

# HCP Inc. - Climate Change 2018

## C0. Introduction

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### C0.1

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

HCP, an S&P 500 company, invests primarily in real estate serving the healthcare industry in the United States. We are a Maryland corporation organized in 1985 and qualify as a self-administered real estate investment trust (“REIT”). We are headquartered in Irvine, California, with offices in Nashville and San Francisco. Our diverse portfolio is comprised of investments in the following healthcare segments: (i) senior housing triple-net, (ii) senior housing operating portfolio, (iii) life science and (iv) medical office.

Environmental Boundary: HCP includes properties where the company has operational control—i.e., buildings that we maintain, provide service to, and/or have the authority to implement operating policies with respect to energy usage, water usage and/or waste disposal. Where HCP retains operational control over a limited space of the property, the proportion of the consumption controlled by HCP has been reported. For 2017, 475 properties out of the 828 properties in our portfolio (assets under management), were controlled by HCP. 2016 data has been revised to provide a like-comparison to the 2017 boundary.

Labor Metric Boundary: HCP reports on persons employed by HCP as of December 31, 2017.

### C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Field Hidden>
Row 2	<Field Hidden>	<Field Hidden>	<Field Hidden>	<Field Hidden>
Row 3	<Field Hidden>	<Field Hidden>	<Field Hidden>	<Field Hidden>
Row 4	<Field Hidden>	<Field Hidden>	<Field Hidden>	<Field Hidden>

### C0.3

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

United States of America

### C0.4

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

USD

### C0.5

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**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

Operational control

## C1. Governance

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## C1.1

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

Yes

## C1.1a

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### **(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual (s)	Please explain
Chief Executive Officer (CEO)	The individual on our Board with the responsibility for oversight of climate-related issues is the CEO. This position is the highest in our corporate structure, and is responsible for making the ultimate decisions regarding climate-related issues for our Company based on climate-related data provided by members of the Sustainability Committee. Responsibilities for climate-related issues were assigned to the CEO as a member of the Board to ensure that our sustainability initiatives and targets are aligned with our business strategy, and that climate-related risks and opportunities are monitored at the Board level in addition to the management level.

## C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action	Reviewing and guiding strategy, major plans of actions and business plans, risk management policies, annual budgets as well as setting performance objectives and monitoring the implementation and performance of such objectives, oversight of capital expenditures, acquisitions and dispositions, and monitoring and oversight of progress against goal

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
	Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	s and targets for addressing climate related issues are each governan ce mechanisms into which climate-related issues are included as a sc heduled agenda item and presented to the Board. These mechanisms contribute to the Board’s overall oversight of climate-related issues be cause the items were already reviewed quarterly by the Board from a business perspective, and the integration of climate-related issues into our regular governance implementation practices allows for the Board to provide efficient oversight while ensuring our strategy and approach to climate-related matters are in alignment with our business strategy. Additionally, a quarterly sustainability update is a separate standing ag enda item at each of our regular Board meetings, and our COO (and al so the Chair of our Sustainability Committee) is responsible for briefin g the Board on all climate-related matters as discussed in further detai l in question C1.2a below.

## C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	Both assessing and managing climate-related risks and opportunities	Quarterly

## C1.2a

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**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.**

Our COO (and Chair of our Sustainability Committee) reports directly to our CEO, and is responsible for the day-to-day management of climate-related matters within the Company, including the assessment and management of climate-related risks and opportunities, as well as for the implementation of related decisions made at the Board level. This position monitors climate-related issues through quarterly updates from (i) the leaders of each of our business segments regarding progress on sustainability initiatives at our properties, as well as any climate-related issues affecting them; and (ii) the Sustainability Committee regarding progress on goals and objectives, and the performance metrics associated with the Company's sustainability initiatives. The COO is also responsible for managing the Company's sustainability efforts including, among other things, increasing performance and efficiency across our properties, tracking energy, water, waste, and greenhouse gas (GHG) data, and publishing the Company's annual Sustainability Report aligned with the Global Reporting Initiative (GRI) framework. This position is also responsible for implementing sustainable best practices and transparency initiatives, including the Company's responses to the CDP Climate Change Information Request (CDP), the Dow Jones Sustainability Index Assessment (DJSI), and the Global Real Estate Sustainability Benchmark Survey (GRESB). Responsibilities for climate-related issues were assigned to the COO to ensure that our climate-related initiatives and targets, as well as risks and opportunities, are monitored at the management level in addition to the Board level.

## C1.3

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

Yes

## C1.3a

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**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.**

**Who is entitled to benefit from these incentives?**

Chief Operating Officer (COO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

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## C2. Risks and opportunities

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### C2.1

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

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	5	
Long-term	5	20	

### C2.2

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

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

## C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	

## C2.2b

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

At the Company Level, climate-related risks and opportunities ("R/Os") are integrated into our overall Enterprise Risk Management (ERM) Program, in which all R/Os facing HCP are identified, assessed and managed using the results from the ERM Survey. The ERM Survey is facilitated by our Internal Audit department and applied company-wide to link strategy and objective setting to risks and opportunities. Each year in the first quarter, the survey is distributed to HCP's executive team and senior leaders and includes the prior year's top identified R/Os as well as those risks identified by Internal Audit as applicable to our business as a REIT and a public company. As part of the R/O identification process, our leaders review the prior year's top risks and determine if any should be removed from the current period, and review other potential risks that should be added to the universe. Additionally, the survey requests that the leaders add any other or "new" risks or potential risks of concern, which are communicated to our leaders through reports and meetings with our Asset Managers for each of our business segments. As part of the overall process, Internal Audit also conducts personal interviews and performs testing regarding controls in place and the aptness of such controls. The results of the survey provides critical information regarding key risks which could impact our ability to achieve our business objectives, which includes our sustainability initiatives, and key opportunities in which we could capitalize upon to benefit our business. After the survey information is evaluated, a facilitated session is held to discuss the results as well as benefits of the opportunities, and risk mitigating activities and the controls in place within the Company. For each of the R/Os identified, the impact, likelihood, and directional trend is assessed, as well as a determination as to whether the R/O is growing, stable or declining, a critical process designed to assess of the potential size and scope of the R/Os identified. This process includes the determination of the relative significance of climate-related risks in relation to other risks. All ri

isks are then assessed based on residual risk, which is the remaining risk after consideration of mitigating controls currently in place. Finally, a summary of the survey results is presented to the Audit Committee and then to the Board of Directors at their first regular meeting at the end of the first quarter for strategic prioritization, which is facilitated through rating the R/Os according to potential for material (substantive) impact (financial or reputational, for example). The process is then repeated in the third quarter. A substantive impact is defined by HCP as any event that has the potential to materially affect our business, shareholders and other stakeholders, and as a publicly traded company, quantitative metrics to determine such impacts are ultimately dependent on our earnings, which fluctuate each quarter.

At the Asset (or Property) Level, climate-related R/Os are identified, assessed and managed by our Capital Asset Management (CAM) group, together with input from the third-party property manager for the particular asset. R/Os, including asset level climate-related R/Os, are identified by our Asset Managers through our Property Condition Assessments, along with site visits. The assessment data is then incorporated into operations reports for each property, and the property manager then meets with our CAM group to review the report and to collaboratively assess the size and scope of the climate-related R/Os identified. The CAM group then prepares a report and prioritizes the R/Os by the potential impact (financial or physical climate-related) to the particular business segment of which the property belongs. The report is then communicated to our leaders by our Asset Managers for consideration at the Company Level as described above.

## C2.2c

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

	<b>Relevance &amp; inclusion</b>	<b>Please explain</b>
Current regulation	Relevant, always included	HCP considers current regulation issues as relevant and always includes such risks in our climate-related risk assessment. Compliance (or non-compliance) with current environmental legislation affects every property in our portfolio, so it is relevant to include this type of risk in our climate-related risk assessment at the company and asset level. For example, current regulation regarding water conservation in California affects each of our California properties. It is therefore imperative to consider non-compliance with current environmental regulation as a potential risk, in order to implement current regulation education initiatives and compliance controls at our California properties to aid in mitigating the potential risk of fines or other sanctions associated with non-compliance. Current regulation is included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our bu



	<b>Relevance &amp; inclusion</b>	<b>Please explain</b>
		business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.
Emerging regulation	Relevant, always included	HCP considers emerging regulation issues as relevant and always includes such risks in our climate-related risk assessment. Emerging environmental regulations could affect every property in our portfolio, depending on local legislation, so it is relevant to include this type of risk in our climate-related risk assessment at the company and asset level. For example, emerging regulations regarding the required separation and disposal of organic waste in California will affect each of our California properties. It is therefore imperative to consider future compliance with emerging environmental regulations as a potential risk, in order to implement a compliance strategy and compliance controls at our California properties in advance of such emerging regulation, to aid in mitigating the potential risk of fines or other sanctions associated with non-compliance once the emerging regulation becomes current. Emerging regulation is included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.
Technology	Relevant, always included	HCP considers technology issues as relevant and always includes such risks in our climate-related risk assessment. Technological advances to improve the efficiency aspects of the equipment in our buildings can on the surface appear to be only an opportunity, but there are risks associated with this as well. For example, the more technological features present in equipment (HVACs, etc.), the more they are susceptible to the risk of technological failures which could lead to downtime at our properties, so it is relevant to include this type of risk in our climate-related risk assessment at the company and asset level. Technology (from an overall business standpoint) is included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders as applicable, using input is received from any business segment regarding climate-related risks related to technological improvements or innovations that support the transition to a lower-carbon economic system.
Legal	Relevant, sometimes included	HCP considers legal matters associated with climate-related litigation claims to be relevant and sometimes includes such issues in our climate-related risk assessment. To date, HCP has not been engaged in any climate-related litigation claims, and we do not consider this potential risk to be as relevant as other risks in our business. This type of climate-related risk is periodically included in our Enterprise Risk Management (ERM) process through identification by our leaders in the ERM Survey, when input is received from any business segment regarding a potential emerging climate-related litigation claim.
Market	Relevant, always included	HCP considers market issues related to our buildings as relevant and always includes such risks in our climate-related risk assessment. Being able to supply environmentally friendly buildings to the increasing demand for them is an important component of our business as a whole and one of the reasons this risk is included in our climate-related risk assessment. For example, if potential tenants are demanding to lease efficient properties from us, and we cannot supply it fast enough due to a slow process of efficiency upgrades at our buildings, such te

	Relevance & inclusion	Please explain
		nants could choose to lease from someone else. This would directly affect and reduce our lease income and overall revenue, and the reason it is therefore imperative to consider market considerations such as supply and demand risks related to environmental products in order to implement mitigation activities. Supply and demand shifts are included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.
Reputation	Relevant, always included	HCP considers reputational matters relevant and always includes such risks in our climate-related risk assessment. Maintaining our esteemed reputation as a sustainable company is important to our business. For example, if our shareholders perceived HCP as detracting from the transition to a lower-carbon economy, they could sell their shares which would affect our revenue. It is therefore imperative to include reputational considerations related to environmental perceptions in order to implement mitigation activities. Reputational considerations are included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.
Acute physical	Relevant, always included	HCP considers acute physical event-driven risks as relevant and always includes such risks in our climate-related risk assessment. For example, the increased severity of extreme weather events such as hurricanes and the related subsequent floods could affect our properties on the U.S. East and Southwest Coasts, and ultimately our revenue if not properly mitigated. Such acute event-driven risks are included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.
Chronic physical	Relevant, sometimes included	HCP considers chronic physical climate risks as relevant and periodically includes such risks in our in our climate-related risk assessment. For example, longer-term shifts in climate patterns such as sustained higher temperatures that may cause chronic heat waves could affect our properties by causing higher energy usage resulting from increased cooling needs. This type of climate-related risk is periodically included in our Enterprise Risk Management (ERM) process through identification by our leaders in the ERM Survey, when input is received from any business segment regarding a potential chronic longer-term shift in climate patterns related risk.
Upstream	Relevant, sometimes included	HCP considers some upstream issues as relevant and sometimes includes such risks in our climate-related risk assessment. As an owner of real estate, many upstream activities and related risks are not applicable to us as a landlord (i.e., transportation and distribution of products), or do not produce a negative effect on a material level (i.e., commuting of our small employee base of 190 corporate employees). However, capital goods purchased, in the way of efficient equipment purchased for our buildings, could pose a risk if a significant amount of such equipment purchased featured a significant flaw resulting in a hindrance of our building operations for example. While we do not deem this potential risk to be as relevant as other risks, we do consider it. This type of climate-related risk

	Relevance & inclusion	Please explain
		is periodically included in our Enterprise Risk Management (ERM) process through identification by our leaders in the ERM Survey, when input is received from any business segment regarding a potential emerging climate-related capital goods purchase-related risk..
Downstream	Relevant, always included	HCP considers downstream issues as relevant and always includes such risks in our climate-related risk assessment. As an owner of real estate and a “lessor,” risks related to our leased assets are applicable to us as a landlord. For example, any physical climate-related event could pose a risk to a significant number of our properties, affecting the ability to operate. This type of risk is included in our Enterprise Risk Management (ERM) process through identification by our Internal Audit team as a risk type that is applicable to our business as a REIT and a public company, and is further elaborated upon from a climate-related standpoint in the ERM Survey by our leaders through input received from each of our business segments.

## C2.2d

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

Climate-related risks and opportunities (“R/Os”) are integrated into our overall Enterprise Risk Management (ERM) Program, in which all R/Os facing HCP are identified, assessed and managed using the results from the ERM Survey (as described in detail, with respect to identification and assessment, in question 2.2b). The process for management of such R/Os ensues after the survey information is evaluated, in which a facilitated session is held to discuss the results as well as management strategies including, with respect to risks, the determination of whether to transfer the risk (if applicable), or to control the risk through mitigating activities. In our experience, climate-related risks are rarely transferable, leaving controlling the risk through mitigating actions as the most viable option. Finally, risk mitigating activities and/or opportunities to capitalize upon are discussed, determined, and implemented through the related business segment, and then reviewed again at the next ERM program meeting to assess as to whether the R/O is growing, stable or declining. As an example, this management process has been applied to manage the transition R/Os associated with mandates on and regulation of existing products (our buildings). After this risk was identified and assessed, discussions were held among our executives, the affected business segment or group, and Internal Audit to facilitate management of the risk, in which a determination was made to control the risk through mitigation activities. Proactively installing efficient equipment in our buildings that perform at higher-than-required regulatory standards, in advance and in anticipation of any newly mandated legislation requiring higher p

performance, was determined as the mitigation strategy. This strategy was implemented through our Capital Asset Management group, who designed an ongoing plan to install such high-performance efficient equipment in our buildings over the short- to medium-term to higher than required standards. The risk was included and reviewed again at the next ERM program meeting, where it was determined to be stable. As another example, this process has been applied to manage the physical risk of rising mean temperatures. After this risk was identified and assessed, discussions were held among our executives, our Capital Asset Management group, and Internal Audit to facilitate management of the risk, in which a determination was made to control the risk through mitigation activities. Proactively upgrading or replacing inefficient HVAC systems in the short- to medium-term, in advance of the physical change in climate (i.e., rising mean temperatures) over the long-term, was determined as the mitigation strategy. This strategy was implemented through our Capital Asset Management group, who designed an ongoing plan to upgrade and/or replace inefficient HVAC systems in our buildings. The risk was included and reviewed again at the next ERM program meeting, where it was determined to be stable.

## C2.3

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

Yes

## C2.3a

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

**Identifier**

Risk 1

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

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

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

**Type of financial impact driver**

Increased capital costs (e.g., damage to facilities)

**Company- specific description**

Risks identified by HCP that are driven by the increased severity of extreme weather events such as cyclones (hurricanes) and floods include increased: (i) capital costs related to damages to our buildings; and (ii) insurance premiums and potential for reduced availability of insurance (i.e., costs not covered by insurance) on assets in “high-risk” locations. A significant portion of our portfolio (approximately one-third) includes properties located in the Gulf Coast, Eastern Coast, and deep South, which are considered high-risk locations as those areas most affected by hurricanes and related flooding. According to the U.S. National Hurricane Center, hurricanes have caused eight of the ten most costly disasters in U.S. history, and the potential for significant damage-related costs to our properties pose a major risk to us. Correspondingly, we believe the inherent risks cited above have the potential to cause a substantive financial as well as strategic impact on our business.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

High

**Potential financial impact**

13500000

**Explanation of financial impact**

The financial impact includes higher operating costs resulting from increased capital costs, insurance premiums, and costs not covered by insurance in connection with the damage to our buildings. For example, in 2017, we recorded an estimated \$24 million in losses associated with Hurricanes Harvey and Irma (\$13 million in casualty-related losses from property damage, storm preparation and clean-up, and \$11 million in losses not covered by insurance), and we spent approximately \$3 million for wind and flood insurance. If such combined costs (\$27M) increased an average of 10% each year over the next 5 years, it would cost HCP an additional \$13,500,000 as compared to 2017, a substantive increase percentage-wise and in the context of our business operations. It would also cause a substantive strategic impact, as a significant portion of our portfolio includes properties located in hurricane/flood prone areas of the U.S., and could cause the potential for shareholder concern.

**Management method**

Methods we are using to manage these risks include the implementation at our properties of emergency preparedness policies and procedures outlining the key processes, individuals, tools and equipment, and safety measures necessary in the event of extreme weather including pre-storm preparation and post-storm cleanup activities. For example, each year HCP hosts an annual conference for our tenants and operators, in which best practices, key emergency processes, and safety measures are covered in training sessions and interactive focus-groups. The knowledge obtained and implemented from these sessions aids in managing the risk of increased capital costs related to damages to our buildings, because certain damages could be lessened or eliminated if proper preparation steps are followed (i.e., sandbags added around flood-prone areas of properties when over 2 inches of rain is forecasted). Additionally, we strive to maintain and build upon our investment grade corporate financial structure to aid in decreasing our insurance rates as a result of demonstrating our financial stability, and we negotiate competitive insurance rates through a bidding process to ensure we receive the lowest rates. Such management methods outlined herein are a part of our normal business practices, so do not cost us anything (\$0.00) in the way of managing these climate-related risks.

#### **Cost of management**

0

#### **Comment**

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#### **Identifier**

Risk 2

#### **Where in the value chain does the risk driver occur?**

Direct operations

#### **Risk type**

Physical risk

#### **Primary climate-related risk driver**

Chronic: Rising mean temperatures

#### **Type of financial impact driver**

Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

#### **Company- specific description**

Risks driven by changes in physical climate parameters such as a rising mean temperatures include increased operating costs due to higher cooling expenses, especially in the properties we own throughout the upper Midwest, Southwest and Southeast of the U.S. where it is much warmer. Such increased costs could pose a significant financial impact to our company as it would affect all of our boundary properties. Pr

oactively upgrading or replacing inefficient HVAC systems in the short-term, in advance of potential rising mean temperatures over the long-term, allows us to start incurring efficiency savings immediately to off-set some of the costs associated with the implementation of the efficient HVAC systems. According to NOAA, the average annual temperature in 2017 was 54.6 degrees Fahrenheit, 2.6 degrees greater than the average temperature for the 20th century. We believe this trend could continue throughout the 21st century on a global level.

**Time horizon**

Long-term

**Likelihood**

Virtually certain

**Magnitude of impact**

High

**Potential financial impact**

51200000

**Explanation of financial impact**

The estimated financial implications resulting from a rising mean temperature include increased operating costs from higher cooling expenses. For example, we spent \$64.3 million in energy expenses on our boundary properties in 2017. A 10% increase in such expenses due to increased cooling needs resulting from a rising mean temperature could cost us an additional \$6.4 million annually as compared to 2016, and over the long-term (8 years, for example) could cost \$51.2 million. We believe physical climate-related risks such as rising mean temperatures could increase annually over the long-term and could have the potential to generate a substantive increase in our expenditures.

**Management method**

Methods we are using to manage risks driven by rising mean temperatures include proactively upgrading or replacing inefficient HVAC systems with efficient HVAC systems in the short-term to begin incurring cost savings in advance of any rise in mean average temperature over the long-term. For example in 2017, we proactively implemented 108 HVAC projects at our buildings, resulting in these buildings becoming a more efficient product. Implementing such equipment now will aid in mitigating the risks of any increased costs in the future. The 108 HVAC efficiency projects we implemented cost approximately \$6.6 million.

**Cost of management**

6600000

**Comment**

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**Identifier**

Risk 3

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

Direct operations

**Risk type**

Transition risk

**Primary climate-related risk driver**

Reputation: Shifts in consumer preferences

**Type of financial impact driver**

Reputation: Reduced revenue from decreased demand for goods/services

**Company- specific description**

Reputational risks driven by shifts in consumer preferences include not being perceived as a green-minded company by the increasing number of tenants who consider the sustainability attributes of a building as a key factor in their leasing and leasing renewal decisions. For example, our life science property, The Cove, is certified LEED silver, and is 100% leased, and is in high demand. If we were unable to provide energy efficient space to those tenants that prefer it, and any of our tenants chose to relocate due to a negative sustainability-related reputation associated with being unable to provide such space, it could lessen the demand for our buildings resulting in reduced revenues. As an owner of properties across the U.S., this would substantively impact HCP financially and strategically, as it would affect our entire portfolio. It is therefore imperative that we maintain and expand on our esteemed sustainability reputation by offering efficient green space, and retain those tenants that prefer to lease such space.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

High

**Potential financial impact**

328000000

**Explanation of financial impact**

The estimated financial implications from reduced demand for our buildings resulting in decreased rental revenue from lost tenants would be significant. For example, we earned \$1.64 billion in rental related revenues for those properties within our bo



undary in 2017. A 5% decrease from such lost tenants could cost us \$82 million in lost revenues annually as compared to 2017, and over the medium-term (4 years, for example) could cost \$328 million. We believe the inherent risk of shifts in consumer preferences, such as tenants increasingly preferring to do business with sustainable companies offering efficient space to lease, will increase and has the potential to generate a substantive change in our revenues over time if not properly mitigated.

#### **Management method**

Methods we are using to manage the inherent reputational risk of being perceived as an unsustainable company driven by shifts in consumer preferences who increasingly prefer to lease green space include pursuing LEED certifications and engaging tenants in our sustainable business strategy through our annual tenant satisfaction survey. For example, HCP now requires all new developments to be LEED certified, and at this time we are implementing about 2 developments a year. Additionally, in 2017, our tenant satisfaction survey included several questions related to Green Initiatives, including tenant satisfaction with our commitment to sustainability, their likelihood of participating in our programs, how various initiatives would influence their rental decision and the importance of sustainability to their employees and customers. The implementation of these measures and practices will appeal to those tenants who prefer to lease from sustainability-minded companies that offer efficient space, and aid in maintaining our esteemed sustainability reputation among our tenants. We believe these actions are likely to reduce reputational risks driven by shifts in consumer preferences by solidifying our esteemed sustainability reputation to tenants. The costs associated with LEED certified properties can average about \$500,000 (x 2 a year), while the cost to administer our annual tenant satisfaction survey is approximately \$52,500.

#### **Cost of management**

1052500

#### **Comment**

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## C2.4

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

Yes

## C2.4a

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

**Identifier**

Opp1

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

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Shift in consumer preferences

**Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

**Company- specific description**

A climate-related opportunity identified by HCP driven by a shift in consumer preferences includes the increasing number of tenants who consider efficient space as a key factor in their leasing and leasing renewal decisions. As an owner of healthcare real estate across the U.S., this opportunity could pose a substantive impact on HCP in the way of increased lease revenue, through the increased demand by and attraction of new tenants whose changing behavior in the way of combatting climate change choose to relocate to our properties because of the sustainable features our buildings offer. For example, our life science property, The Cove in San Diego, CA, is certified LEED silver, is 100% leased, and is in high demand. Life Science properties in general are in high demand in San Diego, but feedback from current and potential tenants indicates a strong preferred and increasing interest in efficient space. Additionally, such opportunity could also give us an advantage over those competitors that do not offer or do not offer as much of the efficient space increasingly desired by tenants.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

High

**Potential financial impact**

82000000

### **Explanation of financial impact**

The estimated financial impact includes increased lease revenue derived from the increased demand for efficient lower emission buildings. For example, we earned \$1.64 billion in rental-related revenues within our boundary in 2017. A 5% increase in such revenue due to an increased demand for our sustainable buildings would result in an additional \$82 million annually as compared to 2017, and over the medium-term could generate hundreds of millions.

### **Strategy to realize opportunity**

The strategy we are implementing to realize this opportunity include systematically upgrading or replacing inefficient equipment with efficient equipment in our buildings. For example in 2017, we implemented 227 projects to improve the efficiency of our buildings including lighting retrofits and energy management systems, resulting in these buildings becoming a more efficient product. Additionally, we continue to pursue LEED certifications for our buildings, and HCP now requires all new developments to be LEED certified, and at this time we are implementing about 2 developments a year. The 227 efficiency projects cost approximately \$13 million, and the costs associated with LEED certifications is approximately \$500,000 per building, and if we are able to certify 2 buildings a year, it could cost us about \$1 million annually.

### **Cost to realize opportunity**

14000000

### **Comment**

---

#### **Identifier**

Opp2

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

Direct operations

#### **Opportunity type**

Resource efficiency

#### **Primary climate-related opportunity driver**

Move to more efficient buildings

#### **Type of financial impact driver**

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

#### **Company- specific description**

Opportunities identified by HCP that are driven by the use of more efficient buildings include reduced operating costs resulting from the efficiency gains and related cost savings generated from the installation and implementation of efficient equipment.

t. As an owner of healthcare real estate across the U.S., the efficient use of our natural resources is important to protect our planet and to provide efficient space for our operators and tenants that features efficient equipment. Additionally, as a publicly traded company, the reduced operating costs generated can improve our balance sheet, benefitting our shareholders.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-high

**Potential financial impact**

6400000

**Explanation of financial impact**

The estimated financial implications resulting from use of more efficient equipment in our buildings include reduced energy usage and monthly bills resulting in reduced operating costs. For example, we spent \$64.3 million in energy expenses on our boundary properties in 2017. A 10% decrease in such expenses due to savings incurred from the installation and implementation of efficient equipment (LED lighting, HVACs, etc.) could generate an additional \$6.4 million annually as compared to 2017, and over the medium-term could generate over \$51 million.

**Strategy to realize opportunity**

The strategy we are implementing to realize this opportunity include systematically upgrading or replacing inefficient equipment with efficient equipment in our buildings. For example in 2017, we implemented 227 projects to improve the efficiency of our buildings including lighting retrofits and energy management systems, resulting in these buildings becoming a more efficient product. Additionally, we continue to pursue LEED certifications for our buildings, and HCP now requires all new developments to be LEED certified, and at this time we are implementing about 2 developments a year. The 227 efficiency projects cost approximately \$13 million, and the costs associated with LEED certifications is approximately \$500,000 per building, and if we are able to certify 2 buildings a year, it could cost us about \$1 million annually.

**Cost to realize opportunity**

14000000

**Comment**

---

**Identifier**

Opp3

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

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Type of financial impact driver**

Better competitive position to reflect shifting consumer preferences, resulting in increased revenues

**Company- specific description**

A climate-related opportunity identified by HCP driven by the expansion of low emission goods (i.e., increasing the number of efficient buildings we offer) includes the attraction of an increased number of tenants (and related lease revenue). If we can provide more efficient building leasing options than our competitors in direct response to the shifting (increasing) number of tenants preferring to lease efficient space, we can capitalize from the tenants gained that choose to lease from us rather than our competitors, due to our expanded efficient leasing options we offer that our competitors do not. As an owner of healthcare real estate across the U.S., this opportunity could pose a substantive impact on HCP, as a better competitive position which could increase our revenues.

**Time horizon**

Medium-term

**Likelihood**

About as likely as not

**Magnitude of impact**

Medium-high

**Potential financial impact**

36800000

**Explanation of financial impact**

The estimated financial impact from this opportunity includes increased revenue. For example, we earned approximately \$1.84 billion in operational revenue in 2017, and a 2% increase due to revenue from tenants gained over our competitors could generate an additional \$36.8 million as compared to 2017, and could generate hundreds of millions over time.

**Strategy to realize opportunity**

The strategy we are implementing to realize this opportunity include continuing to pursue LEED certifications for our buildings, and HCP now requires all new developments to be LEED certified, and at this time we are implementing about 2 developments a year. The costs associated with LEED certifications is approximately \$500,000 per building, and if we are able to certify 2 buildings a year, it could cost us about \$1 million annually.

**Cost to realize opportunity**

1000000

**Comment**

---

**C2.5**

---

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

	Impact	Description
Products and services	Impacted	Climate-related risks and opportunities have impacted the "products and services" (i.e., our buildings) area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Supply chain and/or value chain	Impacted	Climate-related risks and opportunities have impacted the supply chain (i.e., our building operators) area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Adaptation and mitigation activities	Impacted	Climate-related risks and opportunities have impacted the adaptation and mitigation activities area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Investment in R&D	Not impacted	This is not applicable to HCP as an owner of real estate that does not produce a product in the traditional sense.
Operations	Impacted	Climate-related risks and opportunities have impacted the supply chain (i.e., our building operators) area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Other, please specify	Please select	

## C2.6

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

	Relevance	Description
Revenues	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the revenues area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Operating costs	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the operating costs area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which decrease operating costs. The magnitude of the related impacts are high, as it affects our entire portfolio and ultimately our revenue.
Capital expenditures / capital allocation	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the capital expenditures/capital allocation area of our business, as both have resulted in the implementation of energy and cost saving equipment at our properties, which required increasing our CapEx budget. The magnitude of the related impacts are high, as additional expenditures affects our balance sheet.
Acquisitions and divestments	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the acquisitions and divestments area of our business, as both have resulted in the consideration of efficiency and the savings generated when considering an acquisition. The magnitude of the related impact is low, as there are several other considerations included when considering an acquisition.
Access to capital	Not impacted	Climate-related risks and opportunities have not impacted our access to capital as a real estate owner.
Assets	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the assets area of our business, as both have resulted in investments in our assets (our buildings) to make them more efficient. The magnitude of the related impacts are high, as the efficient operation of our assets (buildings) affect our operating costs and ultimately our revenue.
Liabilities	Impacted	Climate-related risks and opportunities have factored into our financial planning process of the liabilities area of our business, as both have resulted in investments in our assets (our buildings) as mitigation or realization strategies to lessen liabilities. The magnitude of the related impacts are high, as the efficient operation of our assets (buildings) affect our operating costs and ultimately our revenue.
Other	Please select	

## C3. Business Strategy

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### C3.1

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

Yes

### C3.1a

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

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

### C3.1c

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

i). Climate-related issues have influenced and are integrated into our business strategy and objectives. Our business strategy is to invest and manage our real estate portfolio for the long-term to maximize the benefit to our stakeholders and support the growth of our business, including our dividends. Maintaining a strong, flexible balance sheet, alignment with preferred operators and tenants, and enhancing our operational excellence are strategic objectives in support of our business strategy. The methods in which we invest and manage our portfolio for the long-term are primarily driven by financial performance, but also include environmental performance considerations - a specific adjustment to our business strategy directly influenced by climate-related issues.

For example, installing energy efficient equipment and technologies and ensuring that our buildings are managed with environmental efficiency in mind, aids in reducing emissions while improving environmental performance and cost savings. Each of these outcomes support our strategy of investing and managing our portfolio for the long-term as well as our objective to enhance operational excellence. (ii) Business Strategy Linked to Emissions Reductions Target. Our strategy to invest in and manage our r



real estate portfolio for the long-term includes the continued investments in our buildings to make them high-performing environmentally efficient buildings, and such high environmental performance is reliant upon reduced emissions. The energy efficient equipment and technologies in which we invest to achieve our business strategy reduces emissions, allowing us to meet our emissions reduction targets (annual and long-term), which represents a direct link between our business strategy and emissions reduction targets. (iii) Substantial business decisions made influenced by climate change driven aspects of strategy. The most substantial business decision made during the reporting year that was influenced by the climate change driven aspects of our strategy was the decision to increase our capex budget. The increase was to facilitate the implementation of more efficient upgrades at our buildings, which was a direct result of the influence by the climate change driven aspect of our strategy.

### C3.1g

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#### **(C3.1g) Why does your organization not use climate-related scenario analysis to inform your business strategy?**

Climate-related scenario analysis is not used at this time to inform our business strategy because we do not have the staff to provide such analysis, but we plan to use it in the future.

## C4. Targets and performance

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### C4.1

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

Both absolute and intensity targets

### C4.1a

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

**Target reference number**

Abs 1

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

95

**% reduction from base year**

15

**Base year**

2011

**Start year**

2011

**Base year emissions covered by target (metric tons CO2e)**

233194

**Target year**

2020

**Is this a science-based target?**

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

**% achieved (emissions)**

100

**Target status**

Underway

**Please explain**

Our long-term goal is a 15% reduction in absolute emissions by 2020 from our 2011 baseline. Due to the acquisitions and dispositions affecting our portfolio annually on a quarterly basis, this goal is tracked by comparing rolling base year reductions year-over-year, and to date we have achieved a 19.7% reduction, surpassing our goal to be reached in 2020.

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**C4.1b**

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

**Target reference number**

Int 1

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

95

**% reduction from baseline year**

15

**Metric**

Metric tons CO2e per square foot\*

**Base year**

2011

**Start year**

2011

**Normalized baseline year emissions covered by target (metric tons CO2e)**

0.012985732

**Target year**

2020

**Is this a science-based target?**

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

**% achieved (emissions)**

100

**Target status**

Underway

**Please explain**

Our long-term goal is a 15% reduction in emissions intensity by 2020 from our 2011 baseline. Due to the acquisitions and dispositions affecting our portfolio annually on a quarterly basis, this goal is tracked by comparing rolling base year reductions year-over-year, and to date we have achieved a 19.7% reduction, surpassing our goal to be reached in 2020.

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

-19.7

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

0

---

## C4.2

---

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

**Target**

Waste

**KPI – Metric numerator**

metric tonnes

**KPI – Metric denominator (intensity targets only)**

N/A

**Base year**

2011

**Start year**

2011

**Target year**

2020

**KPI in baseline year**

16374

**KPI in target year**

13918

**% achieved in reporting year**

29

**Target Status**

Underway

**Please explain**

Our long-term goal is a 15% reduction in waste by 2020 from our 2011 baseline. Due to the acquisitions and dispositions affecting our portfolio annually on a quarterly basis, this goal is tracked by comparing rolling base year reductions year-over-year,

and to date we have achieved a 4.33% reduction in waste, which represents 29% of our 15% by 2020 reduction goal.

**Part of emissions target**

N/A

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

---

**Target**

Energy usage

**KPI – Metric numerator**

kWh

**KPI – Metric denominator (intensity targets only)**

N/A

**Base year**

2011

**Start year**

2011

**Target year**

2020

**KPI in baseline year**

493025000

**KPI in target year**

419071250

**% achieved in reporting year**

67

**Target Status**

Underway

**Please explain**

Our long-term goal is a 15% reduction in absolute energy usage by 2020 from our 2011 baseline. Due to the acquisitions and dispositions affecting our portfolio annually on a quarterly basis, this goal is tracked by comparing rolling base year reduction year-over-year, and to date we have achieved a 10.01% reduction in absolute energy usage, which represents 67% of our 15% by 2020 reduction goal.

**Part of emissions target**

N/A

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

---

**Target**

Energy usage

**KPI – Metric numerator**

kWh

**KPI – Metric denominator (intensity targets only)**

ft<sup>2</sup>

**Base year**

2011

**Start year**

2011

**Target year**

2020

**KPI in baseline year**

27.593

**KPI in target year**

23.454

**% achieved in reporting year**

49

**Target Status**

Underway

**Please explain**

Our long-term goal is a 15% reduction in energy usage intensity by 2020 from our 2011 baseline. Due to the acquisitions and dispositions affecting our portfolio annually on a quarterly basis, this goal is tracked by comparing rolling base year reduction year-over-year, and to date we have achieved a 7.33% reduction in energy usage intensity, which represents 49% of our 15% by 2020 reduction goal.

**Part of emissions target**

N/A

**Is this target part of an overarching initiative?**

No, it's not part of an overarching initiative

---

## C4.3

---

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

Yes

### C4.3a

---

**(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO<sub>2</sub>e savings.**

	Number of projects	Total estimated annual CO <sub>2</sub> e savings in metric tonnes CO <sub>2</sub> e (only for rows marked *)
Under investigation	73	
To be implemented*	73	1569
Implementation commenced*	54	1161
Implemented*	227	3717
Not to be implemented	0	0

### C4.3b

---

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

**Activity type**

Energy efficiency: Building services

**Description of activity**

Lighting

**Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)**

64

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

11298

**Investment required (unit currency – as specified in CC0.4)**

20844

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

6-10 years

**Comment**

Lighting motion and occupancy sensor projects

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

HVAC

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

28

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

5664

**Investment required (unit currency – as specified in CC0.4)**

4320

**Payback period**

<1 year

**Estimated lifetime of the initiative**

11-15 years



**Comment**

HVAC (building setback) projects

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Building controls

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

37

**Scope**

Scope 1

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

7931

**Investment required (unit currency – as specified in CC0.4)**

21726

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Programmable thermostat projects

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Building controls

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

1241

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

244747

**Investment required (unit currency – as specified in CC0.4)**

1554368

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Energy Management System projects

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Lighting

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

1007

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

214134

**Investment required (unit currency – as specified in CC0.4)**

1401329

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Lighting retrofit projects

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

HVAC

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

281

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

57146

**Investment required (unit currency – as specified in CC0.4)**

197409

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

HVAC equipment replacement projects (under 10 tons). Note: Investment required is the premium cost for a high efficiency replacement over a standard efficiency unit.

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

HVAC

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

809

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

159313

**Investment required (unit currency – as specified in CC0.4)**

791037

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

HVAC equipment replacement projects (over 10 tons). Note: Investment required is the premium cost for a high efficiency replacement over a standard efficiency unit.

---

**Activity type**

Energy efficiency: Processes

**Description of activity**

Combined heat and power

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

28

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

5313

**Investment required (unit currency – as specified in CC0.4)**

51691

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

16-20 years

**Comment**

Boiler replacement projects. Note: Investment required is the premium cost for a high efficiency replacement over a standard efficiency unit.

---

**Activity type**

Energy efficiency: Building fabric

**Description of activity**

Other, please specify (White/reflective surface roof projects)

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

120

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

25067

**Investment required (unit currency – as specified in CC0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

16-20 years

**Comment**

White and/or reflective surface roof projects. Note: Investment required is the premium cost for a high efficiency replacement over a standard efficiency unit. Since there is no premium costs for a white/reflective roof, the investment for energy savings is zero.

---

**Activity type**

Energy efficiency: Building services

**Description of activity**

Other, please specify (Window tint and sealant projects)

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

102

**Scope**

Scope 2 (location-based)

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in CC0.4)**

20525

**Investment required (unit currency – as specified in CC0.4)**

108658

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

11-15 years

**Comment**

Window tint and sealant projects

---

**C4.3c**

---

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

Method	Comment
Dedicated budget for energy efficiency	Our dedicated energy efficiency ("green") budget is utilized for those projects identified as energy savings opportunities. Based upon the input from our Capital Asset Management team and our third party management companies, projects are identified that are capable of reducing emissions and are added to the green budget. We also employ internal best practices to identify potential efficiency savings that may be incurred at our properties, and assess a comprehensive range of projects and practices that can reduce emissions (and water consumption), all of which aid in driving investments in our emissions reduction activities.
Financial optimization calculations	Considerations of payback in number of years and Return on Investment (ROI) are key components to any energy saving/emission reduction project and aid in driving investments in our emissions reduction activities.
Internal incentives/recognition programs	Each year, we host an annual conference for our third-party property managers, maintenance personnel and leasing agents to interact, share best practices, and discuss policies, goals and objectives for the year. Achievements are highlighted and recognition awarded for emission reduction activities such as ENERGY STAR certifications. The feedback received and information learned at the recognition programs held at our annual conference drive energy reduction and best practice initiatives through our third party management companies.

## C4.5

---

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

Yes

## C4.5a

---

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

**Level of aggregation**

Group of products

**Description of product/Group of products**

We implement emission reduction projects, equipment and initiatives (i.e., products/services) in our buildings that directly enable GHG emissions to be avoided by the third party entities that occupy the building— our tenants and operators. By reducing emissions in our buildings, our partners living and/or working there may also reap the benefits of avoiding emissions, as well as lower energy costs. Set forth below are a few specific examples of our emissions avoiding activities and estimates of the amount of emissions in metric tons that were avoided during this one year period: 1) 13 lighting motion and occupancy sensor projects with an estimated annual CO<sub>2</sub>e savings of 64 MTs; 2) 3 HVAC building setback projects with an estimated annual CO<sub>2</sub>e savings of 28 MTs; 3) 10 programmable thermostat projects with an estimated annual CO<sub>2</sub>e savings of 37 MTs; 4) 19 energy management systems with an estimated annual CO<sub>2</sub>e savings of 1241 MTs; 5) 55 lighting retrofit projects with an estimated annual CO<sub>2</sub>e savings of 1007 MTs; 6) 86 small (< 10 tons) HVAC replacement projects with an estimated annual CO<sub>2</sub>e savings of 281 MTs; 7) 22 large (> 10 tons) HVAC replacement projects with an estimated annual CO<sub>2</sub>e savings of 809 MTs; 8) 3 boiler replacement projects with an estimated annual CO<sub>2</sub>e savings of 28 MTs; 9) 14 white and/or reflective surface roof projects with an estimated annual CO<sub>2</sub>e savings of 120 MTs; and 10) 2 window tint projects with an estimated annual CO<sub>2</sub>e savings of 102 MTs.

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

Avoided emissions

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

Other, please specify (GHG Protocol tools to estimate the CO<sub>2</sub>e )

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

0.5

**Comment**

---

## C5. Emissions methodology

---

### C5.1

---

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

#### **Scope 1**

**Base year start**

January 1 2016

**Base year end**

December 31 2016

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

50387

**Comment**

#### **Scope 2 (location-based)**

**Base year start**

January 1 2016

**Base year end**

December 31 2016

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

273065

**Comment**

#### **Scope 2 (market-based)**

**Base year start**

January 1 2016



**Base year end**

December 31 2016

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

261497

**Comment**

## C5.2

---

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

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

US EPA Climate Leaders: Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment

## C6. Emissions data

---

### C6.1

---

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

50551

**End-year of reporting period**

<Field Hidden>

**Comment****Row 2****Gross global Scope 1 emissions (metric tons CO2e)**

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

**Row 3**

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

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

**Row 4**

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

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

## C6.2

---

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

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

## C6.3

---

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

### Row 1

**Scope 2, location-based**

267191

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

255561

**End-year of reporting period**

<Field Hidden>

**Comment**

### Row 2

**Scope 2, location-based**

<Field Hidden>

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

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

### Row 3

**Scope 2, location-based**

<Field Hidden>

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

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

### Row 4

**Scope 2, location-based**

<Field Hidden>

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

<Field Hidden>

**End-year of reporting period**

<Field Hidden>

**Comment**

<Field Hidden>

## C6.4

---

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

No

## C6.5

---

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

**Purchased goods and services**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO<sub>2</sub>e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

As a real estate owner, purchased goods and services comprise supplies for our corporate office, which is insignificant as we employ less than 200 people.

### **Capital goods**

#### **Evaluation status**

Not relevant, explanation provided

#### **Metric tonnes CO<sub>2</sub>e**

0

#### **Emissions calculation methodology**

N/A

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

0

#### **Explanation**

HCP does not own capital goods outside of those already accounted for in Scope 1 and/or Scope 2 emissions

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

#### **Evaluation status**

Not relevant, explanation provided

#### **Metric tonnes CO<sub>2</sub>e**

0

#### **Emissions calculation methodology**

N/A

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

0

#### **Explanation**

HCP is an owner of real estate and does not purchase fuels outside of those already accounted for in Scope 1 and/or Scope 2 emissions

### **Upstream transportation and distribution**

#### **Evaluation status**

Not relevant, explanation provided

#### **Metric tonnes CO<sub>2</sub>e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP is an owner of real estate and does not produce goods that require upstream transportation or distribution.

**Waste generated in operations****Evaluation status**

Relevant, calculated

**Metric tonnes CO<sub>2</sub>e**

16290

**Emissions calculation methodology**

Using the waste reduction Model (WARM) for landfill waste of 42,575 metric tons (46,931 short tons), the Scope 3 emissions were calculated using the mixed solid waste (MSW) category. The Scope 3 emissions were 16,290 metric tons CO<sub>2</sub>e.

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

100

**Explanation****Business travel****Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO<sub>2</sub>e****Emissions calculation methodology**

N/A

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

0

**Explanation**

As a real estate owner, business travel from our corporate office is insignificant, as we employ less than 200 people and only a small fraction engage in travel related to business.

### **Employee commuting**

#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO<sub>2</sub>e**

580

#### **Emissions calculation methodology**

HCP's methodology for calculating its Scope 3 emissions for employee commuting is based on an estimate of annual distance traveled by employees during their commute to HCP. Upon surveying our employees, we estimate that the average commuting distance for each employee is 16.5 miles (one-way), which results in a total commuting distance of 33 miles per day. In addition, we estimated that our employees work a total of 47 weeks per year, which assumes a five-day work week and does not include days not worked due to vacation, sick time and holidays. Based on these estimates, HCP calculates that each employee commutes a total of 7,755 miles per year (i.e., 33 miles per day x 5 days per week x 47 weeks). Consequently, to calculate the CO<sub>2</sub>e emissions based on the annual distance traveled by employees during their commute to HCP, we utilized the GHG Protocol Emissions from Mobile Sources Tool (World Resources Institute, 2013, GHG Protocol tool for mobile combustion, version 2.5) and inputted 7,755 miles per year and 23 miles per gallon for a passenger car (gasoline powered – Year 2005 to present) resulting in a calculation of 3.05 metric tonnes CO<sub>2</sub>e per employee (excluding biofuel CO<sub>2</sub>). Multiplying this result by the number of HCP employees (190) results in total emissions of 580 metric tonnes CO<sub>2</sub>e. This total likely overestimates HCP's Scope 3 emissions for employee commuting given that it assumes 100% of employees commute to work via passenger car, and that each employee always commutes alone to work.

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

0

#### **Explanation**

### **Upstream leased assets**

#### **Evaluation status**

Not relevant, explanation provided

#### **Metric tonnes CO<sub>2</sub>e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP is an owner of real estate and our leased assets are accounted for in Scope 1 and/or Scope 2 emissions.

**Downstream transportation and distribution****Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP is an owner of real estate and does not produce goods that require downstream transportation or distribution.

**Processing of sold products****Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP is an owner of real estate and does not process sold products.



## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

0

### Emissions calculation methodology

N/A

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

0

### Explanation

HCP is an owner of real estate and does not sell products.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

0

### Emissions calculation methodology

N/A

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

0

### Explanation

HCP is an owner of real estate and does not sell products.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Metric tonnes CO2e

0

### Emissions calculation methodology

N/A

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

0

**Explanation**

HCP's downstream leased assets are accounted for in our Scope 1 and/or Scope 2 emissions disclosure.

**Franchises**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP is an owner of real estate and does not own franchises.

**Investments**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

HCP's invests in real estate assets which are accounted for in our Scope 1 and/or Scope 2 emissions disclosure.

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

None identified.

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Metric tonnes CO2e**

0

**Emissions calculation methodology**

N/A

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

0

**Explanation**

None identified.

**C6.7**

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**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

No

**C6.10**

---

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

**Intensity figure**

0.00019403

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

317742

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1637558224

**Scope 2 figure used**

Location-based

**% change from previous year**

15.1

**Direction of change**

Decreased

**Reason for change**

The reason for the decrease was due primarily to emission reduction activities and initiatives we implemented, including efficiency upgrades and replacements. An increase in revenue due to changes in our boundary resulting from acquisitions and dispositions also contributed slightly to the decrease.

---

**Intensity figure**

1672

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

317742

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

190

**Scope 2 figure used**

Location-based

**% change from previous year**

2.8

**Direction of change**

Decreased

**Reason for change**

The reason for the decrease was due primarily to emission reduction activities and initiatives we implemented, including efficiency upgrades and replacements. A minor increase in total FTEs (2 employees) also contributed slightly to the decrease.

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## C7. Emissions breakdowns

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### C7.1

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**(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?**

Yes

### C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO <sub>2</sub> e)	GWP Reference
CH <sub>4</sub>	104	IPCC Fifth Assessment Report (AR5 – 100 year)
N <sub>2</sub> O	78	IPCC Fifth Assessment Report (AR5 – 100 year)
CO <sub>2</sub>	45919	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	1286	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (R404A)	1391	Other, please specify (ASHRAE Standard 34)

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
Other, please specify (R410A)	1773	Other, please specify (ASHRAE Standard 34)

## C7.2

---

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	50551

## C7.3

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

By business division

### C7.3a

---

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

Business division	Scope 1 emissions (metric ton CO2e)
Medical Office	18557
Life Science	8859
Senior Housing	23135

## C7.5

---

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	267191	255560	611665	611665

**C7.6**

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

By business division

**C7.6a**

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Medical Office	133012	125722
Life Science	12223	11553
Senior Living	121956	118285

**C7.9**

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

Decreased

## C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	1.92	Decreased	0	There was a 1.922 CO2e metric tonnes reduction in Solar Power consumed in 2017 compared to 2016. Equation: (2017 solar emission - 2016 solar emission) / (2016 actual scope 1 and 2 emissions) yields $(112.437 - 114.359)/360147 = -0.00053\%$ which is negligible.
Other emissions reduction activities	8054	Decreased	2.24	We implemented 590 projects which include 2017 projects and any 2016 projects that impacted 2017. Last year (including those 2016 projects that impacted 2017), 8,054 metric tonnes CO2e were reduced by our emissions reduction activities, and our total Scope 1 and Scope 2 emissions in the previous year (actual 2016 base year) was 360,147, therefore we arrived at 2.24% using the calculation: $(8054/360147) \times 100 = 2.24\%$ .
Divestment	944.26	Decreased	0.26	8 Boundary building assets were sold in 2017 totaling 944.26 metric tonnes of CO2e scope 1 and 2. Equation: $944.26 \text{ metric tonnes} / 360147 \text{ metric tonnes} = 0.26\%$ .
Acquisitions	4895.84	Increased	1.36	43 Boundary building assets Acquired in 2017 totaling 4895.84 metric tonnes of CO2e Scope 1 and 2. Equation: $4895.84 / 360147 = 1.36\%$ .
Mergers	0	No change	0	N/A
Change in output	0	No change	0	N/A
Change in methodology	28510	Decreased	7.92	In February 2018, the EPA released an updated version of the eGRID dataset (EPA EGRID 2016). HCP utilized this updated dataset which reflects the increasing renewable energy mix that is occurring throughout the majority of the US eGRID regions. When comparing the updated eGRID 2016 factors to the same subset of data using the EPA eGRID 2014v2 factors, the result is a decrease of 28510 CO2e metric tonnes in emissions from purchased electricity from 2014v2 to 2016v1 for 2017. This equates to a 7.92% decrease in total scope



	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
				e 1 and 2 GHG for 2017. Equation: $28510/360147 = 7.92\%$
Change in boundary	1496.13	Increased	0.42	2 properties increased boundary control from 0% to 100% and 1 property decreased boundary control from 100% to 0% for a total of 1496.13 metric tonnes of CO2e scope 1 and 2. Equation: $1496.13 / 360147 = 0.42\%$ .
Change in physical operating conditions	0	No change	0	N/A
Unidentified	18434.77	Decreased	5.12	The formula for this items is as follows: $-1.922 - 8054 - 944.28 + 4895.84 - 28510 + 1496.13 + X + 7148 = -42405$ . $X = -18434.77$ metric tonnes CO2e scope 1 and 2. Equation: $18434.77 / 360147 = 5.1\%$ . This additional reduction in emissions is estimated to be part of no cost operational control of our boundary buildings where thermostats and energy management systems are adjusted to optimize building performance plus any additional energy savings projects that were not identified in the line item above.
Other	7148	Increased	1.98	Our data shows a GHG intensity (Total Metric Tons Scope 1 and 2 CO2e/Total Degree Days) of 0.149 in 2016 and 0.146 in 2017. We use the geolocation of nearby weather stations and the asset zip codes to arrive at a total degree days per asset. When the reported energy data in kbtu is normalized by total degree days, the comparison between the baseline year of 2016 and the reporting year of 2017 results in a 1.64% decrease in overall energy intensity. There was a total increase of 0.51% in total degree days between 2016 and 2017 which resulted in an overall GHG intensity decrease of 2.25% (7148 CO2e metric tonnes) between 2016 and 2017. Thus reported 2017 had a 2.25% GHG increase impact as compared to 2016. Equation: $\Delta \text{GHG increase (metric tonnes)} / 2016 \text{ Actual CO2e metric tonnes} = 7148/360147 = 1.98\%$

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

Location-based

## C8. Energy

---

### C8.1

---

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

More than 5% but less than or equal to 10%

### C8.2

---

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

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

## C8.2a

---

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	249605	249605
Consumption of purchased or acquired electricity	<Field Hidden>	0	604105	604105
Consumption of purchased or acquired heat	<Field Hidden>	<Field Hidden>	<Field Hidden>	<Field Hidden>
Consumption of purchased or acquired steam	<Field Hidden>	0	2570	2570
Consumption of purchased or acquired cooling	<Field Hidden>	0	4522	4522
Consumption of self-generated non-fuel renewable energy	<Field Hidden>	468	<Field Hidden>	468
Total energy consumption	<Field Hidden>	468	860802	861270

## C8.2b

---

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

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

## C8.2c

---

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

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

235220

**MWh fuel consumed for the self-generation of electricity**

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

1175

**MWh fuel consumed for the self-generation of electricity**

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

---

**Fuels (excluding feedstocks)**

Motor Gasoline

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

9810

**MWh fuel consumed for the self-generation of electricity**

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

3400

**MWh fuel consumed for the self-generation of electricity**

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

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

<Field Hidden>

---

## C8.2d

---

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

### **Acetylene**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

### **Agricultural Waste**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

### **Alternative Kiln Fuel (Wastes)**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Animal Fat**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Animal/Bone Meal**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Anthracite Coal**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Asphalt****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Aviation Gasoline****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Bagasse****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Bamboo****Emission factor**



<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Basic Oxygen Furnace Gas (LD Gas)**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biodiesel**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biodiesel Tallow**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biodiesel Waste Cooking Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Bioethanol**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biogas**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biogasoline**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biomass Municipal Waste**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Biomethane**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Bitumen**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Bituminous Coal**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Black Liquor**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Blast Furnace Gas**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Brown Coal Briquettes (BKB)**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Burning Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Butane**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Butylene**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Charcoal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Coal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Coal Tar****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Coke****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Coke Oven Gas**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Coking Coal**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Compressed Natural Gas (CNG)**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Condensate**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Crude Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Crude Oil Extra Heavy**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Crude Oil Heavy**

**Emission factor**



<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Crude Oil Light**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Diesel**

**Emission factor**

74.203

**Unit**

kg CO2e per million Btu

**Emission factor source**

Emission Factors for Greenhouse Gas Inventories

**Comment**

**Distillate Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Dried Sewage Sludge**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Ethane**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Ethylene**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Gas**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Oil Number 1**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Oil Number 2**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Oil Number 4**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Oil Number 5**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Fuel Oil Number 6**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Gas Coke**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Gas Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Gas Works Gas****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**GCI Coal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**General Municipal Waste****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Grass**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Hardwood**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Heavy Gas Oil**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Hydrogen**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Industrial Wastes****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Isobutane****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Isobutylene****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Jet Gasoline**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Jet Kerosene**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Kerosene**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Landfill Gas**

**Emission factor**

<Field Hidden>



**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Light Distillate****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Lignite Coal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Liquefied Natural Gas (LNG)****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Liquefied Petroleum Gas (LPG)****Emission factor**

5.704

**Unit**

kg CO2e per gallon

**Emission factor source**

Emission Factors for Greenhouse Gas Inventories

**Comment****Liquid Biofuel****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Lubricants****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Marine Fuel Oil****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Marine Gas Oil****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Metallurgical Coal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Methane****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

### **Motor Gasoline**

**Emission factor**

8.812

**Unit**

kg CO2e per gallon

**Emission factor source**

Emission Factors for Greenhouse Gas Inventories

**Comment**

### **Naphtha**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

### **Natural Gas**

**Emission factor**

53.115

**Unit**

kg CO2e per million Btu

**Emission factor source**

Emission Factors for Greenhouse Gas Inventories

**Comment**

### **Natural Gas Liquids (NGL)**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Natural Gasoline**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Non-Biomass Municipal Waste**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Non-Biomass Waste**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Oil Sands

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Oil Shale

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Orimulsion

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Other Petroleum Gas

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Paraffin Waxes**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Patent Fuel**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**PCI Coal**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Peat

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Pentanes Plus

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Petrochemical Feedstocks

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Petrol

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>



**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Petroleum Coke****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Petroleum Products****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Pitch****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Plastics

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Primary Solid Biomass

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Propane Gas

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Propane Liquid

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Propylene****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Refinery Feedstocks****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Refinery Gas****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Refinery Oil

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Residual Fuel Oil

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Road Oil

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## SBP

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Shale Oil****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Sludge Gas****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Softwood****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## **Solid Biomass Waste**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Special Naphtha**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Still Gas**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Straw**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Subbituminous Coal****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Sulphite Lyes****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Tar****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## **Tar Sands**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Thermal Coal**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Thermal Coal Commercial**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>

### **Emission factor source**

<Field Hidden>

### **Comment**

<Field Hidden>

## **Thermal Coal Domestic**

### **Emission factor**

<Field Hidden>

### **Unit**

<Field Hidden>



**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Thermal Coal Industrial****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Tires****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Town Gas****Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Unfinished Oils

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Vegetable Oil

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Waste Oils

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Waste Paper and Card

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Waste Plastics**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Waste Tires**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**White Spirit**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

## Wood

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Wood Chips

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Wood Logs

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

### Emission factor source

<Field Hidden>

### Comment

<Field Hidden>

## Wood Pellets

### Emission factor

<Field Hidden>

### Unit

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Wood Waste**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**Other**

**Emission factor**

<Field Hidden>

**Unit**

<Field Hidden>

**Emission factor source**

<Field Hidden>

**Comment**

<Field Hidden>

**C8.2e**

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	468	468	468	468

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

## C8.2f

---

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

### **Basis for applying a low-carbon emission factor**

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

### **Low-carbon technology type**

<Field Hidden>

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

<Field Hidden>

### **Emission factor (in units of metric tons CO<sub>2</sub>e per MWh)**

<Field Hidden>

### **Comment**

---

## C9. Additional metrics

---

### C9.1

---

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

#### **Description**

Other, please specify (Domestic water usage)

**Metric value**

1636210018

**Metric numerator**

Gallons

**Metric denominator (intensity metric only)**

N/A

**% change from previous year**

1.2

**Direction of change**

Decreased

**Please explain**

The reason for domestic water usage decrease is due to utilization of xeriscape – drought resistance plants for landscaping, smart technology irrigation systems and equipment such as low flush toilets and motion sensors for toilets.

---

**Description**

Other, please specify (Recycled waste)

**Metric value**

13518

**Metric numerator**

Metric Tonnes

**Metric denominator (intensity metric only)**

N/A

**% change from previous year**

3.6

**Direction of change**

Increased

**Please explain**

Increases in recycling have reduced the amount of the landfill waste

---

## C10. Verification

---

### C10.1

---

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

	<b>Verification/assurance status</b>
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

### C10.1a

---

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

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

[HCP Assurance Letter - 2017 Environmental and Social Data.pdf](#)

**Page/ section reference**

Pages 1-2

**Relevant standard**

Corporate GHG verification guidelines from ERT



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

100

---

**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

[HCP Assurance Letter - 2017 Environmental and Social Data.pdf](#)

**Page/ section reference**

Pages 1-2

**Relevant standard**

Corporate GHG verification guidelines from ERT

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

100

---

**C10.2**

---

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

No, but we are actively considering verifying within the next two years

**C11. Carbon pricing**

---

**C11.1**

---

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

No, and we do not anticipate being regulated in the next three years

## C11.2

---

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

No

## C11.3

---

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

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

## C12. Engagement

---

### C12.1

---

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

Yes, our suppliers

Yes, our customers

### C12.1a

---

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

**Type of engagement**

Compliance & onboarding

**Details of engagement**

Code of conduct featuring climate change KPIs

**% of suppliers by number**

100

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

100

**% Scope 3 emissions as reported in C6.5**

0

**Rationale for the coverage of your engagement**

In the context of this question, our suppliers would be the third-parties with which we engage, and includes but is not limited to our property managers, consultants, and law firms (i.e., our vendors) that provide services to us as a real estate owner. As part of our compliance and onboarding process, and as a pre-requisite to engagement, each vendor is required to sign a written acknowledgement and agree to comply with our Vendor Code of Business Conduct and Ethics which includes climate-related and efficiency-related provisions. This particular group was selected because it includes all of the partners with which we do business, which affects our company on every level.

**Impact of engagement, including measures of success**

We feel that the impact of this engagement is significant, as it affects all of the partners with which we do business. As a measurement of success, positive outcomes achieved include 100% cooperation from our vendors in our acknowledgement process, as well as positive feedback from vendors that our sustainability-related requirements and best practices have encouraged them to expand upon the sustainability-related engagement mechanisms within their own company.

**Comment**

---

**C12.1b**

---

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

**Type of engagement**

Collaboration & innovation

**Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

**Size of engagement**

100

**% Scope 3 emissions as reported in C6.5**

0

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

Each year HCP holds an annual conference for all of our tenants (i.e., our customers), which serves as an engagement tool and a forum for collaborative sessions to foster discussions and plans of action that we can implement together to aid in reducing the climate-change impacts of the buildings we own. Energy saving initiatives and campaigns are discussed at the conference and collaboratively implemented at our properties that year. For example, as part of an initiative/campaign, we as the owner may install efficiency equipment upgrades, and our tenants may engage in energy conservation measures, resulting in a collaborative effort to reduce the climate-related impacts of that particular building. This particular group was selected because as an real estate owner, our tenants replit includes all of the partners with which we do business, which affects our company on every level.

**Impact of engagement, including measures of success**

We feel that the impact of this engagement is significant, as tenants represent a key stakeholder group and lease income represents a significant portion of our overall revenue. As a measurement of success, positive outcomes achieved include energy and cost savings generated resulting from the collaborative effort.

---

**C12.3**

---

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

Trade associations

**C12.3b**

---

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

No

## C12.3f

---

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

We have several processes in place to ensure that all of our direct and indirect activities that influence policy are consistent with our overall climate change strategy. Generally, all of our Company's procedures are governed by our corporate governance policies and principles, such as the Code of Business Conduct and Ethics, Vendor Code of Business Conduct and Ethics, and Corporate Governance Guidelines, each of which provide safeguards against practices that are inconsistent with the Company's objectives. These policies are reviewed annually and updated accordingly to ensure that our activities that influence policy are consistent with our overall climate change strategy. Additionally, our Company and both of our Codes of Conduct support efforts that encourage greater energy efficiency. We have established an internal Sustainability Committee that seeks to evaluate, improve and report on the Company's approach to environmental initiatives. These collective processes help to ensure that our direct and indirect activities that influence policy are consistent with our overall climate change strategy.

## C12.4

---

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

**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

[HCP 2017 Annual Report \(10-K\).pdf](#)

**Content elements**

Governance  
Strategy  
Other, please specify (Awards & Achievements)

---

**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

[2018 Shareholder Proxy Statement \(FY 2017\).pdf](#)

**Content elements**

Governance  
Strategy  
Emissions figures  
Other metrics  
Other, please specify (Awards and Recognition)

---

**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

[HCP 2017 Sustainability Report.pdf](#)

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics  
Other, please specify (Awards and Achievements)

---

**C14. Signoff**

---

## C-FI

---

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

## C14.1

---

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

	Job title	Corresponding job category
Row 1	Executive Vice President and Chief Operating Officer	Chief Operating Officer (COO)

## Submit your response

---

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

English

**Please confirm below**

I have read and accept the applicable Terms



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