)

96941.8

Start date

January 1 2018

End date

December 31 2018

Comment

These emissions are for the current reporting year of 2018 (1/1/2018-12/31/2018). Ventas calculates the global Scope 1 emissions based on the EPA Emission factors based on fuel type. For Scope 1, Ventas calculated an emissions breakdown of CO2, CH4, and N2O with the IPCC 5th Assessment global warming potentials to arrive at the total CO2e emissions. This was calculated for all properties within operational control which had a natural gas use during the reporting period. Emissions from properties owned by Ventas but not within our operational control, such as NNN-leased properties, are included in Scope 3 emissions (Category 13: Downstream Leased Assets). For properties lacking complete natural gas usage data for the reporting period, estimations were made based on the size of the property and property type.

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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

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

340168.2

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2018

End date

December 31 2018

Comment

These emissions are for the current reporting year of 2018 (1/1/2018-12/31/2018). Ventas calculates global Scope 2 emissions based on the EPA E-grid, and IEA Emission factors. For properties within the United States, the regional emission factors are derived based on zip code for each property from the EPA e-Grid emissions factors database. For properties outside the United States, the emission factors are derived based on the Country from the IEA Emission factors database. These emission factors are then used to calculate the emissions breakdown of CO₂, CH₄, and N₂O with the IPCC 5th Assessment global warming potentials to arrive at the total CO₂e emissions, based on the electricity usage. For properties lacking complete electricity usage data for the reporting period, estimations were made based on the size of the property and property type. Scope 2 emissions are calculated for all properties within operational control. Emissions from properties owned by Ventas but not within our operational control, such as NNN-leased properties, are included in Scope 3 emissions (Category 13: Downstream Leased Assets).

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 Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Purchased goods and services would consist of supplies for corporate headquarters and operations. These inputs are typically commodities, with no material supply chain risk. These emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) risk (there is minimal climate-change risk exposure to Ventas from these activities), b) stakeholders (this is not deemed critical by our stakeholders), and c) influence (Ventas has limited ability to meaningfully reduce the emissions from these purchases).

Capital goods

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

For Ventas, this would include HVAC equipment, lighting, and other capital equipment required to operate our real estate assets. These emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) risk (there is minimal climate change risk exposure to Ventas from these purchases), b) stakeholders (this is not deemed critical by our stakeholders), and c) influence (Ventas has limited ability to meaningfully reduce the emissions from these purchases).

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

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas owns real estate assets and does not purchase fuels outside of those accounted for in its scope 1 and 2 emissions.

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas is a Real Estate organization and Upstream transportation and distribution emissions are not relevant to the operation of our business. These emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) risk (there is minimal climate change risk exposure to Ventas from these activities), b) stakeholders (this is not deemed critical by our stakeholders), and c) influence (Ventas has limited ability to meaningfully reduce the emissions from these purchases).

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

22171

Emissions calculation methodology

The emissions from waste generation was calculated based on invoice data from haulers and waste auditors that provide approximate volumes of waste generated at our properties. Emissions from the generated waste are calculated using the EPA Waste Reduction Model (WARM) tool. For properties where waste data is not available, the average waste generated for that property type within the Ventas portfolio is used to estimate the waste generated and related emissions.

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

63

Explanation

37% of the waste data was estimated to calculate emissions (assets missing data were assumed to only have landfill)

Business travel

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

730.1

Emissions calculation methodology

We used flight and automobile transit information on actual and estimated distanced traveled and used the GHG Protocols standard and EPA emission factors to calculate total emissions. Flights were categorized as a short, medium, or long haul trip and estimate the amount of fuel burned per mile of the trip. Automobile travel was calculated based on the emissions of the class of car (Small, Medium, Large). We calculated these emission in accordance to the GHG Protocol's Technical Guidance on calculation Scope 3 emissions. Emissions from business travel were calculated for the following categories, which represent all material components of Ventas business travel: Rental Cars, Corporate Jet Travel, and Commercial Air Travel.

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

100

Explanation

These are emissions from Ventas corporate business travel (rental cars and plane flights). Business travel emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) size (less than 1% of our overall carbon footprint), b) risk (there is minimal climate-change risk exposure to Ventas from these activities and c) stakeholders (this is not deemed critical by our stakeholders).

Employee commuting

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

392

Emissions calculation methodology

The employee commuting emissions were calculated based on employee commuting patterns via public transit and individual automobiles, to the Ventas corporate offices. The commuting patterns for the employees in the Chicago office were all assumed to be public transit and the emissions due to the public transit emissions were calculated based on the passenger-miles traveled either by Commuter rail or Transit Rail. This was calculated for a total of 153 employees. The emissions for the employees in the Louisville office were all assumed to be due to passenger car travel and this was calculated using the GHG Protocol Stationary Emissions Calculator for a total of 102 employees.

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

100

Explanation

Employee commuting-related emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) size (less than 1% of our overall carbon footprint), b) risk (there is minimal climate-change risk exposure to Ventas from these activities and c) stakeholders (this is not deemed critical by our stakeholders).

Upstream leased assets

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

648

Emissions calculation methodology

Emissions from LEED certified leased office spaces in Chicago, IL and Louisville, KY were calculated using actual utility bills from the property team and translated into greenhouse gas emissions using the EPA eGRID 2016 factors for electricity and the EPA Emissions factor for Natural Gas. These are the two primary leased assets related to Ventas operations for which emissions are not otherwise included in our scope 1 and scope 2 reporting

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

100

Explanation

Upstream leased assets emissions are not relevant to Ventas's Scope 3 emissions due to several factors, including: a) size (less than 1% of our overall carbon footprint), b) risk (there is minimal climate-change risk exposure to Ventas from these activities and c) stakeholders (this is not deemed critical by our stakeholders).

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

4184.8

Emissions calculation methodology

Includes emissions from vehicles operated in our senior housing operating portfolio to transport residents to local activities. Vehicle emissions are calculated based on miles driven or fuel consumed by vehicle. Ventas uses the GHG Protocol Stationary Emissions Calculator to calculate the total GHG Impact for 2018. Calculations are in accordance with the methodology of GHG Protocol's Technical Guidance on calculation Scope 3 emissions. Estimations for missing data were calculated based on emissions intensity and senior housing units. Data from suppliers/value chain partners was available for 26,994 units out of 34,888 total units, which accounts for 79% of the total emissions from this source. For the remaining 7,894 units the emissions were calculated using an intensity of 0.110101212 MTCO2e/unit.

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

79

Explanation

In Ventas's senior housing operating portfolio (SHOP) the third-party operators of these properties maintain vehicle fleets for transportation of the residents in these buildings. Emissions from these vehicle fleets are included here. Ventas also owns seniors housing communities under NNN-lease arrangements which may have vehicle fleets, but these properties are outside of Ventas's operational control boundary, so they are not part of Ventas emissions.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas owns real estate assets and does not produce products that require any processing for sale.

Use of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas owns real estate assets and does not sell products that generate scope 3 emissions by the end user.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas owns real estate assets and does not sell products that require end of life treatment.

Downstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO2e

378102.1

Emissions calculation methodology

For 47% of our downstream leased assets, we obtain energy consumption data which is used to calculate the emissions generated by these properties. For the remaining properties, we have not been able to obtain the energy data from our tenants, so we estimate the emissions based on the energy use intensity for the property type within the Ventas portfolio. The calculation of emissions is based on the eGRID 2016, IEA and EPA emissions factors.

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

47

Explanation

This emissions data is based on ~642 assets that are outside the control boundary for Ventas. This includes assets that are owned by Ventas but where Ventas does not have operational control for climate change impacts, such as NNN-leased assets and assets where utilities are provided via a shared services agreement.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas does not franchise.

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Ventas investments are in real estate assets; emissions from these assets are included in our scope 1, scope 2, and scope 3 emissions (under the relevant scope 3 activity).

Other (upstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

None identified.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Explanation

Other downstream emissions could include emissions from properties that we manage but do not own and from buildings that secure loans that we provide. However, the emissions from these are deemed to be not relevant due to several factors, including: a) size (estimated to be less than 5% of our overall carbon footprint), b) risk (there is minimal climate-change risk exposure to Ventas from these activities and c) stakeholders (this is not deemed critical by our stakeholders).

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered 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

0.00017059

Metric numerator (Gross global combined Scope 1 and 2 emissions)

437109.9

Metric denominator

unit total revenue

Metric denominator: Unit total

2562276006.1

Scope 2 figure used

Location-based

% change from previous year

10.35

Direction of change

Decreased

Reason for change

The decrease is due to a combination of efficiency measures implemented across assets to improve their energy efficiency and the use of renewable energy in certain assets. Ventas implemented 456 projects that are yielding emissions reductions of 24,201.5 metric tonnes CO2e. In addition to this, a total of 324.38 MWh of renewable energy was generated which led to avoided emissions of 147.75 MTCO2e.

Intensity figure

0.009475

Metric numerator (Gross global combined Scope 1 and 2 emissions)

437109.9

Metric denominator

square foot

Metric denominator: Unit total

46130945

Scope 2 figure used

Location-based

% change from previous year

8.65

Direction of change

Decreased

Reason for change

The decrease is due to a combination of efficiency measures implemented across assets to improve their energy efficiency and the use of renewable energy in certain assets. Ventas implemented 456 projects that are yielding emissions reductions of 24,201.5 metric tonnes CO2e. In addition to this, a total of 324.38 MWh of renewable energy was generated which led to avoided emissions of 147.75 MTCO2e.

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	96847.8	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	45.63	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	48.37	IPCC Fifth Assessment Report (AR5 – 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)
Canada	8660.4
United States of America	88281.4

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.
By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Life Sciences	13552.1
Medical Office	18958.5
Senior Housing	64431.1

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)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Canada	5812.8		39813.8	
United States of America	334355.3		804850.3	

C7.6

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

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Life Science	45753.7	
Medical Office	140925.5	
Seniors Housing	153488.9	

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?

Increased

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	147.8	Decreased	0.03	A total of 324.38 MWh of renewable energy was generated which led to avoided emissions of 147.8 MTCO2e, which is a 0.03% reduction from our 2017 total scope 1 and scope 2 emissions (147.8/ 441,164 = 0.03%).
Other emissions reduction activities	24201.5	Decreased	5.49	Ventas implemented 456 projects that are yielding ongoing reductions. Last year, 24,201.5 metric tonnes CO2e were reduced by our emissions reduction activities, which is a which is a 5.49% reduction from our 2017 total scope 1 and scope 2 emissions (24,201 / 441,164 = 5.49%)
Divestment	5142.4	Decreased	1.17	Ventas disposed a total of 55 assets in 2018 which led to a decrease of 5,142 MT CO2e which is a 1.17% reduction from our 2017 total scope 1 and scope 2 emissions (5,142/ 441,164 = 1.17%).
Acquisitions	6292.2	Increased	1.43	Ventas acquired 7 assets in 2018 which led to increase in emissions of 6,292.2 MT CO2e which is a 1.43% reduction from our 2017 total scope 1 and scope 2 emissions (6,292/ 441,164 = 1.43%).
Mergers		<Not Applicable>		N/A
Change in output		<Not Applicable>		N/A
Change in methodology		<Not Applicable>		N/A
Change in boundary		<Not Applicable>		N/A
Change in physical operating conditions	19145.6	Increased	4.34	Using the geolocation of nearby weather stations and our asset zip codes, we estimated the change in total degree days from 2017 to 2018. There was an increase in degree days leading to an estimated increase in carbon emissions of 4.34% from our total 2017 scope 1 and scope 2 emissions of 441,164 (which is equivalent to 19,145.6 MTCO2e ((4.34/100)*441,164 = 19,145.6)
Unidentified		<Not Applicable>		N/A
Other		<Not Applicable>		N/A

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?

Location-based

C8. Energy

C8.1

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

More than 15% but less than or equal to 20%

C8.2

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

	Indicate whether your organization undertakes this energy-related activity
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	No
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 MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)		532374.5	532374.5
Consumption of purchased or acquired electricity	<Not Applicable>		844664.1	844664.1
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	324.4	<Not Applicable>	324.4
Total energy consumption	<Not Applicable>	324.4	1377038.7	1377363

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	Yes
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	No

C8.2c

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

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

532374.5

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

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

<Not Applicable>

Comment

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Natural Gas

Emission factor

53.1

Unit

kg CO2e per million Btu

Emission factor source

EPA Emission Factors for Greenhouse Gas Inventories: https://www.epa.gov/sites/production/files/2016-09/documents/emission-factors_nov_2015_v2.pdf

Comment

The above emission factor is for 'Natural Gas'. The emission factor is derived from the United States Environmental Protection Agency's Center for Corporate Climate Leadership GHG Emission Factors Hub.

C8.2e

(C8.2e) 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	324.4	324.4	324.4	324.4
Heat				
Steam				
Cooling				

C8.2f

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

Basis for applying a low-carbon emission factor

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

Low-carbon technology type

<Not Applicable>

Region of consumption of low-carbon electricity, heat, steam or cooling

<Not Applicable>

MWh consumed associated with low-carbon electricity, heat, steam or cooling

<Not Applicable>

Emission factor (in units of metric tons CO2e per MWh)

<Not Applicable>

Comment

C9. Additional metrics

C9.1

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

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 and/or Scope 2 emissions and attach the relevant statements.

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Moderate assurance

Attach the statement

Goby Verification Doc -CDP 2019.pdf

Page/ section reference

Process described on pages 1-4 and 6; Scope 2 numbers assured are on page 5.

Relevant standard

The Climate Registry's General Verification Protocol

Proportion of reported emissions verified (%)

100

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Moderate assurance

Attach the statement

Goby Verification Doc -CDP 2019.pdf

Page/ section reference

Process described on pages 1-4 and 6; Scope 2 numbers assured are on page 5.

Relevant standard

The Climate Registry's General Verification Protocol

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope

Scope 3- at least one applicable category

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Attach the statement

Goby Verification Doc -CDP 2019.pdf

Page/section reference

Process described on pages 1-4 and 6; Scope 3 numbers assured are on page 5. This process was carried out for the 'Downstream Leased Assets' category.

Relevant standard

The Climate Registry's General Verification Protocol

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
C6. Emissions data	Year on year change in emissions (Scope 2)	The Climate Registry's General Verification Protocol	As a part of Ventas's partnership with Goby Inc. year on year change in emissions is analyzed for Scope 2 emissions. GHG Emissions Calculation: The GHG emissions calculation methodology is as described on pages 1-4 and 6; the emissions numbers are on page 5. Goby Verification Doc-CDP 2019.pdf
C6. Emissions data	Year on year emissions intensity figure	The Climate Registry's General Verification Protocol	As a part of Ventas's partnership with Goby Inc. year on year change in emissions is analyzed for Scope 2 emissions. GHG Emissions Calculation: The GHG emissions calculation methodology is as described on pages 1-4 and 6; the emissions numbers are on page 5. Goby Verification Doc-CDP 2019.pdf
C4. Targets and performance	Progress against emissions reduction target	The Climate Registry's General Verification Protocol	As a part of Ventas's partnership with Goby Inc. year on year change in emissions is analyzed for Scope 2 emissions. GHG Emissions Calculation: The GHG emissions calculation methodology is as described on pages 1-4 and 6; the emissions numbers are on page 5. Goby Verification Doc-CDP 2019.pdf
C6. Emissions data	Year on year change in emissions (Scope 1)	The Climate Registry's General Verification Protocol	As a part of Ventas's partnership with Goby Inc. year on year change in emissions is analyzed for Scope 2 emissions. GHG Emissions Calculation: The GHG emissions calculation methodology is as described on pages 1-4 and 6; the emissions numbers are on page 5. Goby Verification Doc-CDP 2019.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, and we do not anticipate being regulated in the next three years

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, and we do not currently 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

C12.1a

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

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

1

% total procurement spend (direct and indirect)

15

% Scope 3 emissions as reported in C6.5

10

Rationale for the coverage of your engagement

Ventas engages with its national contract vendors on climate related issues. These suppliers have the resources and reporting capabilities to provide Ventas with meaningful data and information related to climate impacts. As we continue to consolidate our spend toward these vendors, our spend coverage will increase.

Impact of engagement, including measures of success

Ventas seeks to engage with its suppliers and vendors to reduce the climate change impacts from its operations (over which inputs from our suppliers have influence). We work with our suppliers to understand the carbon emissions of the products they provide to Ventas, and to identify alternatives that have lower carbon emissions while maintaining price and quality. We currently measure our success by tracking the percent of our procurement spend on environmentally sustainable (including low-carbon) products, where such options are available. We look at the year-over-year change and seek to increase it.

Comment

C12.1b

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

Type of engagement

Collaboration & innovation

Details of engagement

Other – please provide information in column 5

% of customers by number

60

% Scope 3 emissions as reported in C6.5

52

Please explain the rationale for selecting this group of customers and scope of engagement

Ventas customers primarily include independent operators of our senior housing communities, medical office buildings, life science and innovation centers, and other healthcare properties. Ventas engages with about 60% of these customers (based on total owned property square feet) on multiple climate-related initiatives. We primarily engage with our top operators because they operate several of our buildings and we can impact larger portions of our portfolio. We also have deeper relationships with these customers that allow us to collaborate on climate change issues.

Impact of engagement, including measures of success

With our customers, we collaborate and innovate on climate-related initiatives such as evaluating new building technologies that decrease carbon emissions. Examples include HVAC optimization technology, green building practices and certifications, and battery storage. We measure the success of these initiatives through a combination of strong financial returns, energy consumption savings, and emissions reductions.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Trade associations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Nareit

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Nareit, the National Association of Real Estate Investment Trusts®, is the worldwide representative voice for REITs, or Real Estate Investment Trusts, and publicly traded real estate companies with an interest in U.S. real estate and capital markets. Nareit supports and seeks to maximize the ESG efforts and leadership of its members. REITPAC and Nareit also support legislation that encourages energy-efficient real estate and emission reductions. Most recently, Nareit collaborated with several real estate organizations to lobby Congress to prevent the Trump Administration's proposed cuts to the U.S. Environmental Protection Agency's (EPA) ENERGY STAR® program. These efforts were successful in preventing cuts in the 2017 fiscal year (through September 2017). Efforts continue with a focus on preventing cuts for FY 2018. REITPAC has also engaged members of Congress to advocate support for the Commercial Building Modernization Act ("CBMA") and Section 179D of the Internal Revenue Code, both in an effort to promote energy-efficient retrofits and broaden incentive language to be more accessible for real estate investment trusts.

How have you influenced, or are you attempting to influence their position?

Ventas is proactively engaged with Nareit and REITPAC. Annually, Ventas solicits voluntary contributions from employees to support Nareit legislative agendas. Throughout the year, Ventas participates in and leads discussions at Nareit events, including the ESG Forum which provides Nareit corporate members the opportunity to take an active role in advancing sustainability leadership for REITs. Ventas's Director of Sustainability is also an active participant on the Nareit Real Estate Sustainability Committee (RESC).

Trade association

ULI

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Urban Land Institute (ULI) provides leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is an independent global non-profit supported by members representing the entire spectrum of real estate development and land use disciplines. The ULI Center for Sustainability and Economic Performance is dedicated to creating healthy, resilient, and high performance communities around the world. The three programs within the Center are the ULI Greenprint Center for Building Performance, Tenant Energy Optimization Program, and the Urban Resilience Program. The ULI Greenprint Center for Building Performance is a catalyst for change, taking meaningful, immediate, and measurable actions to generate real estate solutions that improve the environment through energy efficiency while demonstrating the correlation with increased property values. The Tenant Energy Optimization Program is a proven, replicable approach that integrates energy efficiency into tenant space design and construction and delivers excellent financial returns through energy conservation. The process emphasizes the importance of collaboration between tenants, building owners, and service providers. The Urban Resilience Program looks at how cities can prepare for the expected effects of climate change. From rising sea levels to more frequent storm events to extended droughts, the changing climate poses short- and long-term risks and opportunities for urban planning and development. The Urban Resilience program provides resources and strategies to mitigate those risks and to create a more resilient and durable vision for community development.

How have you influenced, or are you attempting to influence their position?

Several Ventas employees are members of the Urban Land Institute and two employees are on ULI National Product Councils (the Senior Housing Council and Health Care and Life Sciences Council). One way Ventas keeps apprised of new technologies, rising trends and sustainability benchmarking tools in the real estate industry is via strong employee engagement in ULI events and councils.

Trade association

Real Estate Roundtable

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Roundtable supports ENERGY STAR: voluntary federal program, no EPA mandates. » Est. in 1990s: Building owners/managers can "label" CRE assets to signal top energy performance for investors, tenants. » 44 billion sq. ft. of U.S. commercial floor space use ENERGY STAR's free, online tool to measure energy, water, waste in buildings, across portfolios. "Business case" for ENERGY STAR: Creates jobs, enhances competitiveness, improves energy independence, saves money for U.S. families, businesses on utility bills. Key change in Trump Admin's support: Proposed FY 19' budget (released in February) continued funding for ENERGY STAR. Last year's budget proposed de-funding. Congress appropriated dollars to fund ENERGY STAR through Sept. 30, 2018 (via omnibus spending bill passed in March). Trump FY'19 budget recommends EPA explore supporting ENERGY STAR with "user fees" (as opposed to taxpayer dollars, congressional appropriations). No legislation, regulations yet proposed to move to a "user fee" funding model. Roundtable, other real estate groups, continue to advocate: EPA should receive adequate, sustained funding to continue the program. Keep status quo for ENERGY STAR buildings, even if appliance-side of label program needs reforms. EPA (not Energy Dep't) should continue managing ENERGY STAR buildings, as it has done for almost two decades.

How have you influenced, or are you attempting to influence their position?

The Ventas CEO and Chairman of the board is the current Chairman of Real Estate Roundtable. The Ventas Director of Sustainability participates in the Roundtable's Sustainability Policy Advisory Committee (SPAC).

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

The Ventas ESG Steering Committee is sponsored by our Chairman & CEO, and includes our Director of Sustainability, VP Investments, SVP Asset Management (Lillibridge), and VP Marketing & Communications. With a diverse committee make-up, and our most senior executive, this committee ensures that policy activities are consistent with Ventas' overall climate change strategy. ESG Committee meetings, which occur at least quarterly, include discussion (as needed) on climate policy activities, which are primarily carried out by our Director of Sustainability. This forum for regular communication among those involved in activities that influence policy on climate change ensures consistency with our overall climate change strategy.

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 voluntary sustainability report

Status

Underway – previous year attached

Attach the document

VentasCSROct2018_climate excerpts.pdf

Page/Section reference

Governance: See page 26 (pdf page 6); pages 53-54 (pdf pages 23-24) Strategy: See pages 37-48 (pdf pages 7-18) Risks & opportunities: See pages 37-48 (pdf pages 7-18) Emissions figures: See page 51 (pdf page 21)

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures

Comment

In 2018, Ventas published its inaugural Corporate Sustainability Report, covering our climate change strategy, governance, risks and opportunities, and 2017 environmental data, including emissions.

C14. 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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Director, Sustainability	Environment/Sustainability manager

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms
