

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

Ventas, Inc. (NYSE: VTR), an S&P 500 company, is a leading real estate investment trust (REIT), with a diversified portfolio of nearly 1,300 seniors housing, medical office buildings, life science and innovation centers, and other healthcare properties in the United States, Canada and the United Kingdom. Through its Lillibridge subsidiary, Ventas provides management, leasing, marketing, facility development and advisory services to highly rated hospitals and health systems throughout the United States. Our owned portfolio generates 93% of its revenue from private pay, non-government sources.

Ventas has delivered consistent, superior long-term returns to shareholders for nearly two decades, outperforming both the S&P 500 and the MSCI US REIT Indices, while providing compound annual dividend growth of 8% since 2001. We are disciplined acquirers with rigorous investment standards and a well-earned reputation for bringing creativity and financial strength to completing transactions of all sizes and complexity. At the same time, we have maintained reliable internal cash flow growth from our high-performing portfolio. By maintaining an outstanding balance sheet and ample liquidity, we continue to improve our cost of capital and enhance stakeholder value.

As a leading owner of healthcare real estate, we support and apply measurable sustainability practices and standards for ourselves, and in collaboration with our partners. Sustainability is both good for the environment and for our business – creating lasting economic efficiencies, while preserving and protecting the planet. Our sustainability accomplishments are externally recognized and honored. Ventas was named 2015 Global Real Estate Sustainability Benchmark's (GRESB) Global and North American Healthcare Sector Leader and was awarded their Green Star recognition in 2014, 2015 and 2016 for improving the energy efficiency of its seniors housing and medical office building portfolios. The National Association of Real Estate Investment Trusts (NAREIT) also awarded Ventas its 2014 Health Care "Leader in the Light Award," the highest achievement for healthcare real estate companies in recognition of superior and sustained energy use practices. Ventas is also a proud member of the FTSE4GOOD Sustainability Index Series and the MSCI Global Sustainability Index.

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3**Country list configuration**

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country

United States of America

Canada

CC0.4**Currency selection**

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD(\$)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The individual with the highest level of direct responsibility for sustainability efforts at Ventas is Debra A. Cafaro, Chairman and Chief Executive Officer. Cafaro is a member of the Ventas ESG (Environmental, Social Responsibility and Corporate Governance) Committee (formerly known as the Sustainability Committee) and oversees company-wide initiatives to improve our environmental footprint and energy efficiency efforts. The ESG Committee includes senior leadership from different functional areas and meets quarterly to consolidate awareness, information collection and disclosure regarding environmental matters. The ESG Committee

actively monitors all adverse and beneficial sustainability developments, identifies opportunities to invest in and improve sustainability performance, and participates with asset management, legal, acquisitions and risk management teams to provide quarterly reporting to the Chairman and Chief Executive Officer on all sustainability efforts. Reporting externally on environmental, social and governance (ESG) matters, including climate change, provides Ventas the opportunity to share our efforts with stakeholders and better identify how climate change threats may be integrated in our risk management procedures. Reporting also provides an opportunity to highlight best practices with the investment community and create value in our portfolio by reducing unnecessary costs and growing net operating income (NOI) and margins.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Chief Executive Officer (CEO)	Monetary reward	Energy reduction project Efficiency project Behavior change related indicator	Under the long-term incentive plan, compensation awards for the Company's executives are, in part, based on the qualitative performance objectives including values, reputation and industry leadership, and sustainability efforts. These objectives are, in part, based on environmental factors such as improving the energy efficiency of the portfolio through LEED and ENERGY STAR® certifications. The Board of Directors evaluates the achievement of these specified objectives.
Corporate executive team	Monetary reward	Energy reduction project Efficiency project Behavior change related indicator	Under the long-term incentive plan, compensation awards for the Company's executives are, in part, based on the qualitative performance objectives including values, reputation and industry leadership, and sustainability efforts. Compensation awards are, in part, based on environmental factors such as improving the energy efficiency of the portfolio through LEED and ENERGY STAR® certifications. The Compensation Committee of the Board of Directors evaluates the achievements of these specified objectives.
Other: Members of ESG Committee (cross-functional)	Monetary reward	Emissions reduction project Emissions	Compensation structure tied to sustainability reporting and improvements, identifying green projects and investment opportunities; promoting carbon reduction best practices; increasing ENERGY STAR® certificates and portfolio operational efficiency; LEED®

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
		reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target Behavior change related indicator Environmental criteria included in purchases Supply chain engagement	designations/certifications across the portfolio; setting, tracking and achieving short- and long-term emissions targets; identifying and mitigating risks from climate change; monitoring compliance with green purchasing and supply chain; communicating sustainability vision among employee base; and serving as a sustainability resource to team members.
Environment/Sustainability managers	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target Behavior change related indicator Environmental criteria included in purchases Supply chain engagement	Compensation structure tied to sustainability reporting and improvements, identifying green projects and investment opportunities, promoting carbon reduction best practices, increasing ENERGY STAR® certificates and portfolio operational efficiency, LEED® designations/certifications across the portfolio, setting, tracking and achieving short- and long-term emissions targets, monitoring compliance with green purchasing and supply chain, communicating sustainability vision among employee base, and serving as a sustainability resource to team members.
All employees	Recognition (non-monetary)	Efficiency project Behavior change	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

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
		related indicator	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.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

A specific climate change risk management process

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	United States, Canada and the United Kingdom	> 6 years	i. Regulation-driven risks: Building codes, product labeling regulations & standards, carbon taxes. Ventas conducts regular property condition and environmental surveys of its portfolio to monitor physical plant compliance. ii. Physical-driven risks: Mean temp, resiliency & extreme weather. Annually, Ventas' 3rd party insurance broker and insurer conduct separate concentration of risk analyses for catastrophic losses from climate change to evaluate available coverage, limits and deductibles to insure such risks. Ventas' property insurance carrier inspects insured properties every 3 years, including probable loss estimates for catastrophe (e.g., wind, flood, earthquake). iii. Change in energy availability, use, cost. Ventas monitors energy use and pricing risk monthly, via checks on budgeted use and cost. We mitigate these risks with energy efficiency projects (e.g., LED lighting). Ventas seeks ENERGY STAR® certifications and typically develops new properties to LEED standards.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

Company level: Risks are routinely evaluated by Ventas' corporate Risk Management team in conjunction with our insurance brokers, carriers and consultants. Mitigation opportunities are identified by our third-party energy procurement and management partners, as well as insurance providers. As flood maps are updated, we receive a risk analysis and mitigation suggestions.

Ventas is an ENERGY STAR® partner, and we continually look for opportunities to reduce consumption as we measure energy usage (lighting, HVAC, water, waste and utilities).

Asset level:

New Acquisitions: Ventas requires that property condition reports, risk management assessments by our global insurer and Phase I Environmental Surveys be provided for each property prior to acquisition. Ventas works with its 3rd party insurance broker and insurer to evaluate properties in high hazard earthquake, flood and wind zones to determine available insurance coverage, limits and required deductibles in the commercial marketplace.

Existing Assets: Regular property condition inspections are performed by a leading property loss control engineering insurer. Recommendations for property improvements are prioritized by the insurer and presented to and reviewed by the Ventas asset management team.

Throughout the year the Company receives communications from its property insurance carrier via email with bulletins and flyers alerting the Company on best practices in avoiding and mitigating damages or loss associated with climate risk changes. Ventas also monitors its assets and assesses exit/emergency lighting and generators to mitigate extreme weather.

The majority of Ventas' U.S. seniors housing operating portfolio and medical office building (MOB) assets are enrolled in ENERGY STAR Portfolio Manager and 69 of our senior living communities and MOB's have ENERGY STAR certifications, meeting national energy efficiency benchmarks established by the U.S. Environmental Protection Agency.

CC2.1c**How do you prioritize the risks and opportunities identified?**

Evaluating and prioritizing climate change risks and opportunities across the real estate portfolio is a collaborative process with the executive leadership team, asset management, the Director of Sustainability, and other members, as appropriate, of the Environmental, Social and Governance (ESG) Committee. The executive leadership team provides guidance and feedback with respect to protection against threats and proactively identifying and prioritizing opportunities to invest in our assets and promote NOI optimization and growth.

Ventas' business focus is income and value appreciation from owning real estate assets operated primarily by third parties and climate change poses a risk to our valued assets through deterioration of physical plant. Rising sea levels, flooding, drought, earthquakes, tornadoes and other severe weather all pose potential risks to the valuation of our company. The climate change risk to our real estate portfolio of nearly 1,300 properties has led to a company-wide priority of engagement with the operators of our real estate to address issues at each property and determining plans of action. Engagement and collaboration starts around risks and issues identified by our procurement and management partners and our routine property condition reports, insurance risk assessors, and Phase I Environmental Surveys. Next steps and opportunities are then dependent on finding terms of the action plan that are agreeable to Ventas and the building operator. The opportunities that provide the highest NOI optimization and/or return on investment, with the most reliable business partners become the greatest priorities.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment
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CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process****(i) How the business strategy has been influenced**

Integration of climate change into our business strategy is manifested in processes across our enterprise. 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. We believe that strong environmental performance will lead to improved risk-adjusted returns from our real estate holdings.

Ventas has short-, medium- and long-term consumption reduction targets that are continuously measured, and progress is reported to investors at least annually. 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.

At the Executive level, our CEO is a member of the ESG Committee (formerly the Sustainability Committee) which is comprised of business leaders from across the company, including asset management, property management, acquisitions, development, finance, human resources, legal, marketing, and investor relations. The committee meets quarterly to share information and disclosure regarding climate change and environmental matters, and identify opportunities to improve the climate change profile of the portfolio in ways that are cost effective and will provide a measurable benefit to our shareholders.

Environmental sustainability was also a decision factor in the selection of our company headquarters in Chicago, as well as our offices in Louisville, KY. Both are LEED certified and recognized for their innovative green designs.

(ii) Aspects that influenced strategy

Ventas has committed to pursue ENERGY STAR and LEED certification across the portfolio. Evidence of the strategy commitment can be found in our asset management and acquisition policies and processes. One of the factors considered when making new investments is the sustainability profile of the property/portfolio. Investment approval presentations to senior management include a section about the attributes of the investment that may impact climate change, or any negative attributes that would require mitigation. This section typically identifies whether the building is LEED certified, ENERGY STAR certified, green attributes, consumption-reducing capital projects recently completed or underway, or has any other significant attributes that may positively impact climate change. While our primary focus is on investing in stable, cash flowing properties that generate superior returns to our shareholders, we are focused on identifying attributes of these investments that are good not only for shareholders, but also for the environment.

An acquisition where the sustainability profile of the portfolio was a key factor in the investment decision, is the Wexford Science + Technology life science portfolio

acquired by Ventas on September 1, 2016. In the acquisition press release, in the section 'Strategic and Financial Benefits' it notes the following benefit (among others): "Enhanced Sustainability Profile with 15 LEED Properties. 13 of the operating properties are LEED certified and both of the development properties are expected to be LEED certified, enhancing Ventas's sustainability profile."

(iii) The most important components of short term strategy

Across our portfolio we audit the key energy consumption features including lighting, HVAC, water, waste and utilities. The goal is to opportunistically identify strategic investment opportunities that will increase the efficiency of each facility.

Our asset management team follows a process to ensure that we are identifying ways to mitigate exposure (and contribution) to climate change. Similar to our acquisitions strategy, we engage with our tenants and managers to identify assets with excellent climate change-friendly profiles, and share best practices across operators. For example, our short term strategy has led us to engage a consultant on our Sunrise portfolio to identify ways to reduce energy consumption via installation of energy-reducing equipment on lighting, fans, and vending machines. Each year we conduct retro-commissioning studies on a portion of our medical office buildings (MOB) to identify opportunities to reduce energy consumption and introduce long term operational efficiencies to lower costs and emissions. In 2016, \$3.0mm was spent at more than 40 MOB's making improvements that included controls upgrades, the addition of building automation systems and HVAC equipment improvements. 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.

(iv) The most important components of long term strategy

We work with energy consultants in our MOB 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).

(v) 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. Finally, our corporate focus on environmental responsibility is attractive to potential employees, and allows us to attract and retain the best talent.

(vi) Most substantial business decisions influenced by climate change driven aspects of the strategy

a) In 2016, Ventas created and filled the position of Director of Sustainability to coordinate and improve Ventas' environmental, social responsibility and corporate governance initiatives across the company. Specific to climate change, this resource is dedicated to identifying risks and mitigants from climate change, improving energy efficiency across the portfolio, improving transparency in emissions disclosures and identifying innovative ways to reduce Ventas' portfolio and corporate impact on the climate.

b) Ventas has significantly increased its focus on its low carbon products, which are its LEED developments. Ventas has approximately \$500mm of LEED development currently underway, which is about 70% of its total development spend.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price on carbon?

No, and we currently don't anticipate doing so in the next 2 years

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	Ventas Chairman and CEO, Debra A. Cafaro is the Chair-Elect of the Real Estate Roundtable (RER) with a term beginning July 2018. The RER brings together leaders of the nation's top publicly held and privately owned real estate ownership, development, lending and management firms with major national real estate trade organizations to jointly address key national policy issues relating to real estate and the overall economy. Ventas's Director of Sustainability, Kelly Meissner and Director of Asset Management, Brian Fry, participate in the Sustainability Policy Action Committee (SPAC) of the RER.	At the top of SPAC's energy and sustainability agenda is enactment of bipartisan "Tenant Star" legislation. Tenant Star would build upon the success of the EPA's long-running, voluntary ENERGY STAR program for commercial buildings by creating a similar, tenant-oriented certification for leased spaces.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
NAREIT	Consistent	The National Association of Real Estate Investment Trusts (NAREIT) is a worldwide voice for REITs and publicly traded real estate companies, and sponsors a political action committee known as REITPAC. 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	Ventas is proactively engaged with NAREIT and REITPAC. Annually, Ventas solicits voluntary contributions from employees to support NAREIT's legislative agendas. In 2015 and 2017, voluntary contributions from Ventas employees were more than \$50,000 each year. REITPAC contributions were not solicited in 2016. Throughout the year, Ventas participates in and leads discussions at NAREIT events, including the Leader in the Light

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		<p>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.</p>	<p>Working 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).</p>
ASHA	Consistent	<p>The American Seniors Housing Association (ASHA) is an independent, non-profit, member-based organization that provides leadership to the seniors housing industry relating to legislative and regulatory matters, the advancement of research and the exchange of strategic business information. To help understand energy use in senior care communities and begin to formulate strategies for energy conservation, ASHA has teamed up with Argentum, American Association of Homes and Services for the Aging (AAHSA), the American Health Care Association (AHCA), the National Center for Assisted Living (NCAL), and the U.S. Environmental Protection Agency's (EPA) ENERGY STAR® program to provide senior care communities with tools and resources to help effectively manage energy use and demonstrate environmental stewardship. ASHA sponsors its own political action committee known as SHPAC (Seniors Housing Political Action Committee), which is funded entirely by voluntary contributions.</p>	<p>Ventas' Executive Vice President and Chief Investment Officer, John D. Cobb, is an Executive Board Member of ASHA. Three Ventas employees participate in ASHA's Rising Leaders program to nurture next-generation leaders in Seniors Housing. Ventas is consistently ranked in the top two contributors to SHPAC based on voluntary contributions from employees since 2012.</p>
ULI	Consistent	<p>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</p>	<p>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</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		<p>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.</p>	<p>in the real estate industry is via strong employee engagement in ULI events and councils.</p>
Argentum	Consistent	<p>Argentum is the largest national association exclusively dedicated to professionally managed, resident-centered senior living communities and the seniors and families they serve. Argentum's programs promote business and operational excellence through education research, publications, professional networking and online tools. Since 2009, Argentum has issued an annual energy survey of senior care communities with the purpose of obtaining detailed national benchmarking information on energy, consumption, costs, fuel sources, and services that drive energy use in senior care communities. The results of the survey were shared with the Environmental Protection Agency (EPA) with the goal of creating an ENERGY STAR rating system for senior care</p>	<p>Ventas Chief Financial Office, Robert F. Probst, is on the Argentum Board of Directors. Ventas has worked to certify 41 ENERGY STAR senior care communities after Argentum and the EPA partnered to establish the program. Ventas is an Argentum President's Council member. Annually, Ventas participates in Argentum's Best of the Best contests and won an "Award of Excellence" in 2012 for Atria Tamalpais Creek. The building is a 1970s-built Ventas-owned property that received a redevelopment refresh and re-positioning that earned a LEED Silver certification.</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		<p>communities. Using survey results, the ENERGY STAR rating system for senior living communities launched in 2011. Additionally, Argentum added a “Going Green, Saving Green: Energy, Recycling, and Expense Reductions Strategies” category to the Best of the Best contest in 2013 utilizing ENERGY STAR’s Portfolio Manager benchmarking tool. The inability of commercial building owners to access whole-building energy data, including energy consumption data in separately metered tenant spaces, restricts the capacity of both building owners and tenants to make informed decisions to drive energy efficiency improvements. This category aggregates whole-building data, which provides vital information to the building owner while protecting the privacy concerns of tenants.</p>	
BOMA	Consistent	<p>BOMA International is a leader on the sustainability front, advocating for incentives to help the commercial real estate industry reduce energy consumption and greenhouse gas emissions. BOMA promotes voluntary efforts to improve energy efficiency for commercial properties. To that end, BOMA International encourages real estate owners and managers to take advantage of tax incentive programs that utilize proven technologies and procedures and make business sense. BOMA promotes benchmarking through EPA’s ENERGY STAR Portfolio Manager as the key first step to understanding a building’s energy use and providing the necessary data to monitor performance, measure improvements, and implement cost-effective improvements in buildings. BOMA International has formed a coalition which includes leading property management companies, the U.S. Green Building Council, the Real Estate Roundtable, US EPA, Institute for Market Transformation and others. Collectively, we are working to educate key influencers and stakeholders such as the National Association of Regulatory Utility Commissioners, the Department of Energy, and state legislators that any benchmarking requirements imposed on building owners must include whole building data access. BOMA,</p>	<p>BOMA (Building Owners and Managers Association) International has taken a number of positions on climate change legislation and put forth efforts to increase the benefit of energy-efficient real estate investments to owners and operators. Ventas, as a building owner of nearly 1,300 health care properties in the U.S., Canada, and the United Kingdom supports BOMA’s position and is a sponsor of the annual BOMA healthcare conference.</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		<p>in collaboration with other real estate industry groups and with support from a grant from software developer Yardi, has released a groundbreaking study on the costs and benefits of modernizing and extending the Energy Efficient Commercial Building Tax Deduction, commonly referred to as 179D. The study, which was conducted by Regional Economic Models, Inc. (REMI), estimates that as many as 77,000 jobs will be created and \$7.4 billion will be added annually to the national gross domestic product (GDP) if the U.S. Congress passes a long-term extension and modification of 179D. BOMA International's advocacy team currently is working with lawmakers in Congress to encourage the extension of the incentive, which expired in 2016. BOMA also is calling for a revision of the language to expand the pool of owners eligible for the incentive and increase the deduction from \$1.80 per square foot to \$3.00 in order to encourage even more ambitious retrofits. In its current form, the requirements to earn a tax deduction are out of reach for many existing buildings, which account for 98 percent of all building stock.</p>	

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

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 Committee includes employees from across the company, including asset management, property management, acquisitions, development, finance, human resources, legal, marketing, and investor relations. With a diverse committee make-up, and members that are involved directly or indirectly with the trade associations and industry groups through which Ventas influences climate change policy (as outlined in 2.3a and 2.3c), we ensure that these activities are consistent with Ventas' overall climate change strategy. Specifically, at each ESG Committee meeting, the agenda includes a discussion on improving our awareness, information collection and disclosure regarding environmental matters and emissions. This forum for regular communication among those involved in activities that influence policy on climate change ensures consistency with our overall climate change strategy.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1	98.4%	10%	2013	68781.59	2023	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	Target to reduce emissions will be achieved through energy efficiency projects, primarily in our Seniors Housing and MOB portfolios (e.g., LED lighting retrofits, implementation of building automation systems, etc.).
Abs2	Scope 2 (location-based)	96.8%	10%	2013	237872.39	2023	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	Target to reduce emissions will be achieved through energy efficiency projects, primarily in our Seniors Housing and MOB portfolios (e.g., LED lighting retrofits, implementation of building automation systems, etc.).

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
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CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
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CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
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CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Abs1	30%	100%	Scope 1 emissions reduction surpassed target on a like-for-like basis between base line year of 2013 and current year of 2016.
Abs2	30%	36.6%	Scope 2 emissions reduction is slightly ahead of target on a like-for-like basis between base line year of 2013 and current year of 2016. Ventas will continue to implement efficiency measures and track emissions to ensure the trajectory remains on-track to achieve our long-term target.

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

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

CC3.2a

Please 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	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	LEED Certified buildings: Ventas owns (primarily via development) 28 LEED-certified buildings, which both avoided emissions during the construction and development due to sustainable	Low carbon product	Low Carbon Investment (LCI) Registry Taxonomy	3.90%	More than 60% but less than or equal to 80%	Approximately 70% of Ventas's new development investment is for buildings targeting LEED certification.

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
	construction and waste management practices, and operate with lower GHG emissions due to efficient lighting, appliances, and HVAC systems.					
Product	ENERGY STAR® Certified buildings (“ESTAR buildings”): Ventas owns 69 ESTAR buildings. 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.	Low carbon product	Low Carbon Investment (LCI) Registry Taxonomy	8.12%	Less than or equal to 10%	ENERGY STAR certifications are sought for operational buildings. The costs for pursuing additional ENERGY STAR certifications is less than 10% of total operational costs.

CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	10	0
To be implemented*	107	8360
Implementation commenced*	113	10232
Implemented*	578	30336.76
Not to be implemented	0	0

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building fabric	Building Envelope - Voluntary window replacements, reflective roof coating, roof replacement, insulation replacements. These improvements to building envelopes will reduce the	11166.41	Scope 1 Scope 2 (location-based)	Voluntary	2088702	8116824	4-10 years	21-30 years	Window replacements, reflective white roof, roof replacement, insulation replacement

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	energy required for heating and cooling to in turn reduce scope 1 and 2 emissions.								
Energy efficiency: Building services	Building Services - Electricity (general) Electricity-Voluntary upgrades of appliances and computers that will increase energy efficiency and reduce scope 1 and 2 emissions	4531.99	Scope 1 Scope 2 (location-based)	Voluntary	107139	1234691	11-15 years	16-20 years	Appliance and computer upgrades
Energy efficiency: Building services	Building Services - HVAC HVAC-voluntary replacements and upgrades to HVAC systems, BMS installations and retro commissioning that will reduce scope 1 and scope 2 emissions.	4495.93	Scope 1 Scope 2 (location-based)	Voluntary	580055	5928566	4-10 years	16-20 years	Upgrades to HVAC systems, BMS Installations, Retro Commissioning
Energy efficiency: Building services	Building Services - Lighting Lighting- Voluntary installation and upgrades to lighting retrofits and LED bulbs will reduce scope 1 and scope 2 emissions.	10142.45	Scope 1 Scope 2 (location-based)	Voluntary	1193715	5837171	4-10 years	11-15 years	Lighting retrofits, LED bulbs and lighting control systems

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Lower return on investment (ROI) specification	Recommend investment in energy consumption related capital projects that have an ROI greater than the Ventas weighted average cost of capital.
Compliance with regulatory requirements/standards	Many sustainability measures have been mandated through legislation. Ventas strives to be compliant and often exceeds standards for minimum compliance.
Financial optimization calculations	A subset of the Ventas ESG Committee and Senior Leadership Team review all investment decisions in sustainability-related projects related to emissions reduction.
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).

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

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	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Our Properties section; pdf page 5/document page 7, bottom right corner	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/Ventas_AR_2016_reduced file size.pdf	Annual Report
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Sustainability page; pdf page 22/document page 21	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/VTR Supp_2016Q1.pdf	Quarterly supplemental
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Sustainability page; pdf page 22/document page 21	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/VTR Supp_2016Q2.pdf	Quarterly supplemental
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Sustainability page; pdf page 24/document page 23	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/VTR Supp_2016Q3.pdf	Quarterly supplemental
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Sustainability page; pdf page 26/document page 25	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/VTR Supp_2016Q4.pdf	Quarterly supplemental
In voluntary communications	Complete	All	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/CDP CC4 Ventas Website_Environmental sustainability.pdf	Ventas website - Environmental sustainability
In voluntary communications	Complete	ESG page; pdf page	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/VTR Investor Presentation_RBC NDR_June 2017_vF.pdf	

Publication	Status	Page/Section reference	Attach the document	Comment
		14/document page 13		
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Underway - previous year attached	All	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/ventas-2016-cdp-final_submission.pdf	Ventas 2016 CDP Response; this report is posted on our website here (click CDP logo): http://www.ventasreit.com/corporate-responsibility
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Underway - previous year attached	All	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC4.1/ventas-2016-gresb-final_submission.pdf	Ventas 2016 GRESB Response; this report is posted on our website here (click GRESB logo): http://www.ventasreit.com/corporate-responsibility

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- Risks driven by changes in regulation
- Risks driven by changes in physical climate parameters
- Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Product efficiency regulations and standards	The enactment of new building codes governing minimum product performance could result in higher construction costs and costs of developing and maintaining our asset base. This includes but is not limited to updates to ASHRAE 90.1 standards and IEC Code when adopted at the state and local jurisdiction levels.	Increased capital cost	1 to 3 years	Direct	About as likely as not	Low-medium	The costs of specialized sustainable building materials and more energy efficient equipment could be 1% to 5% of total project cost; current development and redevelopment spending commitments total ~\$700M, the net exposure could be between \$7M - \$35M.	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 and filled in 2016. Assuming about 20% of this person's time is dedicated to this risk, the annual cost is about \$45,000.
Product labeling regulations and standards	Energy certifications such as LEED and ENERGY STAR impact property markets where	Other: Lower occupant demand and accelerated obsolescence of built stock	3 to 6 years	Direct	About as likely as not	Low-medium	Financial implications include: (a) lower demand and in turn lower occupancies in	Current risk management methods include (a) identifying areas where potential occupants are more sensitive to minimum	We estimate costs associated with improving building systems in markets where occupants stipulate

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	we operate and occupants stipulate minimum acceptable energy ratings.						areas where existing inefficient buildings did not achieve LEED and/or ENERGY STAR certifications; and (b) potential occupants who may be reluctant or unwilling to pay higher rental premiums or service charges associated with buildings that have achieved LEED and/or ENERGY STAR certifications.	acceptable energy ratings and strategically spending capital to improve building systems to maximize energy efficiencies; and (b) favoring local markets and potential occupant groups that are less sensitive to increasing costs in the form of higher rents that are associated with tighter regulations and building LEED and/or ENERGY STAR standards and benchmarks.	minimum acceptable energy ratings as defined by LEED/ENERGY STAR to be in the hundreds of thousands of dollars. We estimate the costs identifying markets where occupants who are less sensitive to increasing costs in the form of higher rents associated with tighter regulations and building LEED/ENERGY STAR certifications to be negligible, part of our due diligence process.
Carbon taxes	Potential carbon tax legislation in the US, (Sanders-Boxer "Climate Protection Act") as well as	Other: Increased capital and operational costs	3 to 6 years	Direct	Unlikely	Low-medium	Current risk management methods include (a) implementing internal awareness	Current risk management methods include (a) implementing internal awareness practices such as water conservation and	We estimate costs associated with implementing internal awareness practices to be

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	implementation of carbon taxation in other countries where we operate including British Columbia, Canada and the United Kingdom result in an increase in capital expenditures for more energy efficient equipment and an increase in the costs of operations due to higher utility costs.						practices such as water and energy saving procedures company-wide, which aids in mitigating risks of any increased future utility costs; (b) installing energy efficient equipment in new construction projects to decrease carbon impact; and (c) anticipating carbon tax policies to institute capital expenditure programs to upgrade existing inefficient buildings.	energy saving procedures company-wide, which will aid in mitigating risks of any increased future utility costs; (b) installing energy efficient equipment in new construction projects to decrease the carbon impact; and (c) anticipating state and local carbon tax policies to strategically institute capital expenditure programs to upgrade existing inefficient buildings.	negligible and part of current business practices, the costs associated with the use of energy efficient equipment in new construction to account for 1% to 5% of construction costs, and the costs associated with anticipating state/local carbon tax policies in order to strategically institute capital expenditure programs to upgrade existing inefficient buildings to be in the hundreds of thousands of dollars.
Other regulatory drivers	The upcoming expiration of the U.S. National Flood Insurance Program (NFIP) on September	Increased operational cost	Up to 1 year	Direct	Very unlikely	Low-medium	If the NFIP is not renewed, this would result in higher flood insurance deductibles to	Ventas has implemented food emergency response plans at buildings with high risk of flood. These plans identify	The cost of implementing these mitigation measures is minimal and is primarily the cost

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>30 presents a climate change related to risk to Ventas as a property owner if the program is not renewed or extended. This program reduces our insurance deductibles in areas where there are flood threats, which continue to increase with climate change.</p>						<p>Ventas for owned properties located in high flood risk areas, which is less than 10% Ventas' portfolio. The higher deductibles would only impact Ventas in the event of flood damage and would increase from current levels of about \$25,000 to anywhere from ~\$100,000 to \$500,000. There are on average about 2-4 such events per year, so the increased out of pocket cost to Ventas from higher deductibles could range from about \$150,000 to \$1,900,000.</p>	<p>key personnel that respond to alerts and take action to protect the physical asset and its occupants. In the event that NFIP is not renewed or expired, Ventas may enhance or expand these emergency response plans to minimize the risk of flood damage. These plans would be reviewed periodically for opportunities for further mitigation. These actions would reduce the potential for flood damage and lower the risk that Ventas has to cover the higher insurance deductibles it would face if NFIP is not renewed.</p>	<p>of allocating time from existing internal risk management resources, which is estimated to be around \$10,000 annually.</p>

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	Our property portfolio consists of approximately 1,300 properties in the United States, Canada and the United Kingdom. This property portfolio spans a variety of climate zones; changes in the mean temperature could lead to increased cooling and heating expenses, higher costs from extreme weather events.	Increased operational cost	>6 years	Direct	More likely than not	Medium	With properties located across the United States, Canada and the United Kingdom, we are vulnerable to extreme weather due to changes in mean temperature. This risk can result in increased cooling and heating expenses, which would increase operational costs from 10,000 - 100,000 USD over the course of a year, and result in margin erosion.	Current risk management methods include implementation of energy saving measures such as installation of energy efficient equipment, implementation of water conservation and energy saving procedures, and development of emergency preparedness plans to minimize risks.	The costs to install energy efficient equipment in new construction are 1% to 5% of construction costs and in existing buildings is over \$100,000 across the portfolio. Such costs are mitigated by increased energy savings. The costs of internal awareness programs and development of emergency preparedness plans are estimated to be around \$10,000.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in precipitation extremes and droughts	Changes in precipitation extremes resulting in flooding and/or droughts can result in increased insurance-related costs and increased capital and operational costs due to interruption of services.	Other: Increased capital and operational costs	>6 years	Direct	More likely than not	Medium	With properties located across the United States, Canada and the United Kingdom, we are vulnerable to extreme weather due to precipitation extremes and droughts. These risks can result in (a) more frequent payments of insurance deductibles due to claims of damage to our properties, and (b) service disruptions to residents	Current risk management methods include (a) negotiating competitive insurance rates and favorable deductibles to reduce risks, and (b) development of emergency preparedness plans to minimize impact of service disruptions.	There is no cost associated with negotiating competitive insurance rates through a bidding process. Costs to develop emergency preparedness plans are minimal.
Snow and ice	Our property portfolio consists of properties that are subject to accumulations of snow and ice which may result in increased operating costs, capital and	Other: Increased capital costs, operational costs, maintenance/repair costs, loss of services	>6 years	Direct	More likely than not	Low-medium	With properties located across the United States, Canada and the United Kingdom, we are vulnerable to extreme weather due to heavy snow and/or ice accumulation.	Current risk management methods include (a) negotiating competitive snow and ice removal contracts, insurance rates and favorable deductibles to reduce risks,	There can be significant operational expense costs incurred by the operators of our buildings; expense pressures have impact to NOI and payment of rent. There is

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	insurance-related costs, increased maintenance and repair costs for damaged enclosure components, and interruption of services.						These risks can result in (a) increased costs of snow removal, (b) more frequent payments of insurance deductibles due to damage to our properties, (c) higher insurance premiums due to increased claims, and (d) temporary service disruption. Snow removal and insurance related costs could be in the tens of thousands of dollars.	and (b) development of emergency preparedness plans to minimize impact of service disruptions.	no cost associated with negotiating competitive insurance rates through a bidding process. Costs to develop emergency preparedness plans are minimal and can be completed by existing internal resources.
Sea level rise	Our property portfolio consists of properties in coastal markets that are subject to risks associated with rising sea levels. Rising	Inability to do business	>6 years	Direct	Unlikely	Medium	With properties located across the United States, Canada and the United Kingdom, we are vulnerable to extreme weather due to sea level rise.	Current risk management methods include (a) negotiating competitive insurance rates and favorable deductibles to reduce risks, and (b)	There is no cost associated with negotiating competitive insurance rates through a bidding process. Costs to develop emergency

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	sea levels could lead to capital and insurance-related costs and in extreme cases the potential destruction of property.						These risks can result in (a) more frequent payments of insurance deductibles due to damage to our properties, (c) higher insurance premiums due to increased claims, and (d) temporary service disruption. Snow removal and insurance related costs could be in the tens of thousands of dollars.	development of emergency preparedness plans to minimize impact of service disruptions.	preparedness plans are minimal and can be completed by existing internal resources.
Tropical cyclones (hurricanes and typhoons)	Our property portfolio consists of properties that are subject to risks associated with tropical cyclones. Tropical cyclones could lead to capital and insurance-related costs,	Other: Increased capital costs, disruption of services, inability to do business	Up to 1 year	Direct	About as likely as not	Medium	With properties located across the United States, Canada and the United Kingdom, we are vulnerable to extreme weather due to tropical cyclones. These risks can result in (a) more	Current risk management methods include (a) negotiating competitive insurance rates and favorable deductibles to reduce risks, and (b) development of emergency preparedness	There is no cost associated with negotiating competitive insurance rates through a bidding process. Costs to develop emergency preparedness plans are minimal and

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	disruption of services, and the inability to do business due to potential destruction of property.						frequent payments of insurance deductibles due to damage to our properties, (b) higher insurance premiums due to increased claims, and (c) temporary service disruption. Insurance related costs could be in the tens of thousands of dollars.	plans to minimize impact of service disruptions.	can be completed by existing internal resources.

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Reputation risk associated with sustainability in	Reduced stock price (market valuation)	Up to 1 year	Direct	About as likely as not	Medium	Reputation is a key risk associated with sustainability	Current risk management methods include	The cost of a dedicated Director of

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>terms of investor perception has been a focal point with respect to our existing portfolio and for future acquisitions. There are a growing number of investors who utilize sustainability and ESG data as a key factor in making investment decisions.</p>						<p>in terms of investor perception. A negative perception in terms of sustainability could pose a financial risk. A 1% reduction in the Ventas stock price roughly correlates to an equity value loss of \$250M. A growing number of investors are factoring sustainability data into their investment decisions.</p>	<p>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 26 properties built to LEED standards, 3 completed buildings with</p>	<p>Sustainability and additional time spent by existing internal employees is approximately \$300,000 annually.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								<p>pending LEED certifications and 5 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 as part of its annual global survey on the sustainability of real estate properties. Ventas also responded to the RobecoSAM Corporate Sustainability Assessment for</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								the first time in 2017.	
Changing consumer behavior	Potential residents in certain areas of the country are utilizing sustainability data in making leasing decisions.	Reduced demand for goods/services	Up to 1 year	Direct	About as likely as not	Medium	Tenants and residents are increasingly seeking sustainable, environmentally responsible spaces. The financial implications of potential tenants and residents not choosing our properties due to a lack of sustainable, environmentally responsible spaces could cost tens of thousands of dollars annually in lost rent.	Current risk management methods include (a) collaborating, across our portfolio with customers to improve environmental awareness and the sustainability of our properties and, (b) making strategic investments to increase the efficiency of each facility. These initiatives create more demand for the properties and significantly decrease operating costs, which helps to mitigate costs associated with these strategic investments.	We estimate that obtaining LEED certification for our new construction costs approximately 1% to 5% of the total project costs. Strategic upgrades to existing buildings to make them more energy efficient can cost hundreds of thousands of dollars. Product efficiency regulations and standards will lead to improved energy efficiency across our portfolio resulting in lower operating costs and higher market values.

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Product efficiency regulations and standards	Product efficiency regulations and standards such as ASHRAE 90.1 standards and IEC Code will lead to improved energy efficiency across our portfolio, resulting in lower operating costs and higher market values.	Reduced operational costs	>6 years	Direct	More likely than not	Medium-high	Conforming to and complying with regulation changes related to product efficiency standards present opportunities that could have a positive financial impact through a reduction in operating costs due to lower energy consumption and higher market valuations. The potential energy	The specific methods we are using to take advantage of these opportunities include making strategic investments to increase the efficiency of our facilities, reduce emissions and costs, and continuing to voluntarily partner/comply with third party green building standards such as ENERGY STAR and LEED which are closely aligned with	While costs associated with increasing efficiencies of our existing facilities and constructing new energy efficient facilities can be significant, we believe the operational cost savings of an energy efficient building and the increased market valuation can result in additional revenue. Extrapolating a cost premium of 1% to 5% across our existing development

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							savings are as high as 35% in ENERGY STAR buildings. Extrapolating those savings across the Ventas portfolio could provide cost savings between \$20M - \$30M annually, as well as increasing margins by approximately 100bps.	the latest ASHRAE 90.1 and IEC Code standards. Management of this opportunity is ongoing, and is expected to continue in perpetuity.	platform of \$300M could net a total increase in capital spending of between \$3M to \$15M.
General environmental regulations, including planning	As a result of our experience as an ENERGY STAR partner, our LEED certifications, our participation in the in the Global Real Estate Sustainability	Increased demand for existing products/services	Up to 1 year	Direct	More likely than not	Medium	We are well positioned to market to the growing investor and consumer markets whose decisions are influenced by our sustainability partnerships and experience	Specific methods we are using to manage opportunities associated with product labeling regulations and standards include (a) our continued voluntary compliance with third party	We believe continued voluntary compliance with third party green building will lead to operational cost savings and in turn increased revenues making our product economically and

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>Benchmark (GRESB), our participation in the RobecoSAM Corporate Sustainability Assessment and as a signatory to the CDP, we are well positioned to market to the growing investor and consumer markets whose decisions are influenced by these partnerships and this type of dedication to creating lasting economic efficiencies and be transparent, while preserving and protecting the planet.</p>						<p>and this type of dedication to creating lasting economic efficiencies, while preserving and protecting the planet. We estimate the combined positive financial impact resulting from this market positioning in terms of increased demand for our product by investors and consumers could be between \$100K - \$500K.</p>	<p>green building standards, (b) the continued expansion of our ENERGY STAR and LEED certified portfolios, and (c) updating the sustainability portion of our website to keep consumers and investors informed of our continued dedication to improve environmental awareness and the sustainability of our properties.</p>	<p>environmentally attractive to consumers and investors. This additional revenue could potentially measure in the hundreds of thousands of dollars. There is minimal cost for actions such as updating our sustainability webpage and informing stakeholders of our continued focus on sustainability.</p>

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	As the average mean temperature in many climate zones continues to rise, the green Ventas portfolio will become increasingly more attractive to potential tenants, residents and customers, resulting in increased demand for our asset base.	Premium price opportunities	>6 years	Direct	About as likely as not	Low-medium	We estimate the financial opportunity from increased tenant, customer, and resident demand to be significant. Extrapolating a 1% revenue premium across the total Ventas portfolio of \$3.4B could result in additional revenue of \$34M. It may also lower building operating costs as workers in our buildings may be more engaged and healthy working in a sustainable and environmentally responsible building, which could lower employee turnover and health benefit costs for our building operators.	Specific methods to manage the opportunity of potential increased demand for our assets assuming a rising mean temperature include (a) LEED and ENERGY STAR certifications across our portfolio, (b) publication of our annual sustainability report, (c) supplemental sustainability disclosures, (d) annual CDP, GRESB and RobecoSAM reporting, and (e) various sustainability publications from the Director of	Extrapolating a cost premium of 1% to 5% across our existing development platform of \$500M could net a total increase in capital spending of between \$5M to \$25M. In addition, Ventas may spend approximately \$4-5M per year on portfolio investments in energy, water and waste efficiency. We believe continued voluntary compliance with third party green building will lead to operational cost savings and in turn increased revenues making our product economically and environmentally attractive to

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								Sustainability and ESG Committee, which promote awareness of the Ventas commitment to ESG.	consumers and investors. This additional revenue could potentially measure in the hundreds of thousands of dollars. There is minimal cost for actions such as updating our sustainability webpage and informing stakeholders of our continued focus on sustainability.

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	As the nation's largest owner of seniors housing and medical office buildings, we have created	Increased stock price (market valuation)	Up to 1 year	Direct	More likely than not	Medium	By making sustainability a focal point of our existing portfolio and factor in our acquisition and	Specific methods we are using to manage these opportunities include (a) our	We believe our continued mission to achieve LEED and ENERGY STAR

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>a portfolio with a strong sustainability profile, including 69 assets with ENERGY STAR certification, 26 properties built to LEED standards, 3 pending LEED certification and 5 additional LEED projects under development. We have earned awards such as the 2012 ALFA Award of Excellence, 2010 Gold Nugget Award for Merit, The Outstanding Building of the Year (TOBY) award in 2009 and 2010 and 2012 BOMA 360 Performance Building. Recognition such as this, along with our continued focus to report sustainability</p>						<p>divestiture strategy, we have the opportunity to gain new tenants and investors who prefer to do business with more environmentally responsible companies. The financial implications of increased revenues and investment in our company are estimated to be in the hundreds of thousands of dollars.</p>	<p>continued voluntary compliance with third party green building standards, (b) continued expansion of our ENERGY STAR and LEED certified properties, and (c) updating the sustainability webpage on our website with information regarding newly awarded LEED and ENERGY STAR certifications to attract consumers and investors focused on sustainability.</p>	<p>compliance will lead to operational cost savings and in turn increased revenues making our product economically and environmentally attractive to consumers and investors. This additional revenue could potentially measure in the hundreds of thousands of dollars. There is no additional cost for actions such as updating our sustainability webpage and informing stakeholders of our continued focus on sustainability.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	efforts, improves our reputation and increases the value of our properties in the eyes of consumers and investors.								
Changing consumer behavior	Changing consumer behavior by promoting environmentally friendly programs at our communities, such as recycling, water conservation and energy-saving efforts can result in lower energy consumption leading to lower operating costs, optimized NOI and higher market values.	Increased demand for existing products/services	Up to 1 year	Direct	More likely than not	Medium	Changing consumer behavior by promoting environmentally friendly programs such as recycling, water conservation, and energy saving efforts can result in lower energy consumption leading to lower operating costs and higher market values. We estimate the positive financial implications resulting from such opportunities to be in the hundreds of	Specific methods to manage these opportunities include (a) collaborating with customers to improve environmental awareness (b) promoting the expansion of recycling, water conservation, and energy saving programs, (c) the installation of energy efficient light bulbs (d) updating the sustainability webpage on our website and investor presentations with	Our continued focus on promoting Ventas's commitment to sustainability will lead to operational cost savings and in turn increased revenues making our product economically and environmentally attractive to consumers and investors. This additional revenue could potentially measure in the hundreds of thousands of dollars. The primary costs of promoting our sustainability

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							thousands of dollars.	information regarding newly awarded LEED and ENERGY STAR certifications to attract consumers and investors focused on sustainability.	programs are the time spent by existing internal resources, including our Director of sustainability, and is estimated to be less than \$30,000 annually.

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Tue 01 Jan 2013 - Tue 31 Dec 2013	69914.79
Scope 2 (location-based)	Tue 01 Jan 2013 - Tue 31 Dec 2013	245862.11
Scope 2 (market-based)		

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
IPCC Guidelines for National Greenhouse Gas Inventories, 2006
US EPA Climate Leaders: Direct Emissions from Stationary Combustion
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

A calculator based on the EPA E-grid (US calculations) and IEA Emission factors (Canadian calculations) is used to calculate emissions in MT CO2e. For Scope 1 Ventas normalizes all usage from to kbtu to get an emission breakdown of CO2 CH4 and N2O with the IPCC 5th Assessment global warming potentials to normalize to Metric tons of CO2 equivalent emissions and sum up the three values to get a total CO2e emission. For Scope 2, we use the regional emission factors based on zip code to use the correct emission factors for each region of the United States in the EPA 2014 E-Grid emission factors and normalized the same way as Scope 1. To calculate regionally based United States GHG emissions, Ventas uses the EPA 2014 E-Grid. Global warming potential factors are sourced from the most current metrics of the IPCC 5th Assessment. Canadian Assets are calculated the EIA 2016 global emission factors.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Fifth Assessment Report (AR5 - 100 year)

Gas	Reference
CH4	IPCC Fifth Assessment Report (AR5 - 100 year)
N2O	IPCC Fifth Assessment Report (AR5 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Electricity	1136.53	lb CO2e per MWh	Relevant country: United States; Reference: US EPA eGrid Subregion Emission Factors v2 (2016)
Natural gas	53.115	Other: kg CO2e per million BTU	EPA Emission Factors for Greenhouse Gas Inventory (2015)
Propane	61.46	Other: kg CO2e per million BTU	EPA Emission Factors for Greenhouse Gas Inventory (2015)
Distillate fuel oil No 2	73.96	Other: kg CO2e per million BTU	EPA Emission Factors for Greenhouse Gas Inventory (2015)
Steam	88.41	Other: kg CO2e per million BTU	EIA Emission Factors for Steam and Chilled/Hot Water
Electricity	145.29	Other: grams CO2 per kWh	Relevant country: Canada; Reference: IEA 2016 Global Emission Factors

Further Information

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

94354.67

CC8.3

Please describe your approach to reporting Scope 2 emissions

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

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
431249.80		

CC8.4

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?

Yes

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
NNN-leased assets and tenant spaces where Ventas does not have responsibility for or direct access to utility consumption and invoices.	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	No emissions from this source	Ventas is unable to obtain utility data to calculate emissions from some of its triple-net (NNN) leased assets and tenant spaces. For these assets/spaces, Ventas has no access to the utility data; the tenant is invoiced directly and has full financial responsibility. Despite this lack of control, Ventas seeks to leverage its relationships with these tenants to obtain utility data for emissions tracking and reporting, and is continuously expanding its data coverage for its NNN assets.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	Less than or equal to 2%	Assumptions	The Ventas data set is based on utility invoices, which are sourced directly or indirectly from multiple utility companies and utility data providers. The data is collected on an ongoing basis. While regional factors are used to calculate GHG emissions as accurately as possible, some inaccuracy exists within the market-based grid factors. The EPA's most recent factors were also calculated in 2014 so some of the factors may have changed.
Scope 2 (location-based)	Less than or equal to 2%	Assumptions	The Ventas data set is based on utility invoices, which are sourced directly or indirectly from multiple utility companies and utility data providers. The data is collected on an ongoing basis. While regional factors are used to calculate GHG emissions as accurately as possible, some inaccuracy exists within the market-based grid factors. The EPA's most recent factors were also calculated in 2014 so some of the factors may have changed.
Scope 2 (market-based)	Less than or equal to 2%	No Sources of Uncertainty	Ventas has no Scope-2 market-based emissions

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Moderate assurance	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC8.6a/Goby Verification Doc - CDP.pdf	Process described on pages 1-4 and 6; Scope 1 numbers assured are on page 5, left side of page.	The Climate Registry's General Verification Protocol	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Moderate assurance	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC8.7a/Goby Verification Doc - CDP.pdf	Process described on pages 1-4 and 6; Scope 2 numbers assured are on page 5, left side of page.	The Climate Registry's General Verification Protocol	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Year on year change in emissions (Scope 1 and 2)	As a part of Ventas's partnership with Goby Inc., and the completion of the GRESB 2017 survey, year on year change in emissions is analyzed for both Scope 1 and 2 emissions.
Year on year emissions intensity figure	Goby Inc. calculates emissions intensities for the Ventas portfolio using occupied gross square foot, weather, revenue, and property age.
Progress against emissions reduction target	Goby Inc. calculates Ventas's progress against its 10-year emissions reduction targets (and corresponding annual targets).

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
United States of America	87188.87
Canada	7165.80

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Healthcare	10796.05
Medical Office	18836.76
Other (Lab)	3328.04
Senior Housing	61393.82

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
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CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
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CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
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Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes 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)
United States of America	425803.15		909481.76	230.02
Canada	5446.65		37430.56	

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Residential, Senior Homes	191617.76	

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Healthcare	45332.26	
Medical Office	166281.34	
Other (Lab)	28018.44	

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)

Further Information

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

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

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	
Steam	31329.64
Cooling	

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

519977.22

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	518739.17
Propane	469.66
Distillate fuel oil No 2	768.39

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company	230.02	0	Renewable energy from Atria Cranford, Atria Hudson, Atria Woodbriar Place, and 4220 Duncan Avenue

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
915582.68	915352.66	230.02	230.02	230.02	Renewable energy from Atria Cranford, Atria Hudson, Atria Woodbriar Place, and 4220 Duncan Avenue Total electricity consumed (MWh) Consumed electricity that is purchased (MWh) Total electricity produced (MWh) Total renewable electricity produced (MWh) Consumed renewable electricity that is produced by company (MWh) Comment

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	6.4	Decrease	Due to emissions reduction activities implemented during the year, emissions have not grown as high as could be expected from the other factors identified below, such as more extreme weather in 2016 versus 2015. Last year 30,337 metric tonnes CO2e were reduced by our emissions reduction projects, and our total S1 and S2 emissions in the previous year was 476,979 metric tonnes CO2e, therefore we arrived at 6.4% through $(30,337/476,979)*100=6.4\%$
Divestment	0	No change	No divestitures within scope.
Acquisitions	6.2	Increase	Metric tonnes of additional emissions from new portfolio acquisitions divided by total scope 1 & scope 2 emissions.
Mergers	0	No change	No mergers within scope.
Change in output	0	No change	Occupancy was flat year-over-year within scope.
Change in methodology	2	Decrease	The use of the most up-to-date factors of the EPA E-Grid results in an overall decrease in emission by 2% due to Scope 2 indirect emissions from energy suppliers/producers becoming more diversified in renewable energy/efficiency methods.
Change in boundary	0	No change	No change in emissions reporting boundary.
Change in physical operating conditions	9.3	Increase	2016 had more extreme temperatures than 2015 within the reporting boundary, resulting in an increase in total heating and cooling degree days and therefore an increase in consumption and emissions.
Unidentified	1	Decrease	An emissions decrease of 1% is attributed to unidentifiable factors including but not limited to; change in building use patterns and life-cycle of building operating equipment.
Other	4.0	Increase	More emissions information was able to be collected in 2016 than in 2015. This increase can be attributed to Ventas's initiative to collect more data in 2016 by engaging smaller operators and working with tenants.

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.000202	metric tonnes CO2e	2606804146	Location-based	6.20	Increase	In 2016, Ventas acquired the Wexford life science portfolio, its first acquisition of this property type. These assets are primarily used for laboratory research and have heating and cooling needs 24 hours a day, 7 days a week, resulting in higher emissions intensities. This accounted for 3.18% of the change. The remaining 3.02% of the change is due to Change in physical operating conditions, Change in methodology, Emissions reduction activities, and coverage variance.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00929	metric tonnes CO2e	square foot	56593518	Location-based	0.25	Decrease	The net decrease in intensity on a per square foot basis is due 100% to emissions reduction activities. The intensity decrease from emissions reduction

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
							activities was offset by the addition of the high-intensity Wexford portfolio, as described in 12.2.

Further Information

Page: **CC13. Emissions Trading**

CC13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
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Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Not relevant, explanation provided	0		0.00%	Purchased goods and services consist of supplies for corporate headquarters, which are insignificant.
Capital goods	Relevant, not yet calculated	0		0.00%	The scope 3 carbon footprint for capital goods purchased by Ventas (e.g., HVAC equipment, lighting), is insignificant compared to the emissions resulting from the use of capital goods over the life span of such products.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Not relevant, explanation provided	0		0.00%	Ventas owns real estate assets and does not purchase fuels outside of those accounted for in its scope 1 & 2 emissions.
Upstream transportation and distribution	Not relevant, explanation provided	0		0.00%	Emissions from upstream transportation and distribution are immaterial for Ventas.
Waste generated in operations	Not relevant, explanation provided	0		0.00%	This would only include waste generated by employees at the Ventas corporate headquarters, which is immaterial to Ventas's total emissions.
Business travel	Relevant, calculated	410.99	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 based on a carbon emission factor provided by the EPA. Automobile travel	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			was calculated by using the EPA business travel emission factor of Kg CO2e/mile traveled.		
Employee commuting	Relevant, calculated	7.87	Ventas surveyed all corporate employees in 2015, requesting commuting information including type of transportation most commonly utilized, distance and frequency. Daily commuting habits were then extrapolated across a full year, adjusting for holidays and PTO, increasing YoY for 2015. Total commuter miles were calculated for personal car, train, bike, walking, bus and carpool. CO2e emissions were then calculated using the Greenhouse Gas Protocol Initiative GHG emissions from transport or mobile sources, Version 2.5, June 2013. We used the extrapolation from last year (7.67 MT CO2e with 460 FTE's) and applied this GHG intensity to the 2016 FTEs of 472 to get total MT CO2e for 2016.	100.00%	
Upstream leased assets	Relevant, calculated	300.71	Emissions from LEED certified leased office spaces in Chicago, IL (based on actual utility bills) and Louisville, KY (based on EUI of FTE and EPA E-Grid Region).	100.00%	
Downstream transportation and distribution	Not relevant, explanation provided	0		0.00%	Ventas owns real estate assets and does not produce goods that require downstream transportation and distribution.
Processing of sold products	Not relevant, explanation provided	0		0.00%	Ventas owns real estate assets and does not produce products that require processing for a sale.
Use of sold products	Not relevant, explanation provided	0		0.00%	Ventas owns real estate assets and does not sell products that generate scope 3 emissions.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
End of life treatment of sold products	Not relevant, explanation provided	0		0.00%	Ventas owns real estate assets and does not have products that require end of life treatment.
Downstream leased assets	Not relevant, explanation provided	0		0.00%	Downstream leased asset emissions are captured in our scope 1 and scope 2 emissions.
Franchises	Not relevant, explanation provided	0		0.00%	Ventas does not franchise.
Investments	Not relevant, explanation provided	0		0.00%	Ventas investments are in real estate assets; emissions from these assets are included in our scope 1 and scope 2 emissions.
Other (upstream)	Not relevant, explanation provided	0		0.00%	None identified.
Other (downstream)	Not relevant, explanation provided	0		0.00%	None identified.

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2017/73/22873/Climate Change 2017/Shared Documents/Attachments/CC14.2a/Goby Verification Doc - CDP.pdf	Process described on pages 1-4 and 6; Scope 3 numbers assured are on page 5, bottom right box (Ventas Scope 3).	The Climate Registry's General Verification Protocol	100

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Upstream leased assets	Change in methodology	100	Increase	For the current reporting year, utility bills were used to calculate the emissions for the Chicago office, based on the GHG Protocol, region specific emission factor for the site. For the Louisville office, the Ventas space is not sub-metered and actual energy consumption was not available. To estimate the Louisville office emissions, the energy consumption from the Chicago office was used to estimate energy usage per FTE. This was applied to the number of FTEs in the Louisville office to estimate the emissions. The 2015 estimation was based on incomplete data and did not use the FTE estimation approach for the Louisville office.
Employee commuting	Change in boundary	2.6	Increase	There was an increase in FTE's between 2015 and 2016. Employee commuting emissions have increased slightly due to acquisitions and subsequent growth in employees.
Business travel	Change in methodology	27.1	Decrease	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 (As defined by the EPA) and estimated the amount of fuel burned per mile of the trip based on a carbon emission factor provided by the EPA. Automobile travel was calculated by using the EPA business travel emission factor of Kg CO2e/mile traveled. The prior year amounts were based on incomplete data.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Supplier engagement:

Ventas and its Lillibridge Healthcare Services subsidiary engage with service and material suppliers across eight centrally-managed procurement categories related to corporate sustainability strategies and commitments. Supplier Diversity and Sustainability are two important social responsibility criteria that we use in sourcing and qualifying suppliers. We target suppliers who can help align our goals of responsibly serving our portfolio both competitively and sustainably. Reporting of GHG emissions is the primary measure and indicator of a supplier's commitment to sustainability. During the RFP process for suppliers, we use CDP to identify and search for suppliers that provide reporting on their sustainability strategies and carbon footprint. As part of an RFP and/or RFQ discovery process, we request a copy of a supplier's CDP survey response, scoring, and corporate responsibility report. We prefer a robust disclosure and a CDP score of 'C' or better. We also evaluate their use of environmentally-friendly products, and we request documents for current initiatives and programs in three specific areas: i) LEED-certified facilities, ii) Waste recycling and water conservation, iii) Energy conservation. Success is measured via energy consumption and emission reductions.

Customer engagement:

Ventas's Director of Sustainability, Asset Management, Property Management, Acquisitions, and Construction & Development teams engage with our customers (primarily our tenants and building operators) on a regular basis regarding energy efficiency measures to reduce the emissions from our portfolio. This engagement occurs through quarterly and/or monthly tenant/operator meetings, regular email and phone communication, the annual operating and capital budget process, the acquisitions due diligence process, and oversight of all construction work at our buildings through our Construction & Development group.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Active engagement	4	28.5%	Ventas actively engages on emissions and climate change initiatives with four of its national suppliers, representing 28.5% of our total direct, operational procurement spend. These suppliers provide Ventas with lower emission ("green") products, such as ENERGY STAR rated equipment, and also provide Ventas with data and reports on these purchases. Ventas is working with these suppliers to determine ways to promote green purchasing by our property management teams and potentially provide incentives such as rebates and discounts.

CC14.4c

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Module: Sign Off

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CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Kelly Meissner	Director, Sustainability	Environment/Sustainability manager

Further Information

CDP 2017 Climate Change 2017 Information Request