

Teradyne Inc. - Climate Change 2018

C0. Introduction

C0.1

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

Teradyne, Inc. ("Teradyne") was founded in 1960 and is a leading global supplier of automation equipment for test and industrial applications. As of December 31, 2017, we employed approximately 4,500 people. Total revenue in 2017 (in thousands) was \$2,136,606 .

We design, develop, manufacture and sell automatic test systems used to test semiconductors, wireless products, data storage and complex electronics systems in the consumer electronics, wireless, automotive, industrial, computing, communications, and aerospace and defense industries. Our industrial automation products include collaborative robots used by global manufacturing and light industrial customers to improve quality, increase manufacturing efficiency and decrease manufacturing costs.

Our products test the electronic and electrical devices people rely upon every day. Teradyne ensures these products work the way they were intended to the first time, every time and with the user's safety in mind.

We integrate sustainability, quality and safety into our business. We drive efficiency and innovation to solve our greatest testing challenges while remaining adaptive and resilient in the face of rising resource constraints.

Teradyne is committed to promoting, creating and maintaining a safe and healthy workplace and to improving the environmental quality of our operations and surrounding communities. We focus our commitments on individual people, the environment and society.

Teradyne is committed to protecting the environment and controlling environmental, health and safety risks through the implementation of our Environmental and Safety Management System (ESMS). Our Environmental System is registered to the international management system standard ISO 14001 at our manufacturing/engineering design facilities.

Teradyne monitors risks and opportunities as they relate to sustainability, global policies and regulations, depletion of natural resources and social and economic conditions around the world. We are continuously assessing the environmental impact of our operations and looking for ways to mitigate this impact.

Due to the nature of our products our buildings (energy and cooling) account for a large percentage of our greenhouse gas emissions. We have been working over the past few years to reduce greenhouse emissions from our buildings. Our strategy for achieving this includes increasing the efficiency of our energy use, greening our electricity supply and promoting sustainable transportation to and from our facilities.

We have implemented solar arrays at two of our locations. We are currently evaluating additional renewable energy options for the future. As technology continues to move at a rapid pace we anticipate we will have more options available to us. Our design engineers also look for opportunities to increase the efficiency and decrease the heat load and usage of our products.

In 2017, we posted a Corporate Social Responsibility (CSR) page on our external website. We also made data available for the first time (aside from the CDP) regarding our greenhouse gas generation. We hope to continue to make available more information in 2018.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

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

China
Costa Rica
Czechia
Denmark
France
Germany
India
Israel
Italy
Japan
Malaysia
Netherlands
Philippines
Republic of Korea
Singapore
Spain
Taiwan (Province of China)
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) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Other C-Suite Officer	The board has oversight of risk strategy and regulatory compliance. Environmental and climate issues are part of this oversight but it is not the sole issue covered by the committee. The individual with the most direct responsibility on a frequent basis would be Charles Gray, VP/Secy/General Counsel.

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	<ul style="list-style-type: none"> Reviewing and guiding strategy Reviewing and guiding risk management policies Monitoring and overseeing progress against goals and targets for addressing climate-related issues 	We have an internal audit committee which is a subset of the Board of Directors which addresses climate/environmental as they relate to risk strategy and regulatory compliance

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Environmental, Health, and Safety 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
Other, please specify (Corporate Real Estate)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Other committee, please specify (Facility Specific Committees)	Managing climate-related risks and opportunities	Quarterly
Please select	<Not Applicable>	<Not Applicable>

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.

The Corporate Environmental, Safety and Health (EHS) Organization, ISO 14001 Steering Committees and Members, Facility specific sustainability committees and the Global Facility and Real Estate Group all coordinate to address sustainability and climate related issues. At the highest level the Corporate EHS group sets high level goals and targets for the organization. The ISO 14001 Steering Committees and members have input into this process by highlighting significant aspects and impacts over which Teradyne can exercise control. This process then ties into the Global Facility and Real Estate group that sets the annual capital budget and incorporates sustainability projects. Individual facility budgets feed into the main budget. Individual sustainability projects that tie into targets and metrics are set at the site level.

In addition to the process outlined above, the EHS/Facility and Real Estate groups are responsible for researching and investigating potential projects that support the companies sustainability objectives and obtaining approval for larger projects. Currently the group is investigating the use of solar carports to generate more renewable energy. If feasible a proposal will be put forth to the executive committee in an effort to obtain approval.

Employee site committees throughout the organization also have an opportunity to provide input with ideas. Our largest facility (aside from our Corporate Headquarters) is located in Cebu, Philippines. The employees at this site are actively engaged in promoting projects related to the environment and social responsibility. Their site sustainability committee actively undertake activities to reduce their environmental footprint, whether planting mangroves in their community or looking at waste and energy reduction opportunities on-site. Each year they promote understanding and learning by holding a site-wide Environmental, Health and Safety Week.

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.

Who is entitled to benefit from these incentives?

Environmental, health, and safety manager

Types of incentives

Monetary reward

Activity incentivized

Other, please specify

Comment

Selecting an activity for which we are provided an incentive is not truly accurate for our organization. Personnel goals and targets are established annually and reviewed quarterly. These goals and targets change and it is the accomplishment of them that is rewarded. A goal may be related to training and behavioral changes one year, communication another year and a sustainable project the next year. The role of this group is the environment. Salary and raises are based on performance in this area.

Who is entitled to benefit from these incentives?

Facilities manager

Types of incentives

Monetary reward

Activity incentivized

Other, please specify

Comment

Selecting an activity for which we are provided an incentive is not truly accurate for our organization. Personnel goals and targets are established annually and reviewed quarterly. These goals and targets change and it is the accomplishment of them that is rewarded. A goal may be related to training and behavioral changes one year, communication another year and a sustainable project the next year. Salaries, raises and other monetary incentives are in part based on individual goals to achieve targets of which some are related to the environment.

Who is entitled to benefit from these incentives?

Other, please specify (Real Estate)

Types of incentives

Recognition (non-monetary)

Activity incentivized

Other, please specify

Comment

Selecting an activity for which we are provided an incentivize is not truly accurate for our organization. Personnel goals and targets are established annually and reviewed quarterly. These goals and targets change and it is the accomplishment of them that is rewarded. A goal may be related to training and behavioral changes one year, communication another year and a sustainable project the next year.

Who is entitled to benefit from these incentives?

Other, please specify (Sustainability Committees (site specific))

Types of incentives

Recognition (non-monetary)

Activity incentivized

Other, please specify

Comment

The focus is on setting and achieving goals. These goals vary based on the needs of the facility.

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	Short term goals and objectives are set annually
Medium-term	1	5	Business plans for the medium-term typically range from 1-5 years
Long-term	5	10	Long term horizons are difficult to define and are upwards of 5 years but depending on what we are looking at could be 10 or more years and is fluid. We have processes that promote continuous improvement to ensure we are always changing how we approach problems and re-evaluate solutions.

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	Annually	1 to 3 years	The Global Facility Management Enterprise which consists of Real Estate, Facilities, Security and EHS assess climate related risks and identify opportunities/projects to be incorporated into the capital budget process on an annual basis. Our Business Continuity planning, which incorporates representatives from different groups within the company, assess risks (including but not limited to climate related risk) and builds plans to manage those risks.

C2.2b

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

The company has a Risk and Continuity Business Planning Process Group which is comprised of a cross-functional team. The team meets at least annually, and more frequently as needed, to discuss key risks to the business. Risks include a variety of inputs including climate change (as it relates to the increasing frequency we are seeing extreme weather events), depletion of natural resources, rising natural resources costs, regulatory changes, customer demands, investor demands and global threats. Each year the plan is updated to take into account these threats as well as others. The process considers the likelihood of occurrence, severity of consequence to the business which can include but is not limited to materiality, financial impact and business disruption.

In addition to the Risk and Continuity Business Planning Process our Corporate EHS Group is responsible for identifying and assessing climate related risks and working with the Global Facility Management Team to incorporate these risks into goals and targets for the year. These goals cascade down to individual groups and facilities. Goals are set at a higher level to allow individual groups and facilities to address in an appropriate manner at their facilities.

Individual sustainability groups at our facilities also work to identify risks and implement strategies locally. In particular, our facility in Cebu, Philippines, has an active and engaged group. Our facility in Cebu is one of our largest and is therefore integral in helping identify and promote sustainable projects.

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	Teradyne complies with all applicable regulations as they pertain to our products and buildings. We have tools in place for monitoring regulations and identifying those that apply to us. Training, Policies and procedures to enable compliance with applicable regulations are in place. Through our ISO 14001 process we are required to identify risks and opportunities related to the environment. This includes regulations. We maintain a legislation matrix and permit for tracking requirements to ensure compliance.
Emerging regulation	Relevant, sometimes included	Teradyne incorporate emerging regulations that are applicable to our products, processes and buildings into our assessments. We have tools that alert us to proposed, pending or changing regulations. It is the job of the Corporate EHS group to monitor these regulations and alert our engineering, operations and corporate groups when regulations with the potential to impact Teradyne arise. These regulations are then incorporated into the planning process. An example of this is the EU RoHS Directive. When this regulation was first discussed back in the late 1990s/early 2000s Teradyne set up a team to assess our risk and put in place processes to minimize the risk even before the proposal became law.
Technology	Relevant, always included	Teradyne is always looking at technology and risks to identify areas of opportunities.
Legal	Relevant, always included	Legal issues are always assessed. We have a Corporate legal and compliance issues that looks at a variety of topics that fall under this category.
Market	Relevant, always included	Our sales group is tasked with assessing the current market and its implications on our products.
Reputation	Relevant, not included	We do not currently include this with our risk assessment.
Acute physical	Relevant, always included	Acute physical events are included in our business continuity planning process. Events such as earthquake, Tsunamis, fire and so forth for each site have been assessed and continuity plans put in place. Our facility in Kumamoto, Japan experienced an earthquake that destroyed our facility. We used the business continuity communication process and plans during that time to ensure our employees were safe and that we were able to continue operations and recover.
Chronic physical	Relevant, not included	We consider chronic physical risks as "deliver the mail" type issues that we must work with and around as they arise.
Upstream	Relevant, sometimes included	This depends on the conditions and priorities of the group assessing both upstream and downstream risks.
Downstream	Relevant, sometimes included	This depends on the conditions and priorities of the group assessing both upstream and downstream risks.

C2.2d

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

Our business continuity process incorporates climate related risks and opportunities related to acute physical risks, upstream risks, downstream risks, legal risks, market based risk and so forth. The group is comprised of a cross-functional team that spans the company. The group meets annually and puts forth plans to mitigate and manage risks. Each group manages their own plans to address the risks identified. The other process used to manage climate related risks and opportunities is our ISO 14001 system. The ISO 14001 standard requires us to identify and evaluate risks and opportunities. Climate change is just one area, of several, that are assessed. Resources constraints, regulatory changes and customer requirements are all considered when assessing risks and opportunities. Business goals, objectives and targets, incorporate opportunities to mitigate risks.

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?

No

C2.3b

(C2.3b) Why do you not consider your organization to be exposed to climate-related risks with the potential to have a substantive financial or strategic impact on your business?

	Primary reason	Please explain
Row 1	Risks exist, but none with potential to have a substantive financial or strategic impact on business	At this point we have identified risks but have not found that they pose substantive financial or strategic hurdles that we can not overcome with proper planning.

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 driver

Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)

Company- specific description

Changes in regulations that restrict the materials we can use in our products have provided us with an opportunity to re-design our products and market these products to our customers. Customers wishing to take advantage of these products purchase the product thereby increasing revenue

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

Medium

Potential financial impact**Explanation of financial impact**

We have not assessed the actual financial impact associated with just this one factor and do not wish to put down an arbitrary number with substantiated well thought out analysis.

Strategy to realize opportunity

We continue to listen to our customers, investors and look at the market to determine what criteria should be incorporated into the design funnel

Cost to realize opportunity**Comment**

Similar to the above we have not made this assessment and do not wish to put down an arbitrary number.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

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 driver

Please select

Company- specific description

As folks look to minimize energy consumption and the cost to build they are utilizing more efficient operations and technologies which help to decrease the cost to produce

Time horizon

Current

Likelihood

Please select

Magnitude of impact

High

Potential financial impact

Explanation of financial impact

We have not assessed the actual financial impact associated with just this one factor and do not wish to put down an arbitrary number with substantiated well thought out analysis.

Strategy to realize opportunity

Cost to realize opportunity

Comment

We have not assessed the actual financial impact associated with just this one factor and do not wish to put down an arbitrary number with substantiated well thought out analysis.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Supply Chain

Opportunity type

Products and services

Primary climate-related opportunity driver

Other

Type of financial impact driver

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

Company- specific description

Time horizon

Current

Likelihood

Virtually certain

Magnitude of impact

Medium

Potential financial impact

Explanation of financial impact

We have not assessed the actual financial impact associated with just this one factor and do not wish to put down an arbitrary number with substantiated well thought out analysis.

Strategy to realize opportunity

Cost to realize opportunity

Comment

We have not assessed the actual financial impact associated with just this one factor and do not wish to put down an arbitrary number with substantiated well thought out analysis.

C2.5

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

	Impact	Description
Products and services	Impacted	Regulatory changes related to energy use and material use has led to investment in R&D to test new materials and their reliability and functionality.
Supply chain and/or value chain	Impacted	Regulations driving material restrictions in products have impacted the supply chain. Components necessary for products are changing. Reliability, ease of use and properties of these materials change how products are put together and manufactured. This had led to changes in the devices used to manufacture these products.
Adaptation and mitigation activities	Not evaluated	
Investment in R&D	Impacted	Regulatory changes related to energy use and material use has led to investment in R&D to test new materials and their reliability and functionality.
Operations	Impacted for some suppliers, facilities, or product lines	Changes in what we use and how we produce some product lines.
Other, please specify	Please select	

C2.6

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

	Relevance	Description
Revenues	Please select	
Operating costs	Impacted for some suppliers, facilities, or product lines	Changes in materials and how we manufacture our products has and does impact operating costs. An example is suppliers moving to non-lead product lines. This requires new operating parameters and sometimes machinery. It also requires different raw materials. The additional costs borne by the supplier or contract manufacturer is based on to their customer, in this case Teradyne.
Capital expenditures / capital allocation	Impacted for some suppliers, facilities, or product lines	The inability to purchase items needed to keep legacy products in the field, due to market forces and material restrictions, has resulted in last time buys . Our products have long life spans and customers may not be in a position to purchase the newest and latest equipment. Maintaining their ability to keep a product in use prevents it from being discarded and also helps the customer. However, there is an associated cost. Capital expenditure is also required for product redesigns. Again this plays a large part in legacy products that may still be in demand but pre-date regulations. In order to continue making available these products and, comply with current regulations, requires re-design. There is capital expenditure/allocation associated with the decision to re-design a product to maintain its viability in the field.
Acquisitions and divestments	Not impacted	Many of our acquisitions are smaller or newer companies that are up-to-speed and comply with current environmental regulations. Startups are driven by groups that are not only technologically innovative but, they are also more aware of and steeped in culture that embeds environmental issues into designs.
Access to capital	Not impacted	
Assets	Not impacted	
Liabilities	Not impacted	
Other	Please select	

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

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

C3.1c

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

Teradyne has an Environmental Management System (EMS) that integrates into Teradyne's Business Planning Process. The EMS is used to establish and communicate the business strategy to address energy use, material use and GHG emissions in its operations, products and services. The Business Planning Process is used to set goals at the group level.

Compliance, currently, is one of the primary drivers in our business objectives and strategies. Increasingly, countries are implementing regulations that address energy and material use. Unfortunately, there is no one harmonized global system for ensuring each country consistently adopts similar regulations and strategies. As a result, we must carefully track the changing regulatory field and when and if necessary prioritize our activities, objectives and strategies correspondingly.

The one constant is our ability to control the energy use of our buildings and our products. The Global Facilities Management Group umbrellas Real Estate, Environmental, Health and Safety, Security and Facilities. The integration of these groups allows for a unique opportunity to collaborate and identify synergies where we are able to meet the needs of the groups customers and simultaneously address energy and climate concerns. Currently the goal for reducing our energy use and the need to evaluate our parking needs has resulted in the evaluation of solar carports for our Corporate Headquarters. This is an example of where Teradyne is addressing the needs of the employees and business but viewing it through the lens of sustainable projects.

C3.1g

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

This is not an absolute. Where climate change opportunities have the potential to affect our business strategy they would be communicated and used to inform the business strategy if relevant. If opportunities did not provide an opportunity it would not be integrated.

C4. Targets and performance

C4.1

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

Absolute target

C4.1a

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

Target reference number

Abs 1

Scope

Scope 1+2 (location-based)

% emissions in Scope

100

% reduction from base year

1

Base year

2016

Start year

2016

Base year emissions covered by target (metric tons CO2e)

30768

Target year

2017

Is this a science-based target?

No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)

2.26

Target status

Underway

Please explain

We have a year over year target to reduce emissions by 1%

C4.2

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

C4.3

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

Yes

C4.3a

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

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	4	
To be implemented*		
Implementation commenced*		
Implemented*	1	18
Not to be implemented	1	

C4.3b

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

Activity type

Energy efficiency: Building services

Description of activity

Lighting

Estimated annual CO2e savings (metric tonnes CO2e)

18

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

4786

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

25984

Payback period

4 - 10 years

Estimated lifetime of the initiative

16-20 years

Comment

We replaced fixtures in our stockroom. Existing we had 238 fixtures. We reduced the amount of fixtures to 164 fixtures. The wattage of the older fixtures was ~57 watts and the wattage of the new fixtures was ~38 watts. Reducing the number of fixtures and wattage of those fixtures resulted in a savings of 30,030 kw-hr each year. In addition, each new fixture has a motion sensor. The fixture will only go on when someone walks down the stockroom aisle. Each fixture has its own independent sensor. We anticipate at least a 50% savings by installed the sensors. In the past the lights were on from 6am till about 10pm. Now fixtures in aisles will remain "off" until activated by a motion sensor.

C4.3c

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

Method	Comment
Lower return on investment (ROI) specification	We use ROI to drive our investment in emission reduction activities

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 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

1982

Comment

Year over year reduction targets

Scope 2 (location-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

28786

Comment

Year over year reduction targets

Scope 2 (market-based)

Base year start

January 1 2016

Base year end

December 31 2016

Base year emissions (metric tons CO2e)

Comment

not applicable

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?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

1852

End-year of reporting period

<Not Applicable>

Comment

All emissions were calculated using the Ecometrica Platform, which automatically selects the most geographically and temporally appropriate emission factors and non standard conversions (e.g. fuel efficiencies, heat contents) for each emission source.

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

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

Comment

C6.3

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

Row 1

Scope 2, location-based

28211

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

All emissions were calculated using the Ecometrica Platform, which automatically selects the most geographically and temporally appropriate emission factors and non standard conversions (e.g. fuel efficiencies, heat contents) for each emission source.

C6.4

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

No

C6.5

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

Purchased goods and services

Evaluation status

Not evaluated

Metric tonnes CO₂e

Emissions calculation methodology

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

0

Explanation

Capital goods

Evaluation status

Not evaluated

Metric tonnes CO₂e

Emissions calculation methodology

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

Not relevant, calculated

Metric tonnes CO₂e

Emissions calculation methodology

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

0

Explanation

Upstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO₂e

Emissions calculation methodology

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

87

Emissions calculation methodology

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

0

Explanation

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

6902

Emissions calculation methodology

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

0

Explanation

Employee commuting

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Upstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Downstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Processing of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Use of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

End of life treatment of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Downstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Franchises

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Investments

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (upstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

Explanation

Other (downstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

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

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

0.017480434

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

30062.5

Metric denominator

square foot

Metric denominator: Unit total

1719780.518

Scope 2 figure used

Location-based

% change from previous year

2.47

Direction of change

Decreased

Reason for change

Our square footage and our revenue have both increased over the past year. At the same time we are starting to realize the energy savings resulting from the implementation of energy reduction projects over the past two years. We have moved to more efficient building systems (lighting and HVAC infrastructure). Both of these play a large consumption role at our facilities.

Intensity figure

0.014070217

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

30062.5

Metric denominator

Other, please specify (Thousand USD Revenue)

Metric denominator: Unit total

2136606

Scope 2 figure used

Location-based

% change from previous year

19.97

Direction of change

Decreased

Reason for change

Our square footage and our revenue have both increased over the past year. At the same time we are starting to realize the energy savings resulting from the implementation of energy reduction projects over the past two years. We have moved to more efficient building systems (lighting and HVAC infrastructure). Both of these play a large consumption role at our facilities.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	1846.21	IPCC Fourth Assessment Report (AR4 - 50 year)
CH4	4.57	IPCC Fourth Assessment Report (AR4 - 50 year)
N2O	1.09	IPCC Fourth Assessment Report (AR4 - 50 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	1852

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
EGL-BUF-IL-US-2200	37	41	-88
LIT-ARL-IL-US-3115	6	42	-88
LIT-SUN-CA-US-575	9	37	-122
LIT-SUN-CA-US-580	8	37	-122
LIT-SUN-CA-US-965	6	37	-122
NXT-SAN-CA-US-875	188	37	-121
TER-AH-CA-US-30701	9	34	-118
TER-BEA-OH-US-2689	12	39	-84
TER-BED-NH-US-9CE	14	42	-71
TER-ESS-VT-US-29R	5	44	-73
TER-FRI-MN-US-5301	17	45	-93
TER-NR-MA-US-500	448	42	-71
TER-NR-MA-US-600	499	42	-71
TER-NR-MA-US-700	530	42	-71
TER-OMA-NE-US-14769	10	41	-96
TER-PLA-TX-US-2701	11	33	-96
TER-SUN-CA-US-936	11	37	-122
TER-TAU-OR-US-7670	13	45	-122
UR-EAS-NY-US-11T	3	40	-73
UR-GAR-NY-US-100	5	40	-73
UR-PIT-MI-US-5430	9	42	-83

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	3204		3916	
Costa Rica	21		3076	
Czechia	63		141	
Denmark	966		4364	
France	19		421	
Germany	507		977	
India	3		4	
Israel	12		19	
Italy	146		455	
Japan	1576		2976	
Malaysia	54		80	
Philippines	6616		10589	
Singapore	795		1822	
South Korea	215		412	
Spain	41		134	
Taiwan (Province of China)	1032		1799	
Thailand	28		54	
United Kingdom of Great Britain and Northern Ireland	12		33	
United States of America	12901		37974	

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 CO2e)	Scope 2, market-based emissions (metric tons CO2e)
EGL-BUF-IL-US-2200	3735	
LIT-AAL-DEN-NOV	19	
LIT-ALB-NM-US-5601	189	
LIT-ARL-IL-US-3115	96	
LIT-ASIA-KOR-GUM	2	
LIT-BRE-CA-US-144	8	
LIT-CAE-ISR-HAE	12	
LIT-COP-DEN-FRE	2	
LIT-KYO-JAP-EST	21	
LIT-SAN-CA-US-10251	30	

Facility	Scope 2 location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
LIT-SHA-CH-PUD	180	
LIT-SHE-CH-KON	177	
LIT-SHE-CH-LON	6	
LIT-SUN-CA-US-575	106	
LIT-SUN-CA-US-580	284	
LIT-SUN-CA-US-965	27	
LIT-TAI-TAI-EPA	191	
LIT-TOK-JAP-WOR	64	
NXT-SAN-CA-US-875	1278	
TER-AH-CA-US-30701	1136	
TER-ALA-PHI-NOR	52	
TER-ASIA-JAP-NAG	7	
TER-ASIA-KOR-INCH	1	
TER-ASIA-TAI-TAIC	1	
TER-AUS-TX-US-5700	337	
TER-BAN-THA-GRI	9	
TER-BAN-THA-UDO	19	
TER-BEA-OH-US-2689	197	
TER-BED-NH-US-9CE	31	
TER-BRA-UK-LIL	12	
TER-CAT-ITA-ZON	13	
TER-CEB-PHI-CLI	6563	
TER-CHA-AZ-US-2535	122	
TER-CHE-IN-APE	3	
TER-ESS-VT-US-29R	64	
TER-EUR-GER-UNT	63	
TER-FRI-MN-US-5301	264	
TER-GRE-FRA-LES	9	
TER-HEF-CH-REN	231	
TER-HER-CR-C11	1	
TER-HER-CR-D18	20	
TER-HIS-TAI-HIT	824	
TER-IRV-CA-US-5251	64	
TER-KAO-TAI-MIN	11	
TER-KUA-MAL-HEI	14	
TER-KUM-JP-272-13	773	
TER-KUM-JP-MAS	304	
TER-MEL-MAL-WIS	15	
TER-MIL-ITA-PAD	117	
TER-MUN-GER-DIN	339	
TER-NAG-JP-ASA	16	
TER-NR-MA-US-500	1149	
TER-NR-MA-US-600	963	
TER-NR-MA-US-700	1463	
TER-OMA-NE-US-14769	169	
TER-ONY-KOR-DRE	5	
TER-PEN-MAL-JAL	25	
TER-PLA-TX-US-2701	349	
TER-ROU-FRA-PAR	1	
TER-SEO-KOR-HIB	194	
TER-SHA-CH-307-HIS	14	
TER-SHA-CH-B15	18	
TER-SHA-CH-B18	212	
TER-SHA-CH-JIN	2156	

Facility	Scope 2 location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
TER-SHE-CH-VIS	11	
TER-SIN-SIN-ARI	693	
TER-STD-FRA-PAR	9	
TER-SUN-CA-US-936	357	
TER-SUZ-CH-ASC	83	
TER-SUZ-CH-ETS	1	
TER-SUZ-CH-IPO	12	
TER-TAI-TAI-XIA	4	
TER-TAU-OR-US-7670	108	
TER-TIA-CH-YIN	2	
TER-YOK-JAP-MM	391	
UR-BAR-SPA-MAR	41	
UR-EAS-NY-US-11T	43	
UR-EUR-ITA-TUR	16	
UR-GAR-NY-US-100	82	
UR-IRV-CA-US-101	33	
UR-IRV-TX-US-909	72	
UR-MUN-GER-BAI	105	
UR-ODE-DEN-ENE	944	
UR-PIT-MI-US-5430	144	
UR-PRA-CZR-SIE	63	
UR-SEO-KOR-HSQ	13	
UR-SHA-CH-688-HEN	102	
UR-SIN-SIN-TEL	102	

C7.9

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

Decreased

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other	706	Decreased	2.29	There are numerous factors that impact our total Scope 1 and 2 Emissions. It is not possible for us to allocate an amount to any one thing. We have have acquired companies since our last reporting period. We also continue to make small changes in how we operate and, implement more energy efficient lighting and equipment as we are able. Improvements help to offset the expanding portfolio.

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 0% but less than or equal to 5%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)		10198	10198
Consumption of purchased or acquired electricity	<Not Applicable>		69244	69244
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	1072	<Not Applicable>	1072
Total energy consumption	<Not Applicable>	1072	79441	80514

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Natural Gasoline

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

10198

MWh fuel consumed for the self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

C8.2d

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

Natural Gasoline

Emission factor

1852

Unit

metric tons CO2e per MWh

Emission factor source

"EPA (2017). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015. United States Environmental Protection Agency. EPA (2015). GHG Emission Factors Hub. Center for Corporate Climate Leadership. November 2015. <http://www.epa.gov/climateleadership/inventory/ghg-emissions.html>. Accessed July 2016."

Comment

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1072		1072	1072
Heat				
Steam				
Cooling				

C8.2f

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

Basis for applying a low-carbon emission factor

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

Low-carbon technology type

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

Comment

C9. Additional metrics

C9.1

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

Description

Please select

Metric value

Metric numerator

Metric denominator (intensity metric only)

% change from previous year

Direction of change

<Not Applicable>

Please explain

C10. Verification

C10.1

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

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

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

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

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

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

C11.2

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

No

C11.3

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

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

C12. Engagement

C12.1

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

Yes, our customers

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

Size of engagement

% Scope 3 emissions as reported in C6.5

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

have not evaluated in a manner that allows quantifiable numbers

Impact of engagement, including measures of success

have not evaluated

C12.3

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

Trade associations

C12.3b

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

No

C12.3f

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

Our Environmental Management System contains the processes we use to ensure our activities and message is consistent. We have a steering team, consisting of top management, that participates in selecting objectives, targets and monitoring progress.

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

Other, please specify (www.teradyne.com under CSR)

Status

Underway – previous year attached

Attach the document

SBERResultsReportTeradyne.pdf

Content elements

Other metrics

C14. Signoff

C-FI

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

C14.1

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

	Job title	Corresponding job category
Row 1	Corporate EHS Engineer	Environmental, health and safety manager

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms