

Welcome to your CDP Climate Change Questionnaire 2019

C0. Introduction

C0.1

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

Founded in 1979, Seagate is the leading provider of hard drives and data storage solutions. From the videos, music and documents we share with friends and family on social networks, to servers that form the backbone of enterprise data centers and cloud-based computing, to desktop and notebook computers that fuel our personal productivity, Seagate products help more people store, share and protect their valuable digital content. Seagate offers the industry's broadest portfolio of hard disk drives, solid-state drives and solid-state hybrid drives. In addition, the company offers an extensive line of retail storage products for consumers and small businesses, along with data-recovery services for any brand of hard drive and digital media type. Seagate employs approximately 42,000 people around the world.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Row 1	January 1, 2018	December 31, 2018	No

C0.3

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

- China
- India
- Malaysia
- Republic of Korea
- Singapore
- Thailand
- United Kingdom of Great Britain and Northern Ireland
- United States of America

C0.4

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

USD

C0.5

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

Operational control

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	Our CEO and Chairman of the Board has overall responsibility for climate change. Responsibility for climate-related issues has been assigned to our CEO because it is an integral part of our business strategy and the CEO is responsible for our overall business strategy.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy	The CEO briefs the Board of Directors on climate change and sustainability issues on a quarterly basis.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Environment/ Sustainability manager	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Process operation manager	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Facility manager	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

C1.2a

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

As an industry leader, Seagate is committed to developing and maintaining sustainable, responsible practices in its global operations. In line with this, our business strategy, specifically our product development and modification process, takes into consideration the potential implications of climate change. At Seagate, global citizenship is not about doing what is required of us — it is about acting on our responsibility to be stewards of our planet, and to conduct business in the best interest of our stakeholders.

i. The incorporation of climate change into our business strategy is overseen by Seagate's CEO, who is supported by our Sustainability department in efforts to establish the company's corporate social responsibility strategies, ensure adherence to laws, ethical standards and international norms and embrace responsibility for how the company's activities affect stakeholders. Seagate's Sustainability Manager oversees communication between the Sustainability department and the CEO as they relate to climate issues. The CEO reports to the Board on climate-related issues. At the facility-level, Facility Managers have responsibility for tracking and managing environmental impacts, including greenhouse gas emissions, waste generation, and water withdrawal, consumption and discharge.

ii. Responsibility for climate-related issues has been assigned to our CEO because it is an integral part of our business strategy and the CEO is responsible for our overall business strategy. The Sustainability department is tasked with supporting our CEO in managing climate-related issues, given the team's expertise and experience assessing and managing such issues. Additional support is provided by Facility Managers given their capacity to track and manage climate-related issues at a detailed local level.

iii. The Sustainability department is responsible for Seagate's Energy Conservation Program, GHG and Water inventory management, internal and external sustainability reporting,

implementation of Sustainability Policies globally, and environmental risk assessments. These efforts are supported on a facility-level by Facility Manager and overseen by the CEO.

iv. Climate-related issues are monitored primarily through product life cycle assessments (LCAs) and facility-level data collection. Seagate uses a variety of different materials to make its products, and in order to manage product environmental impacts, we strive for a complete understanding of material and chemical content. To achieve this, Seagate works with suppliers to obtain full disclosures on every part and material included in our drives. This information is maintained in a database and is accessible as new material and chemical concerns arise. This detailed material information feeds into our LCAs, which help us understand the environmental impacts of our products. For our operations, Seagate collects facility-level GHG, waste, and water data on a monthly basis. The data collected is used to inform our GHG and water inventories, track and set sustainability goals, and assess environmental performance over time. We also layer environmental data with risk assessment tools, such as WRI Aqueduct, to better understand the risks associated with our resource uses.

C1.3

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

Yes

C1.3a

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

Who is entitled to benefit from these incentives?

Environment/Sustainability manager

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

Our sustainability manager is involved in setting the reduction targets, reporting progress against the target, and supply chain engagement. Compensation and bonuses for this role are based on these performance indicators, as well as others.

Who is entitled to benefit from these incentives?

Facilities manager

Types of incentives

Monetary reward

Activity incentivized

Energy reduction target

Comment

Our facility managers' performance indicators include energy reduction targets and projects. Compensation and bonuses for this role are based on these performance indicators, as well as others.

Who is entitled to benefit from these incentives?

Other C-Suite Officer

Types of incentives

Monetary reward

Activity incentivized

Efficiency target

Comment

Executive bonus is tied to performance on GHG and water reduction targets, which are key metrics within the Senior VP of Business Excellence's department. The Senior VP of Business Excellence reports to the CEO.

C2. Risks and opportunities

C2.1

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

	From (years)	To (years)	Comment
Short-term	0	1	Seagate considers short-term risks to be those occurring in the next twelve months, in alignment with our enterprise-wide planning process.
Medium-term	1	3	Seagate considers medium-term risks to be those occurring in the next 1-3 years, in alignment with our enterprise-wide planning process.
Long-term	3	6	Seagate generally considers long-term risks to be those occurring in the next 3-6 years, in alignment with our enterprise-wide planning process. However, given the long-term nature (2040) of our science-based target, we also consider risks beyond a 6 year time frame.

C2.2

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

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

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	In 2018, Seagate considered risks beyond 6 years when completing analyses for a science-based target. Climate change is a risk that warrants longer term risk assessments and are taking action by 1) setting a science-based target and 2) incorporating green building design in new construction, 3) implementing energy conservation within the company and 3) generating renewable energy on site. Seagate's enterprise wide planning process traditionally considers three years into the future when evaluating risks to company facilities. Seagate conducts multiple risk assessment processes to evaluate climate change and related risks and opportunities and to identify the type, magnitude, and likelihood of these risks and opportunities. Risks are prioritized based on severity and likelihood, and the top five risks are reported up to the Board. The Singapore carbon tax was identified through this process, and the risks associated with this tax are reviewed quarterly.

C2.2b

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

Seagate conducts multiple risk assessment processes that evaluate climate change and related risks and opportunities. Collectively these processes help the company identify the type, magnitude, and likelihood of risks and opportunities associated with climate change. At the company level, Seagate includes climate change and related factors in its annual enterprise risk assessment process. This process is conducted at the corporate level but solicits input from operations staff at all facilities, which is then evaluated by each business group before

results are discussed with and prioritized by senior leadership. As risks are identified, evaluated, and prioritized, subsequent mitigation actions are developed at the company level with input from each business group, as well as individual sites as needed. Seagate's sustainability team also reviews recent studies on climate change, inquiries from stakeholders, and global events as they relate to the company's operations and products as part of its annual sustainability risk review and planning. Results from this review are reported separately to senior leadership to inform company-wide risk assessment. At the asset level, EH&S and operations staff at all production facilities conduct an environmental impact analysis, which considers climate change and related factors, as part of annual reviews in relation to ISO 14001 certification. This assessment considers local conditions in the evaluation of climate change and related risks; results are used to inform facility-level plans for the upcoming year. The team uses a matrix approach that considers impacts to gross margins, revenue and net income to determine the severity of each risk over the medium-term, next 1-2 years. For example, Seagate regularly monitors potential product efficiency regulations & standards that can improve our products. One driver in our effort to evaluate the life cycle impact of our products is ability to better respond to changes in regulation. To date, we have conducted ISO 14044 compliant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact. Our LCAs have enabled us to identify opportunities, such as product packaging improvements and component harvesting. We evaluated virgin expanded polypropylene protective (EPP) foam packaging, compared to recycled polyethylene (PE) foam packaging, ultimately deciding on virgin EPP. Our analysis identified that while recycled PE had a perceived environmental benefit given its recycled content, it was denser than virgin EPP, leading to heavier packaging and therefore increased fuel use during shipping. We also conducted a pilot project on circularity using LCA for one of our customers and discovered that harvesting and reusing magnet components leads to fewer GHG impacts than recycling the same materials. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases.

Seagate defines substantive financial impacts as a change in our business, operations, revenue or expenditure from climate-related risk that would impact our ability to successfully deliver product to 100% of our customers. We use a severity matrix to assess potential changes in our business, which rates risks on a scale of 1 to 5, 1 being a minimum of a \$100 million of potential impact and 5 being a \$500 million or more of potential impact. This applies to our direct operations.

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>We believe that our operations are in material compliance with applicable environmental laws, regulations and permits. We budget for operating and capital costs on an ongoing basis to comply with environmental laws. If additional or more stringent requirements are imposed on us in the future, we could incur additional operating costs and capital expenditures.</p> <p>For example, Seagate regularly monitors potential product efficiency regulations & standards that can improve our products. We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact with focus on energy needs, particularly in the customer use phase. One LCA-related opportunity that was identified is product packaging – we evaluated virgin expanded polypropylene protective (EPP) foam packaging, compared to recycled polyethylene (PE) foam packaging, ultimately deciding on virgin EPP. Our analysis identified that while recycled PE had a perceived environmental benefit given its recycled content, it was denser than virgin EPP, leading to heavier packaging and therefore increased fuel use during shipping. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases.</p>
Emerging regulation	Relevant, always included	<p>The sale and manufacturing of products in certain states and countries may subject us and our suppliers to state, federal and international laws and regulations governing protection of the environment, including those governing discharges of pollutants into the air and water, the management and disposal of hazardous substances and wastes, the cleanup of contaminated sites, restrictions on the presence of certain substances in electronic products and the responsibility for environmentally safe disposal or recycling. We endeavor to ensure that we and our suppliers comply with all applicable environmental laws and regulations, however, compliance may increase our operating costs and otherwise impact future financial results. If additional or more stringent requirements are imposed on us in the future, we could incur additional operating costs and capital expenditures.</p> <p>One example of a current emerging regulation is the Singapore Carbon Tax. We are preparing for the implications of the proposed regulation from the tax, slated to go into effect in 2020. The new Singapore Carbon tax potentially exposes Seagate to taxes in the</p>

		<p>amount of USD 1 Million annually starting in 2020. We are assessing the potential to limit or phase-out the use of chemicals for production that have high global warming potentials (GWPs), which would reduce the potential financial impact of this pricing scheme.</p> <p>We regularly include product efficiency regulations & standards in our climate-related risk assessments that can improve our products. To date, We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact with focus on energy needs, particularly in the customer use phase.</p>
Technology	Relevant, always included	<p>Technology is at the core of Seagate’s business. We face the risk of not meeting customer requests for total cost of ownership (TCO) per EB. Seagate is managing this by investing in new technologies. Seagate also regularly monitors potential product efficiency regulations & standards that can improve our products and support the transition to energy-efficient economic system. We will meet our customer expectations by providing storage solutions at a low TCO. Seagate is currently evaluating the use of a new drive head technology, HAMR, to improve product efficiency per EB. We intend to invest in this new technology by 2020. This new technology will allow us to improve our energy efficiency per EB of storage, and also enable us to remain competitive among storage solution products. To date, we have conducted ISO 14044 compliant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact. One LCA-related opportunity that was identified in product packaging – we evaluated virgin expanded polypropylene protective (EPP) foam packaging, compared to recycled polyethylene (PE) foam packaging, ultimately deciding on virgin EPP. Analysis identified that while recycled PE had a perceived environmental benefit given its recycled content, it was denser than virgin EPP, leading to heavier packaging and therefore increased fuel use during shipping. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we are in the process of developing a two-page specification sheet for each of our drives, which will include information from LCAs, such as energy use and circularity. These spec sheets will help educate consumers about the differences between our drives and allow consumers to make informed purchases.</p>
Legal	Relevant, always included	<p>At all production facilities, Seagate sustainability and operations staff conduct an environmental impact analysis annually, which considers a variety of environmental factors and legal impacts, including those related to climate change. These factors are also included in the</p>

		<p>company's enterprise risk assessment process. This process is conducted annually at a business group level, and inputs are provided by operations staff at all facilities based on local conditions. We identify the type, magnitude, and likelihood of risks and evaluate them based on potential impact to the company and importance to our stakeholders. For our Springtown facilities, the EU Energy Efficiency Directive required us to either conduct an energy audit or implement ISO5001. In response, we implemented ISO5001.</p>
Market	Relevant, always included	<p>Each of our drives is designed to optimize various functions, such as size, speed and power draw. We can help our customers choose the most efficient drive for their needs. Given our increasing focus on reducing life cycle impacts across our product portfolio, we feel we are well positioned to address the market for products that are more efficient and less impactful across all stages of the product life cycle. From our LCA's we determined that the use phase energy consumption for our products was a major contributor to GHG emissions. To address these emissions in the market we have worked with customers to derive an estimated total cost of ownership that includes carbon emissions implications.</p>
Reputation	Relevant, always included	<p>If we fail to comply with applicable environmental laws, regulations, initiatives, or standards of conduct, our customers may refuse to purchase our products and we could be subject to fines, penalties and possible prohibition of sales of our products into one or more states or countries, liability to our customers and damage to our reputation, which could result in a material adverse effect on the financial condition or results of operations. For example, for our Springtown facilities, the EU Energy Efficiency Directive required us to either conduct an energy audit or implement ISO5001. In response, we implemented ISO5001. Compliance with this regulation helps maintain our reputation.</p>
Acute physical	Relevant, always included	<p>Our business operations are subject to interruption by natural disasters such as floods and earthquakes. Such events could decrease demand for our products, make it difficult or impossible for us to make and deliver products to our customers, or to receive components from our suppliers, and create delays and inefficiencies in our supply chain. In the event of a natural disaster, losses and significant recovery time could be required to resume operations and our financial condition and operating results could be materially adversely affected. Additionally, many of our component suppliers are geographically concentrated, in particular, in Thailand, which makes our supply chain more vulnerable to regional disruptions such as the severe flooding in Thailand in October 2011, which had a material impact on the production and availability of many components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In</p>

		fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand.
Chronic physical	Relevant, always included	Chronic physical risks to our facilities are considered for their potential to interrupt or halt supply, particularly as it relates to changing water landscapes. For example, 100-year flood maps have been updated and may pose a risk to our Minnesota location.
Upstream	Relevant, always included	Our business operations are subject to interruption by natural disasters such as floods and earthquakes. Such events could make it difficult or impossible for us to receive components from our upstream suppliers and create delays and inefficiencies in our supply chain. In the event of a natural disaster, losses and significant recovery time could be required to resume operations and our financial condition and operating results could be materially adversely affected. Additionally, many of our component suppliers are geographically concentrated, in particular, in Thailand, which makes our supply chain more vulnerable to regional disruptions such as the severe flooding in Thailand in October 2011, which had a material impact on the production and availability of many components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand.
Downstream	Relevant, always included	Each of our drives is designed to optimize various functions, such as size, speed and power draw. We can help our customers (downstream) choose the most efficient drive for their needs. Given our increasing focus on reducing life cycle impacts across our product portfolio, we feel we are well positioned to address the market for products that are more efficient and less impactful across all stages of the product life cycle.

C2.2d

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

Seagate conducts multiple risk assessment processes that evaluate climate change and related risks and opportunities. Collectively these processes help the company identify the type, magnitude, and likelihood of risks and opportunities associated with climate change. As risks are identified, evaluated, and prioritized, subsequent mitigation actions are developed at the company level with input from each business group, as well as individual sites as needed. At the asset level, EH&S and operations staff at all production facilities conduct an environmental impact analysis, which considers climate change and related factors, as part of annual reviews in relation to ISO 14001 certification. This assessment considers local conditions in the evaluation of climate change and related risks; results are used to inform facility-level plans for the upcoming year. The team uses a matrix approach that considers impacts to gross margins, revenue and net income to determine the severity of each risk over the next 1-2 years.

We have established environmental management systems and continually update environmental policies and standard operating procedures for our operations worldwide, which includes pursuing ISO14001 and ISO50001 at key facilities. Additionally, we engage with key stakeholders on social and environmental issues to provide us with the insights and relationships needed to make well-informed business decisions. One of our key industry collaborations is with the Responsible Business Alliance (RBA, formerly the Electronic Industry Citizenship Coalition (EICC)), a cooperative of leading electronics companies working to improve social, ethical and environmental responsibility in the global electronics supply chain. Seagate was a founding member of the EICC in 2004. We adopted the RBA Code of Conduct in 2007 and continue to maintain full and active membership in this organization.

Physical Risk: Some examples of physical risks that were prioritized in 2018 are flooding in our operations and supply chain, especially in our facilities located in Southeast Asia, shortages in critical components, equipment or raw materials, such as recording heads and media, and uncertainty in macroeconomic conditions. While the equipment we use to manufacture our products and components is frequently custom made, it comes from a few suppliers, and the lead times required to obtain manufacturing equipment can be significant, we aim to diversify our supply base as much as possible, to prevent shortages in supply and increases in production costs. Additionally, Seagate has implemented a Business Continuity Management System, that includes our supply chain, to address continuity impacted by flooding.

Transition Risk: Through our risk assessment, we have identified emerging climate regulation as a potential risk. For example, Seagate is preparing for the implications of the proposed Singapore Carbon Tax, slated to go into effect in 2020. The new Singapore Carbon tax potentially exposes Seagate to taxes in the amount of USD 1 Million annually starting in 2020. We are taking steps to address the use of certain chemicals of concern and significantly reduce the tax exposure before they begin.

Transition Opportunity: While changing consumer behavior associated with climate change and related factors could affect our business, consumers are currently focused primarily on price and performance when choosing electronics, not on energy efficiency or other sustainability features. Thus, the energy efficiency of our drives is unlikely to sway consumers who are shopping for computers and hard drives today. We feel that we have an opportunity to educate consumers about the choices they make about electronics purchases, including the environmental impacts of those choices. Using the life cycle assessments that we have performed on several categories of drives, we are uniquely positioned to provide consumers with detailed, accurate data regarding the environmental impact of various drive options. We are able to recommend which model and type of storage will meet the energy and carbon requirements for individual customers based on LCA results. This maintains our reputation for providing environmentally sustainable product options.

Physical Opportunity: At this time, no physical climate opportunities have been identified.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

Type of financial impact

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

Company- specific description

The sale and manufacturing of products in certain states and countries may subject us and our suppliers to state, federal and international laws and regulations governing protection of the environment, including those governing discharges of pollutants into the air and water, the management and disposal of hazardous substances and wastes, the cleanup of contaminated sites, restrictions on the presence of certain substances in electronic products and the responsibility for environmentally safe disposal or recycling. We endeavor to ensure that we and our suppliers comply with all applicable environmental laws and regulations, however, compliance may increase our operating costs and otherwise impact future financial results. If additional or more stringent requirements are imposed on us in the future, we could incur additional operating costs and capital expenditures. If we fail to comply with applicable environmental laws, regulations, initiatives, or standards of conduct, our customers may refuse to purchase our products and we could be subject to fines, penalties and possible prohibition of sales of our products into one or more states or countries, liability to our customers and damage to our reputation, which could result in a material adverse effect on the financial condition or results of operations. In 2020, Singapore will be introducing a Carbon Tax that will impact our Singapore facilities.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Seagate anticipates that the Singapore Carbon Tax could expose us to a potential annual tax of \$1,000,000 starting in 2020 if no mitigation actions are taken.

Management method

We have established environmental management systems and continually update environmental policies and standard operating procedures for our operations worldwide, which includes pursuing ISO14001 and ISO50001 at key facilities. We believe that our operations are in material compliance with applicable environmental laws, regulations and permits. We budget for operating and capital costs on an ongoing basis to comply with environmental laws. If additional or more stringent requirements are imposed in the future, we could incur additional operating costs and capital expenditures. We engage with key stakeholders on social and environmental issues, including climate-related issues to provide us with the insights and relationships needed to make well-informed business decisions. Seagate was a founding member and continues to maintain active membership with the Responsible Business Alliance (RBA), a cooperative of leading electronics companies working to improve social, ethical and environmental responsibility in the global electronics supply chain. Seagate adopted the RBA Code of Conduct in 2007. For the Singapore Carbon Tax, we are assessing the potential to limit or phase-out the use of high global warming potential (GWP) chemicals for production, to reduce the potential financial impact of this tax. Cost: Certifications such as ISO14001 or ISO50001, cost \$25,000-30,000 per facility to acquire. Seagate spends more than \$15,000 annually to maintain these certifications.

Cost of management

30,000

Comment

These costs could increase, depending on the type and rigor of new legislation enacted.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Supply chain

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Our business operations are subject to interruption by natural disasters such as floods and earthquakes. Such events could decrease demand for our products, make it difficult or impossible for us to make and deliver products to our customers, or to receive components from our suppliers, and create delays and inefficiencies in our supply chain. In the event of a natural disaster, losses and significant recovery time could be required to resume operations and our financial condition and operating results could be materially adversely affected. Additionally, many of our component suppliers are geographically concentrated, in particular, in Thailand, which makes our supply chain more vulnerable to regional disruptions such as the severe flooding in Thailand in October 2011, which had a material impact on the production and availability of many components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

25,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

We estimate that the financial implications of a severe storm could be in excess of \$25 million, depending on the severity of the event and the geographic diversity of our suppliers. This estimate is primarily based on costs associated with increases in the cost of components as a result of supplier disruptions.

Management method

While the equipment we use to manufacture our products and components is frequently custom made, comes from a few suppliers, and the lead times required to obtain manufacturing equipment can be significant, we aim to diversify our supply base as much as possible, to prevent shortages in supply and increases in production costs. In addition, Seagate has implemented a Business Continuity Management System, that includes our supply chain, to address continuity impacted by flooding.

Cost Calculation: The incremental cost of managing this risk is in the range of \$5-10 per thousand units sold. This estimate was developed based on the historical per unit increase in price from previous shortages of components, and the annual sales volume. Based on 154 million units sold in CY18, the cost to manage is about \$1,500,000

Cost of management

1,500,000

Comment

The incremental cost of managing this risk is in the range of \$5-10 per unit sold. This estimate was developed based on the historical per unit increase in price from previous shortages of components, and the annual sales volume.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Technology: Substitution of existing products and services with lower emissions options

Type of financial impact

Reduced demand for products and services

Company- specific description

Seagate manufactures electronic components. The components available in the market are continually improving total cost of ownership (TCO) which includes cost, product efficiency and energy efficiency, largely because our customers are demanding these improvements. If our products do not continue to meet these efficiency demands as part of TCO our customers could choose to purchase technology products from our competitors, and we could experience reduced revenue. TCO is most important to

enterprise drive customers. To date, we have been able to meet all technology requirements for TCO and therefore have retained our customers business. However, in the future if we don't continue to improve our technology, we are at risk for losing customers for enterprise drives.

Time horizon

Current

Likelihood

Likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

223,680,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Due to our diversified customer base, and based on customers interested in TCO, this technology risk may impact 2% of our revenue which equates to \$223,680,000 (= \$11,184,000,000 x 2%) if no action is taken.

Management method

Seagate works directly with customers on total cost of ownership, and specifically energy efficiency considerations. We continuously conduct ISO-Conformant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. Our ISO-Conformant LCAs across many product families in our portfolio, have allowed us to identify opportunities to reduce product environmental impact. We are currently evaluating the use of a new technology, HAMR to improve product efficiency per EB. We intend to invest in this new technology by 2020. Additionally, we engage with key stakeholders on social and environmental issues to help improve the sustainability of our products. One of our key industry collaborations is with the Responsible Business Alliance (RBA), a cooperative of consumer products companies working to improve social, ethical and environmental responsibility in the global electronics supply chain. Cost: Seagate completes LCA as part of normal business practices, and results of this LCA are used to inform part of the TCO calculation. This is not an incremental cost, as the LCAs are completed with or without this risk, the cost is about \$40,000 per year to complete the LCAs.

Cost of management

40,000

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Type of financial impact

Increased revenue through demand for lower emissions products and services

Company-specific description

We anticipate that current or potential future product efficiency regulations and standards could present opportunities for Seagate given our increasing focus on reducing life cycle impacts across our product portfolio. This increased focus includes prioritizing the energy efficiency of our products, which ultimately will help our customers reduce their own energy use and lead to increased sales and revenue for Seagate.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

100,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Increased demand for existing products could lead to increased sales and revenue for Seagate. At this point, we estimate the potential financial benefit could result in as much as a 1% in incremental sales and revenue which would result in an additional \$100 million in revenue.

Strategy to realize opportunity

Seagate regularly monitors potential product efficiency regulations & standards that can improve our products. One driver in our effort to evaluate the life cycle impact of our products is ability to better respond to changes in regulation. To date, we have conducted ISO 14044 compliant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact and completing pilot projects to evaluate product circularity. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases. Cost Calculation: This is not an incremental cost and the cost of monitoring regulations is part of our standard business practices. The LCAs are completed with or without this opportunity, the cost is about \$40,000 per year to complete the LCAs.

Cost to realize opportunity

40,000

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Type of financial impact

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

Company-specific description

We anticipate that current or potential future changes in consumer behavior, including an increasing preference for more efficient products, could present opportunities for Seagate given our increasing focus on reducing life cycle impacts across our product portfolio. This increased focus includes prioritizing the energy efficiency of our products, which ultimately will help our customers reduce their own energy use and lead to increased sales and revenue for Seagate.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

100,000,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Increased demand for existing products could lead to increased sales and revenue for Seagate. At this point, we estimate the potential financial benefit could result in as much as a 1% in incremental sales and revenue which would result in an additional \$100 million in revenue.

Strategy to realize opportunity

Seagate regularly monitors potential product efficiency regulations & standards that can improve our products. One driver in our effort to evaluate the life cycle impact of our products is ability to better respond to changes in regulation, and meet customer expectations by providing storage solutions as a low total cost of ownership (TCO). Seagate is realizing this opportunity by completing ISO-Conformant LCAs across our

product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. We are evaluating the use of a new drive head technology, HAMR, to improve product efficiency per exabyte with plant to invest in this technology by 2020. This new technology will allow us to improve our energy efficiency per EB of storage, and also enable us to remain competitive among storage solution products. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases. Cost Calculation: The technology evaluation is part of our standard business practices and the cost to complete the LCAs is about \$40,000 per year.

Cost to realize opportunity

40,000

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Type of financial impact

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

Company-specific description

Seagate has an opportunity to reduce the cost of operations through undertaking process improvements and energy efficiency projects. These projects reduce our energy costs, reduce our exposure to current and future carbon taxes and GHG pricing schemes, while also allowing us to work toward our annual emissions reductions goals. In 2020, Singapore will be introducing a Carbon Tax that will impact our Singapore facilities. Over the past several years Seagate has been working to identify, test, and deploy the use of a lower-emissions process chemical, which is used at the Singapore facility. This alternative chemical will be fully rolled out prior to 2020, allowing us to avoid taxes associated with the high GHG emissions of the previous chemical.

Time horizon

Current

Likelihood

Very likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3,500,000

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact figure

Savings are estimated based on average monetary savings per energy reduction at representative facilities, applied to total energy savings in 2018, plus the anticipated cost of the Singapore Carbon Tax. Seagate anticipates that the Singapore Carbon Tax could expose us to a potential annual tax of \$1,000,000 starting in 2020 if no mitigation actions are taken.

Strategy to realize opportunity

Seagate pursues energy efficiency and GHG reductions projects throughout the year. Various voluntary conservation projects were undertaken involving facilities operations, which generated Scope 1 and 2 emission reductions. For example, ten of our facilities either completed LED lighting upgrades or have plans to do so. Additionally, several sites have upgraded HVAC units and undergone HVAC controls optimization. One site has lowered the temperature of deionized water used in the washing process and optimized the wash process, for an estimated savings of \$56,000 per year. Finally, one site recycles heat from the plant's five sets of water-cooled air compressors, using waste heat in the plant's central heating and hot water systems. Over 50 projects were carried out, generating a savings of 39,000 MWh in 2018. Specific to the Singapore Carbon Tax, we are assessing the potential to limit or phase-out the use of chemicals for production that have high global warming potentials (GWPs), which would reduce the potential financial impact of this pricing scheme. In addition, two of our Thailand manufacturing sites made the commitment in 2018 to get ISO 50001 certified in CY2019 to improve energy management practices. Cost: Certifications such as ISO14001 or ISO50001, cost \$25,000-30,000 per facility to acquire. Seagate spends more than \$15,000 annually to maintain these certifications.

Cost to realize opportunity

300,000

Comment

C2.5

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

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	To date, Seagate has conducted ISO 14044 compliant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. We have conducted ISO-Conformant LCAs across many product families in our portfolio, identifying opportunities to reduce product environmental impact. One LCA-related opportunity that was identified in product packaging – we evaluated virgin expanded polypropylene protective (EPP) foam packaging, compared to recycled polyethylene (PE) foam packaging, ultimately deciding on virgin EPP. Analysis identified that while recycled PE had a perceived environmental benefit given its recycled content, it was denser than virgin EPP, leading to heavier packaging and therefore increased fuel use during shipping. We continue to use LCA to assess the life cycle impacts of our products and inform decision-making about product development and packaging. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases. Implementing LCAs costs roughly \$50,000 on an annual basis.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	The severe flooding in Thailand in October 2011 had a material impact on the production and availability of many components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand. In 2012, the average selling price of our products increased from \$54 per unit to \$66 per unit, primarily due to the limited industry supply of hard drives resulting from the severe flooding in Thailand.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	Impending regulations are encouraging Seagate to take adaptation and mitigation measures. For example, in response to the proposed Carbon Tax for Singapore, Seagate is developing a replacement for a particular chemical currently listed by the tax with a non-taxed, lower-emissions alternative. This chemical replacement program serves as a mitigation measure for our

		Singapore facilities. Seagate anticipates that the Singapore Carbon Tax could expose us to a potential annual tax of \$1,000,000 starting in 2020 if no mitigation actions are taken.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	Seagate is conducting LCAs of our products, which our stakeholders have expressed an interest in based on their concern for climate change impacts. In 2018, the most substantial business decision made relating to sustainability and climate change was to invest in a pilot project on circularity using LCA for one of our customers. During this study, we discovered that harvesting and reusing magnet components leads to fewer GHG impacts than recycling the same materials. We expect to use these results to provide designers additional resources during the design process that will aid in considering product circularity and GHG emissions when making design choices. R&D improvements also apply to packaging. Using LCA data we were able to determine that virgin packaging material for a particular product had a lower environmental impact than the recycled alternative. This led Seagate continue using the virgin packaging material to avoid an increased impact. Implementing LCAs costs roughly \$40,000 on an annual basis.
Operations	Impacted for some suppliers, facilities, or product lines	Seagate has pursued ISO22301 certification at all three of our primary drive sites, which are located in Thailand and China. This certification provides a framework for business continuity planning and management. This certification helps us protect our facilities against severe weather and natural disasters, including flooding. Additionally, it allows us to actively plan for, prepare for, respond to and recover from disruptions to our operations. Each site has a unique approach to business continuity planning. For example, our facility in Thailand has instituted a protocol to notify staff and commuter bus drivers if the facility has closed, to prevent employees from attempting to get to work in unsafe conditions. Certifications, such as ISO14001, ISO50001 or ISO22301, cost \$25,000-\$30,000 per facility to acquire. Seagate spends more than \$15,000 annually to maintain these certifications.
Other, please specify		

C2.6

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

	Relevance	Description
Revenues	Impacted for some suppliers,	Our business operations are subject to interruption by natural disasters such as floods and earthquakes. Such events could

	<p>facilities, or product lines</p>	<p>decrease demand for our products, make it difficult or impossible for us to make and deliver products to our customers, or to receive components from our suppliers, and create delays and inefficiencies in our supply chain. In the event of a natural disaster, losses and significant recovery time could be required to resume operations and our financial condition and operating results could be materially adversely affected. Additionally, many of our component suppliers are geographically concentrated, in particular, in Thailand, which makes our supply chain more vulnerable to regional disruptions such as the severe flooding in Thailand in October 2011, which had a material impact on the production and availability of many components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand. We estimate that the financial implications of a severe storm could be in excess of \$25 million, depending on the severity of the event and the geographic diversity of our suppliers. While the equipment we use to manufacture our products and components are frequently custom made, comes from a few suppliers, and the lead times required to obtain manufacturing equipment can be significant, we aim to diversify our supply base as much as possible, to prevent shortages in supply and increases in production costs. Additionally, we are often able to pass increased component costs on to our customers. For example, in 2012, the average selling price of our products increased from \$54 per unit to \$66 per unit, primarily due to the limited industry supply of hard drives resulting from the severe flooding in Thailand.</p>
<p>Operating costs</p>	<p>Impacted for some suppliers, facilities, or product lines</p>	<p>Our business operations are subject to interruption by natural disasters such as floods and earthquakes. Such events could decrease demand for our products, make it difficult or impossible for us to make and deliver products to our customers, or to receive components from our suppliers, and create delays and inefficiencies in our supply chain. In the event of a natural disaster, losses and significant recovery time could be required to resume operations and our financial condition and operating results could be materially adversely affected. Additionally, many of our component suppliers are geographically concentrated, in particular, in Thailand, which makes our supply chain more vulnerable to regional disruptions such as the severe flooding in Thailand in October 2011, which had a material impact on the production and availability of many</p>

		<p>components. There are a limited number of independent suppliers of components, such as recording heads and media, available to disk drive manufacturers. In fiscal year 2012, the industry experienced significant increases in the cost of components due to the severe flooding in Thailand. We estimate that the financial implications of a severe storm could be in excess of \$25 million, depending on the severity of the event and the geographic diversity of our suppliers.</p> <p>While the equipment we use to manufacture our products and components is frequently custom made, comes from a few suppliers, and the lead times required to obtain manufacturing equipment can be significant, we aim to diversify our supply base as much as possible, to prevent shortages in supply and increases in production costs. Additionally, we are often able to pass increased component costs on to our customers. For example, in 2012, the average selling price of our products increased from \$54 per unit to \$66 per unit, primarily due to the limited industry supply of hard drives resulting from the severe flooding in Thailand.</p> <p>In 2020, Singapore will be introducing a Carbon Tax that will impact our Singapore facilities. In order to avoid increasing operating expenses from this tax, Seagate has been working to identify, test, and deploy the use of a lower-emissions process chemicals for the Singapore facility. We will phase in the alternative chemical in advance 2020 which will allow Seagate to avoid anticipated carbon taxes.</p>
Capital expenditures / capital allocation	Not impacted	Given the importance of climate change to Seagate's business strategy, it will be a consideration for our capital expenditures. At this time, Seagate has not identified any significant climate-related risks or opportunities related to our capital expenditures.
Acquisitions and divestments	Not impacted	Given the importance of climate change to Seagate's business strategy, it will be a consideration for any major acquisitions and divestments. At this time, Seagate has not had any significant acquisitions or divestments that could pose climate-related risks or opportunities.
Access to capital	Not impacted	Given the importance of climate change to Seagate's business strategy, it will be a consideration for accessing capital. At this time, access to capital is not impacted by climate change.
Assets	Not impacted	Given the importance of climate change to Seagate's business strategy, it will be a consideration for our assets. At this time, Seagate has not identified any significant climate-related risks or opportunities related to our assets.
Liabilities	Not impacted	Given the importance of climate change to Seagate's business strategy, it will be a consideration for our liabilities. At this time,

		Seagate has not identified any significant climate-related risks or opportunities related to our liabilities.
Other		

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

Yes, qualitative and quantitative

C3.1c

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

i) The incorporation of climate change into our business strategy is overseen by Seagate's Global Citizenship program, which establishes the company's corporate social responsibility strategies, ensures adherence to laws, ethical standards and international norms and embraces responsibility for how the company's activities affect stakeholders. The mission of our Global Citizenship program is to drive socially responsible and sustainable business practices consistent with corporate values and to provide assurance to management and stakeholders that such practices are managed effectively. The Global Citizenship program is directed through a team of cross-functional leaders that is accountable to the program sponsor, the President of Operations and Technology. This team meets on a regular basis to monitor changes in societal expectations, develop strategies that drive organizational change, report progress on annual program improvement goals and support ongoing implementation of the Global Citizenship program. Issue-specific work groups analyze and recommend solutions for emerging issues. Seagate's President of Operations and Technology serves as the executive sponsor of the Global Citizenship program and the Sustainability organization provides functional leadership.

ii) One example of how Seagate's business strategy has been influenced by climate change is the setting of targets. We continue to have an annual target to reduce Scope 1 and 2 emissions per exabyte of product shipped by 2% from 2017 to 2018. In addition, in 2018 we set a science-based target to accompany our. Our science-based target to reduce Scope 1 and Scope 2 market-based emissions 20% from 2017 to 2025 and 60% from 2017 to 2040. We also set a separate target to reduce Scope 3 emissions 20% from 2017 to 2025 and 60% from 2017 to 2040. To reduce emissions, each Seagate manufacturing site is required to deliver on annual emissions reductions goals. The mitigation actions focus on reducing

emissions from our two largest sources, purchased electricity and fugitive emissions. We are in-process of developing a full roadmap to achieve our science-based target.

Another example of how Seagate’s business strategy has been influenced by climate change is in our Life Cycle Assessment (LCA) work. We are conducting LCAs of our products, which our stakeholders have expressed an interest in based on their concern for climate change impacts. Seagate’s key product sustainability challenges include the management of materials identification, conflict minerals and restricted substances. Additionally, the mining and smelting of materials for Seagate products, as well as product use, contribute to greenhouse gas (GHG) emissions and other environmental impacts.

iii) The most significant business decision related to climate change was related to an impending Carbon Tax in Singapore. In 2020, Singapore will be introducing a Carbon Tax that will impact our Singapore facilities. Seagate anticipates that the Singapore Carbon Tax could expose us to a potential annual tax of \$1,000,000 starting in 2020 if no mitigation actions are taken. We are assessing the potential to limit or phase-out the use of chemicals for production that have high global warming potentials (GWPs), which would reduce the potential financial impact of this pricing scheme. The original chemical failed our evaluation, and we are reviewing an additional replacement chemical. Another significant business decision we made was to issue a request for qualifications for a solar PV installation at one of our largest facilities, Korat, Thailand.

C3.1d

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

Climate-related scenarios	Details
2DS	<p>We relied on a number of modeling tools including those endorsed by SBTi. We input our Scope 1, Scope 2, and Scope 3 emissions into these tools, to analyze the different scenarios, and what that means for our emissions. By achieving absolute emission reductions, our target exceeds the level of ambition needed to achieve the 2° scenario, and meets the well-below 2° scenario.</p> <p>Assumptions: No assumptions were necessary as we are focused on an absolute reduction, therefore, we need to achieve 2.5% reductions per year no matter our growth in business operations.</p> <p>Analytical Methods: Seagate analyzed requirements to meet several scenarios, including 2°, well-below 2°, and 1.5°. We used this information to inform our business strategy such that, even in the worst-case scenario modeled, if all companies were able to reduce their emissions consistent with our 2025 and 2040 commitments, the world would be on track to avoid a 2° C increase in global average temperatures by 2100.</p> <p>Time horizon: The assessment looked at scenarios 8 to 23 years into the future from the latest year of available data (2017). We ultimately set a short term (2025) and a</p>

long term (2040) goal to ensure continued commitment to emissions reductions as part of our business strategy. These timelines are in line with our other business planning time horizons.

Areas of organization included: To align with recommendations from the Science-Based Targets initiative, we included 100% of our Scope 1, 2 and 3 emissions. This includes our largest Scope 3 category, use of sold products. Thus, the analysis covered the aspects of our operations that generate Scope 1 and Scope 2 emissions, and also covered the Scope 3 emissions from our suppliers and our customers.

Results: The results of this analysis indicated that we need to reduce our Scope 1, Scope 2, and Scope 3 emissions by 2.5% per year to be consistent with the well-below 2° scenario and prevent the worst impacts of climate change. This translates to a reduction in Seagate GHG Scope 1 and 2 emissions of approximately 230,000 tCO₂e and 2.8 million tCO₂e Scope 3 emissions by 2025 across our operations (e.g., manufacturing and R&D facilities), suppliers and customers.

Influencing strategy: The results of the analysis have informed our business objectives and strategy in a number of ways. For example, completing the scenario analysis to set our science based target has given our organization an understanding of the requirements to avoid catastrophic climate change. Most specifically, the scenario analysis has led us to set two new science-based targets: to reduce Scope 1 and 2 emissions by 20% from 2017 to 2025 and 60% by 2040, and to reduce Scope 3 emissions by 20% from 2017 to 2025 and 60% by 2040. These targets are an important component of our business objectives and strategy moving forward. We recognize the importance of continuing to complete our LCA analyses to evaluate product use efficiency to have the largest impact on our value chain and our Scope 3 emissions; the results of these analyses will inform specific improvement actions to reduce emissions both for specific products and across our product portfolio. We also are committed to continuing to reduce the Scope 1 and 2 emissions in our own operations, informed by our scenario analysis and subsequent science based targets; we implemented 53 energy savings projects across our facilities in 2018 and will continue to identify additional projects in the future as part of our strategy.

C4. Targets and performance

C4.1

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

Both absolute and intensity targets

C4.1a

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

Target reference number

Abs 1

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

Targeted % reduction from base year

20

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

1,161,801

Target year

2025

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

0

Target status

New

Please explain

This is a medium-term science-based target and covers 100% of scope 1 and scope 2 market-based emissions.

Target reference number

Abs 2

Scope

Scope 3 (upstream & downstream)

% emissions in Scope

100

Targeted % reduction from base year

20

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

13,972,000

Target year

2025

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

0

Target status

New

Please explain

This is a medium-term science-based target and covers 100% of scope 3 emissions.

Target reference number

Abs 3

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

Targeted % reduction from base year

60

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

1,161,801

Target year

2024

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

0

Target status

New

Please explain

This is a Long-term science-based target and covers 100% of scope 1 and scope 2 market-based emissions.

Target reference number

Abs 4

Scope

Scope 3 (upstream & downstream)

% emissions in Scope

100

Targeted % reduction from base year

60

Base year

2017

Start year

2018

Base year emissions covered by target (metric tons CO2e)

13,972,000

Target year

2040

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

% of target achieved

0

Target status

New

Please explain

This is a long-term science-based target and covers 100% of scope 3 emissions.

C4.1b

(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 (market-based)

% emissions in Scope

100

Targeted % reduction from base year

2

Metric

Metric tons CO₂e per unit of production

Base year

2017

Start year

2017

Normalized base year emissions covered by target (metric tons CO₂e)

4,417

Target year

2018

Is this a science-based target?

No, but we are reporting another target that is science-based

% of target achieved

100

Target status

Achieved

Please explain

In 2018, we had an intensity target to reduce 2% per exabyte, and an absolute target on power saving of 20,000 MWh.

% change anticipated in absolute Scope 1+2 emissions

0

% 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

Energy usage

KPI – Metric numerator

Absolute energy consumption (MWh)

KPI – Metric denominator (intensity targets only)

Unit of Production

Base year

2017

Start year

2017

Target year

2018

KPI in baseline year

6,285

KPI in target year

6,159

% achieved in reporting year

100

Target Status

Achieved

Please explain

In 2018, we had an intensity target to reduce 2% per exabyte, and an absolute target on power saving of 20,000 MWh.

Part of emissions target

This target is related to target Int 1 reported in C4.1b, an intensity target to reduce 2% per exabyte from 2017 to 2018.

Is this target 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 initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	101	
To be implemented*	101	11,190
Implementation commenced*	27	5,450
Implemented*	53	10,111
Not to be implemented	1	

C4.3b

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

Initiative type

Energy efficiency: Building services

Description of initiative

Other, please specify
building controls, lighting, motors and drives

Estimated annual CO2e savings (metric tonnes CO2e)

10,111

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

740,000

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

2,200,000

Payback period

1-3 years

Estimated lifetime of the initiative

6-10 years

Comment

Various voluntary conservation projects were undertaken involving facilities operations, which generated Scope 2 emission reductions. Over 50 projects were carried out, generating a saving of 16,661 MWh in 2018. Seagate pursues energy efficiency and GHG reductions projects throughout the year. Various voluntary conservation projects were undertaken involving facilities operations, which generated Scope 1 and 2 emission reductions. ten of our facilities either completed LED lighting upgrades or have plans to do so. Additionally, several sites have upgraded HVAC units and undergone HVAC controls optimization. One site has lowered the temperature of deionized water used in the washing process and optimized the wash process, for an estimated savings of \$56,000 per year. Finally, one site recycles heat from the plant's five sets of water-cooled air compressors, using waste heat in the plant's central heating and hot water systems. Projects are identified by staff at each facility and prioritized based on feasibility, cost and anticipated savings.

C4.3c

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

Method	Comment
Internal finance mechanisms	Since the majority of our emissions are from electricity usage (Scope 2), energy reduction activities have a cost savings associated with them. We have an internal return on investment model to evaluate and approve investment in this area. We are also investing in new manufacturing technology which will reduce Scope 1 emissions. These improvements are driven by internal product requirements.

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?

No

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, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO₂e)

262,349

Comment

Scope 2 (location-based)

Base year start

January 1, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO₂e)

887,963

Comment

Scope 2 (market-based)

Base year start

January 1, 2017

Base year end

December 31, 2017

Base year emissions (metric tons CO₂e)

899,452

Comment

C5.2

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

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

C6. Emissions data

C6.1

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

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

259,307

Start date

January 1, 2018

End date

December 31, 2018

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

C6.3

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

Reporting year

Scope 2, location-based

890,010

Scope 2, market-based (if applicable)

902,266

Start date

January 1, 2018

End date

December 31, 2018

Comment

C6.4

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

No

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

1,200,000

Emissions calculation methodology

Seagate uses hard drive production data and global goods and services purchase activity data to calculate emissions from this category. Hard drive production data emissions from the raw material and preprocessing phase of Seagate's public LCAs are used to allocate emissions for materials and goods used directly in hard drive production. Emissions from other purchased goods and services and are calculated using purchasing data and year 2011 emission factors from 2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting (Table 13), using exchange and inflation rates to adjust the factors.

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

0

Explanation

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

200,000

Emissions calculation methodology

Seagate uses purchase activity data to calculate emissions from this category.

Seagate's accounting department defines purchased capital goods. These purchases are calculated using year 2011 emission factors from 2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting (Table 13), using exchange and inflation rates to adjust the factors.

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

0

Explanation

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

190,000

Emissions calculation methodology

Seagate uses global energy purchase activity data to calculate emissions from this category. Global upstream emissions from fuel purchases and US upstream emissions from electricity purchases are calculated using emission factors derived from lifecycle analysis software. Outside of the US, upstream emissions and T&D losses from electricity purchases are estimated using emission factors from DEFRA 2013 Guidelines. Within the US, T&D losses are calculated using data from EPA's eGRID2016, February 2018.

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

99

Explanation

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

90,000

Emissions calculation methodology

Seagate uses hard drive production data, and emissions from the distribution phase of Seagate's public LCAs to allocate emissions to upstream transportation and distribution. Emissions from the distribution phase are split between upstream and downstream transportation and distribution based on surveys of Seagate's tier 1 suppliers. This category does not include transportation and distribution emissions of office mail and other non-hard drive related activities. Most of Seagate's products are hard drive related.

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

0

Explanation

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

5,700

Emissions calculation methodology

Seagate tracks waste generated in operations. Metrics include the amount of waste generated by type and disposal method. For sludge waste, percentages of solid material suspended in sludge were taken from literature to estimate weight of waste in sludge. U.S. EPA WARM V14 derived emission factors were used to estimate emissions for this category.

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

0

Explanation

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

17,000

Emissions calculation methodology

Business travel emissions for Seagate include air travel. Emissions are estimated using emission factors from DEFRA 2014 Guidance.

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

100

Explanation

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

25,000

Emissions calculation methodology

Emissions from employee commuting include buses and shuttles hired by Seagate, but owned and operated by an external party that transports Seagate employees to and from work. Activity data used includes miles traveled, fuel type, and fuel economy of each vehicle by vehicle type. Personal commuting activities of Seagate employees were assessed via online surveys. Activity data used includes miles traveled, round trips per week, fuel type and vehicle type. Emissions factors from the EPA's MRR and US National Inventory, the EPA's Emissions Factor Hub.

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

30

Explanation

Upstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

2,500

Emissions calculation methodology

Seagate uses square footage provided through lease records to calculate emissions from this category. Upstream leased assets include all facilities leased and occupied by Seagate that are beyond Seagate's operational control due to the conditions of the

lease. Emission intensities for the 2018 inventory come from the latest version of the Commercial Buildings Energy Consumption Survey (CBECS), released in September 2015. Where the building type is unknown, an intensity from Seagate's operations is used. The appropriate emission factor for electricity and natural gas are then applied based on the location for each facility.

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

0

Explanation

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

8,000

Emissions calculation methodology

Seagate uses hard drive production data, and emissions from the distribution phase of Seagate's public LCAs to allocate emissions from downstream transportation and distribution. Emissions from the distribution phase are split between upstream and downstream transportation and distribution based on data from Seagate's tier 1 suppliers. This category does not include transportation and distribution emissions of non-hard drive related activities. Most of Seagate's products are hard drive related.

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

0

Explanation

Processing of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

2,200

Emissions calculation methodology

No primary data on installation energy are available. Therefore, assumptions were made to estimate the emissions associated with processing Seagate's hard drive related products. Drives are installed into computers either manually or by machine. Once drives are installed, there is a testing and setup process to ensure the computer is functioning. Seagate assumes all drives sold have some post processing, although a

small number of drives are either installed in Seagate facilities, or do not have post processing. Electricity use for this processing is estimated based on hard drive production data and power draw provided in Seagate's public LCAs and an assumption that drives run for 5 hours during post-processing. Emissions are estimated for the electricity use using an average electricity factor based on Seagate's manufacturing locations and scope 2 location-based emission factors. Emission factors are from EPA's eGRID2016 for the US and IEA's "CO2 Emissions from Fuel Combustion" (2013 Edition) for outside the US.

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

0

Explanation

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

15,000,000

Emissions calculation methodology

Seagate uses hard drive production data, and emissions from the use phase of Seagate's public LCAs to estimate emissions from the use of sold products. This category does not include use of non-hard drive related products. Most of Seagate's products are hard drive related.

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

0

Explanation

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

50,000

Emissions calculation methodology

Seagate uses hard drive production data, and emissions from the end of life phase of Seagate's public LCAs to estimate emissions from the end of life treatment of sold products. This category does not include end of life of non-hard drive related products. Most of Seagate's products are hard drive related.

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

0

Explanation

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Explanation

Seagate does not lease out any facilities that are owned or have long have long term capital leases on. Thus the emissions in this category are zero and are not relevant.

Franchises

Evaluation status

Not relevant, explanation provided

Explanation

Seagate does not franchise any operations, thus the emissions in this category are zero and not relevant.

Investments

Evaluation status

Not relevant, explanation provided

Explanation

Seagate does not currently have any investments that are not already captured in the Scope 1 and 2 inventory. Periodically, we evaluate investing in complementary technology and if such an opportunity arises in the future, we will report on this emission category when relevant.

Other (upstream)

Evaluation status

Explanation

Other (downstream)

Evaluation status

Explanation

C6.7

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

No

C6.10

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

Intensity figure

0.000103

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

1,149,317

Metric denominator

unit total revenue

Metric denominator: Unit total

11,184,000,000

Scope 2 figure used

Location-based

% change from previous year

3.8

Direction of change

Decreased

Reason for change

Scope 1 and 2 emissions decreased slightly (0.02%), we sold more storage in 2018, and the reason these emissions decreased is due to emission reduction activities, including optimizing processes, updating building controls, and updating to more efficient lighting. The 4% increase in revenue and a slight decrease in emissions result in an overall 3.8% decrease in GHG intensity per dollar of revenue.

Intensity figure

26.73

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

1,149,317

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

43,000

Scope 2 figure used

Location-based

% change from previous year

4.7

Direction of change

Decreased

Reason for change

Scope 1 and 2 emissions decreased slightly (0.02%), we sold more storage in 2018, and the reason these emissions decreased is due to emission reduction activities, including optimizing processes, updating building controls, and updating to more efficient lighting. The 4.9% increase in FTE and slight decrease in emissions result in an overall 4.7% decrease in GHG intensity per FTE.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CH4	344	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	39	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	234,353	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	440	IPCC Fifth Assessment Report (AR5 – 100 year)

SF6	705	IPCC Fifth Assessment Report (AR5 – 100 year)
CO2	14,466	IPCC Fifth Assessment Report (AR5 – 100 year)
NF3	5,190	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify 404A	11	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify 407C	68	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify hydrocarbons	3,691	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
China	219
India	656
United Kingdom of Great Britain and Northern Ireland	4,031
Malaysia	267
Singapore	235,780
Thailand	3,347
United States of America	14,738
Other, please specify Rest of World	271
Republic of Korea	0

C7.3

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

By facility

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
----------	--------------------------------------	----------	-----------

China W	219	31.56887	120.28857
China S	0	31.299	120.5853
India B	430	12.9287	77.68282
India P	225	18.56386	73.88531
Norton Ireland	4,031	53.783631	-7.447533
Malaysia J	267	1.4655	103.7578
Malaysia P	0	5.326175	100.286769
Malaysia S	0	2.708687	101.999654
Singapore W	235,083	1.434258	103.803791
Singapore S	696	1.295604	103.791253
South Korea	0	37.29111	127.00889
Thailand K	2,077	14.97066	102.10196
Thailand T	1,270	13.62357	100.633914
US N	9,532	44.861049	-93.345631
US L	1,516	40.156617	-105.172488
US SK	2,146	44.784958	-93.473336
US O	93	35.464366	-97.696081
US M	1,191	37.476092	-121.931893
US Ldot	0	40.142105	-105.124775
US CI	64	38.894636	-104.864015
US LW	0	37.480781	-121.937606
US NW	14	44.065324	-92.506234
US Cu	182	37.320624	-122.032156
US SV	0	37.048081	-122.017134
Non-stationary sources	269	37.320624	-122.032156

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)
China	143,407	143,407	186,415	0
India	4,979	4,979	6,003	0

United Kingdom of Great Britain and Northern Ireland	32,415	48,345	75,472	0
Malaysia	70,233	70,233	101,855	0
Singapore	211,003	211,003	419,424	0
Republic of Korea	36	36	72	0
Thailand	321,450	321,450	613,628	0
United States of America	106,487	102,813	200,009	1,000
Other, please specify Rest of World	0	0	0	0

C7.6

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

By facility

C7.6b

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

Facility	Scope 2 location-based emissions (metric tons CO ₂ e)	Scope 2, market-based emissions (metric tons CO ₂ e)
China W	140,383	140,383
China S	3,024	3,024
India B	2,284	2,284
India P	2,695	2,695
Norton Ireland	32,415	48,345
Malaysia J	68,944	68,944
Malaysia P	1,006	1,006
Malaysia S	283	283
Singapore W	197,094	197,094
Singapore S	13,909	13,909
South Korea	36	36
Thailand K	286,568	286,568
Thailand T	34,880	34,880
US N	56,720	56,720
US L	21,242	21,242

US SK	17,030	17,030
US O	3,628	3,628
US M	5,457	2,167
US Ldot	1,241	1,241
US CI	436	436
US LW	171	68
US NW	85	85
US Cu	467	185
US SV	12	12
Non-stationary Sources	0	0

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO ₂ e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	Our onsite solar facility produced a similar amount of renewable energy in 2018 as it did in 2017, therefore this is no change in renewable energy consumption.
Other emissions reduction activities	10,111	Decreased	0.87	Emissions reductions projects implemented during the reporting year, including updating building controls, lighting, motors, and drives resulted in a decrease in emissions [10,760/1,157,229 = 0.93%]
Divestment	0	No change	0	Seagate had no divestments during the reporting year [0/1,157,229 = 0%]

Acquisitions	0	No change	0	Seagate had no acquisitions during the reporting year [0/1,157,229 = 0%].
Mergers	0	No change	0	Seagate had no mergers during the reporting year [0/1,157,229 = 0%]
Change in output	4,127	Decreased	0.36	0.36% of emissions reductions are attributed to a change in output [4,127/1,157,229 = 0.36%]
Change in methodology	6,917	Increased	0.6	Adjusted 2017 base year following GHG protocol guidelines. Changes led to an increase in emissions [6,917/1,157,229 = 0.60%]
Change in boundary	0	No change	0	Seagate's boundary did not change during the reporting year [0/1,157,229 = 0%]
Change in physical operating conditions	0	No change	0	Seagate did not experience any significant change in physical operating conditions during the reporting year [0/1,157,229 = 0%]
Unidentified				
Other				

C7.9b

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

Location-based

C8. Energy

C8.1

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

More than 10% but less than or equal to 15%

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	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	No

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	68,600	68,600
Consumption of purchased or acquired electricity		1,000	1,596,121	1,597,121
Consumption of purchased or acquired heat		0	11	11
Consumption of purchased or acquired cooling		0	5,747	5,747
Total energy consumption		1,000	1,670,479	1,671,480

C8.2b

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

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No

Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

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

Fuels (excluding feedstocks)

Propane Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

3,002

Comment

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

61,978

Comment

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

2,523

Comment

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

8

Comment

Fuels (excluding feedstocks)

Jet Kerosene

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1,089

Comment

C8.2d

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

Fuel Oil Number 2

Emission factor

0.00271

Unit

metric tons CO₂e per liter

Emission factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Jet Kerosene

Emission factor

0.0026

Unit

metric tons CO₂e per liter

Emission factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Motor Gasoline

Emission factor

0.00234

Unit

metric tons CO₂e per liter

Emission factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Natural Gas

Emission factor

0.18123

Unit

metric tons CO₂e per MWh

Emission factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

Propane Gas

Emission factor

0.00151

Unit

metric tons CO₂e per liter

Emission factor source

Center for Corporate Climate Leadership GHG Emission Factors Hub

Comment

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

Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

Low-carbon technology type

Solar PV

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

North America

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

1,000

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

0

Comment

C9. Additional metrics

C9.1

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

Description

Energy usage

Metric value

1,671,480

Metric numerator

Total energy use (MWH)

Metric denominator (intensity metric only)

NA

% change from previous year

1

Direction of change

Decreased

Please explain

Description

Other, please specify

Water Withdrawals

Metric value

8,282

Metric numerator

Total Water Withdrawals (megaliters)

Metric denominator (intensity metric only)

NA

% change from previous year

15

Direction of change

Decreased

Please explain

C10. Verification

C10.1

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

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

C10.1a

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

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Y

 Seagate 2018 CDP Assurance Statement Final.pdf

Page/ section reference

Whole Document

Relevant standard

ISO14064-3

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

Y

 Seagate 2018 CDP Assurance Statement Final.pdf

Page/ section reference

Whole Document

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Y

 Seagate 2018 CDP Assurance Statement Final.pdf

Page/ section reference

Whole Document

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.1b

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

Scope

Scope 3- all relevant categories

Verification or assurance cycle in place


Annual process

Status in the current reporting year

Complete

Attach the statement

Y

 Seagate 2018 CDP Assurance Statement Final.pdf

Page/section reference

Whole Document

Relevant standard

ISO14064-3


C10.2

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

Yes

C10.2a

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

 Seagate 2018 CDP Assurance Statement Final.pdf

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Other, please specify energy consumption	ISEA3000	For the first time this year we received verification of our organization-wide energy usage following the ISAE 3000 standard. We anticipate verifying our energy annually.

C11. Carbon pricing

C11.1

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

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

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Seagate anticipates being subject to the Singapore Carbon Tax starting in 2020. We are implementing mitigation measures to reduce the burden of this tax. Our primary mitigation efforts are focused around developing a replacement chemical for a current chemical with a high global warming potential that will be subject to the tax. In addition, two of our Thailand manufacturing sites made the commitment in 2018 to get ISO 50001 certified in CY2019 to improve energy management practices. Seagate is working towards implementing an energy management system at all our manufacturing sites and have them certified in ISO 50001 over the next two 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?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Change internal behavior

GHG Scope

Scope 1

Scope 2

Application

Seagate has included a cost of carbon in capital project calculations for facilities to help internal stakeholders understand the climate-related impacts of proposed projects.

Actual price(s) used (Currency /metric ton)

Variance of price(s) used

Seagate uses uniform pricing in which a single price is applied throughout the company.

Type of internal carbon price

Shadow price

Impact & implication

Seagate has included a cost of carbon in capital project calculations for facilities to help internal stakeholders understand the climate-related impacts of proposed projects.

Seagate applies a cost of carbon to all capital projects to assess the relative environmental impacts of individual projects. The cost of carbon is addressed for 100% of Scope 1 and Scope 2 GHG emissions for proposed capital projects.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

C12.1a

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

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect climate change and carbon information at least annually from suppliers

% of suppliers by number

100

% total procurement spend (direct and indirect)

80

% Scope 3 emissions as reported in C6.5

7

Rationale for the coverage of your engagement

Coverage is 100% of Seagate's direct suppliers, which provide components and parts for products. These suppliers, which make up 80% of our total direct and indirect procurement spend, were selected because they represent the majority of Seagate's supplier spend (>50%). As we continue to review supplier responses via the EICC-ON tool, we will prioritize engagement with our suppliers based on those suppliers showing the greatest opportunity for improvement or representing the greatest risk to Seagate.

Impact of engagement, including measures of success

Via the EICC-ON tool, suppliers respond to a standardized questionnaire, providing quantitative energy, GHG, water, and waste data, as well as qualitative information on environmental management practices. Once received, this information is evaluated internally at Seagate to better understand the maturity of our suppliers with regard to environmental management practices, and identify areas to improve performance over time. Suppliers are motivated to report given the importance Seagate places on the EICC environmental reporting initiative. Seagate has a metric to drive supplier reporting, and the Materials team follows up with suppliers to ensure responses are received. Success is measured based on the number of suppliers that respond.

Comment

Seagate requests information on supplier energy/GHG, water, and waste indicators via the Responsible Business Alliance (RBA, formerly the Electronic Industry Citizenship Coalition (EICC)) environmental reporting initiative.

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number

100

% Scope 3 emissions as reported in C6.5

0

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

We selected this method of engagement because it is readily available to 100% of our customers.

Impact of engagement, including measures of success

We provide detailed information on our environmental programs and performance through annual reports and our website. Our measure of success is the successful release of our annual environmental report.

Type of engagement

Education/information sharing

Details of engagement

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

% of customers by number

100

% Scope 3 emissions as reported in C6.5

89

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

We selected this method of engagement because it is readily available to 100% of our customers. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases. Additionally, we continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases.

Impact of engagement, including measures of success

We continuously update a two-page specification sheet for each of our drives, which includes information from LCAs, such as energy use and circularity. To date, we have conducted ISO 14044 compliant LCAs across our product portfolio, identifying opportunities to reduce the energy needs of products, particularly in the customer use phase. These spec sheets help educate consumers about the differences between our drives and allow consumers to make informed purchases. Our measure of success is the proportion of our products for which we are able to produce spec sheets.

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?

Other

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

One of our key industry collaborations is with the Responsible Business Alliance (RBA, formerly the Electronic Industry Citizenship Coalition (EICC)), a cooperative of leading electronics companies working to improve social, ethical and environmental responsibility in the global electronics supply chain. Seagate was a founding member of the RBA in 2004. We adopted the RBA Code of Conduct in 2007 and continue to maintain full and active membership in this organization. A revised RBA code came into effect in 2015, which includes greenhouse gas emissions requirements, which will help encourage action to mitigate GHG emissions throughout our supply chain.

Additionally, we are a signatory to the United Nations Global Compact, a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles around human rights, labor, environment and anti-corruption. We have participated in activities (e.g. NGO forums) that engage policy makers in the area of climate change on specific topics, such as product energy efficiency ratings. These forums take place at least annually; Seagate participates in these activities alongside many other companies. During these forums, Seagate and other companies have advocated for industry level standards that can efficiently assess product-level impacts associated with climate

change. Seagate recognizes that climate change is real and will affect the social, economic and environmental aspects of everyone's life in one way or another in the not too distant future. Reduction in greenhouse gas (GHG) emissions identified by various studies and reports, including the work of the Intergovernmental Panel on Climate Change (IPCC), is necessary to mitigate the impacts of climate change. Seagate is a member of the UNGC's U.S. Network and regularly engages in membership meetings, including sponsorship of meetings when the opportunity presents.

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?

Our strategy on climate change is a component of our broader Global Citizenship program, of which our CEO has direct responsibility. Reporting metrics have been developed and progress against the metrics is reported to Senior Management, which ensures that our all of our activities are in alignment and as an organization, we are driving toward a common objective.

C12.4

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

Publication

In voluntary sustainability report

Status

Underway – previous year attached

Attach the document

Y

 2018gcar_April2019.pdf

Page/Section reference

39-45

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

Publication

In mainstream reports

Status

Complete

Attach the document

Y

 NASDAQ_STX_2017.pdf

Page/Section reference

23

Content elements

Risks & opportunities

Comment

C14. Signoff

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	Chief Executive Officer	Chief Executive Officer (CEO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors Customers	Yes, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms