C0. Introduction

C0.1

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

Illumina is a global genomics and human health company powering the future of personalized medicine and beyond. At Illumina, our efforts have turned ideas into innovations impacting millions of people and unlocking discoveries across the field of genomics. The results are all around you—in the care you receive, the decisions you make for your family, the environment, and the food you eat. We aim to drive progress in the transformative power of genomics for all and our mission is to improve human health by unlocking the power of the genome. In 2021, Illumina's revenue exceeded $4.5 billion, our employee base was 9,191, and we invested over $885 million in R&D. Driven by our mission, we are committed to making our technology more affordable and accessible, realizing health equity for billions around the world.

We are dedicated to making a positive impact on humanity, not just through our technology, but through our actions. By doing so, we aim to help shape a more sustainable and equitable future for all. Our Corporate Social Responsibility (CSR) strategy focuses on delivering sustainable long-term value by addressing the most significant and material environmental, social, and governance areas. Our CSR focus areas are: Expanding Access to Genomics, Empowering Our Communities, Integrating Sustainability, Nurturing Our People, and Operating Responsibly.

Human health and the health of our environment are intertwined. Our company mission to improve human health is supported through our commitment to operate responsibly and sustainably. We are integrating the risk and opportunities associated with climate impact into our business strategy and we believe addressing climate change is one of the key topics to achieving a sustainable, just, and resilient future for all. To understand the potential risks and opportunities of climate change, we conducted an assessment using the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

We are responding to climate change risk such as increased severe weather events, potential policy changes, and reputational harm by investing in more renewable energy, integrating green design principles into our facilities and products, and continuing to drive sustainable innovation. Opportunities to support climate action through genomics research can create additional positive impacts. We are proud to see our products being used around the world to study climate change impact, conservation biology, and influence more sustainable agriculture practices. We are at the forefront of addressing this critical global issue by enabling our customers around the world to understand these issues through the lens of genomics.

For more details, visit:

- CSR page at www.illumina.com/csr

- 2022 CSR report at https://www.illumina.com/content/dam/illumina-marketing/documents/company/illumina-csr-report-2022.pdf

Climate Change position statement:

Illumina's CSR vision is to deepen our impact on human health by serving as a champion for patients, our community, and our planet. We are committed to integrating environmental stewardship into the fabric of how we operate. We recognize the risk posed by global climate change and the importance of our environment in creating a healthy, sustainable future for all. Illumina supports the conclusions of international frameworks that address climate change and the conclusions from the Intergovernmental Panel on Climate Change (IPCC).   We endorse the use of scientific consensus and science-based targets to address carbon emissions reduction efforts to keep global warming to 1.5 °C above pre-industrial levels. Statement is available at https://www.illumina.com/content/dam/illumina-marketing/documents/company/final-climate-position-statement.pdf.

We have committed to:

- Business Ambition for 1.5 °C

- Science Based Targets initiative

- We Mean Business Coalition

- United Nations Race to Zero

- United Nations Sustainable Development Goal 13: Climate Change

- Task Force on Climate Disclosure

We believe all governments and businesses have important roles and responsibilities to address the issue of climate change, and we will continue to seek opportunities to do our part to achieve this critical goal. We have joined other corporate leaders in committing to decarbonization and demonstrating our commitment to leadership in environmental sustainability. We set a long-term target of Net Zero emissions by 2050 across our operations and value chain and our Climate Action Plan includes the following 2030 targets: 46% emission reduction across Scopes 1, 2 and 3; 100% renewable electricity use; 10% reduction in water intensity and 90% landfill diversion at core sites; green design in new construction, and integrating Design for the Environment into new product design.

We are committed to measuring our progress and reporting to stakeholders in a timely and transparent way through our annual Corporate Social Responsibility Report and CDP disclosures.

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
Reporting year	January 1 2021	December 31 2021	Yes	2 years

C0.3

(C0.3) Select the countries/areas in which you operate.

Australia
Belgium
Brazil
China
France
Germany
Israel
Japan
Netherlands
Republic of Korea
Russian Federation
Singapore
Turkey
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 chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	ILMN
Yes, an ISIN code	US4523271090

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)	The Illumina CEO is a member of the Board of Directors (Board) and is responsible for directing all aspects of company strategy, planning, and operations. Climate-related issues and projects associated with the reduction of our environmental footprint are reviewed at least annually by the full Board and can be escalated to the Board through Illumina's CEO and the CEO's direct reports. Each direct report manages responsibilities associated with their functional area. The Board provides oversight to the CSR program covering environmental, social, and governance (ESG) topics, including climate-related issues. The Board receives updates at least annually on current performance and future strategic plans, with additional updates provided if material changes occur. The Board provides oversight, guidance and direction on ESG risk and opportunities that have potential impact on reputation and long-term economic viability, including climate action. We govern CSR at the highest level with oversight from the full Board of Directors. This strong leadership supports the management of material environmental, social, and governance issues, including climate action, diversity, equity and inclusion, human rights, cybersecurity, and ethical, responsible business practices.
Other, please specify (CSR Executive Steering Committee)	During 2021, the Chief Financial Officer chaired the Executive CSR Steering Committee, which comprises a team of senior leaders from across the organization, including the Chief Medical Officer, General Counsel, Chief of Global Operations, Chief People Officer, Chief Technology Officer, Chief Marketing Officer, and Global Head of CSR. The CSR Executive Committee has overall responsibility for reviewing company activities related to CSR, including climate change programs. The CSR Executive Committee sets the strategy for environmental sustainability including establishing reduction targets and monitoring annual progress. A council of leaders from each CSR strategic focus area report to the CSR Executive Committee on a quarterly basis with progress updates. Reports to the broader CEO staff are scheduled as needed to provide updates on status regarding CSR elements including environmental matters. On at least an annual basis, updates on CSR projects are provided to the Board of Directors.
Chief Financial Officer (CFO)	During 2021, the CSR Functional group that manages environmental, social, and governance programs reported directly to the CFO. In April 2022, the strategic oversight for our CSR program shifted from the CFO to a newly created department of Public Affairs and our first Chief Public Affairs Officer. The CFO remains on the CSR Executive Steering Committee and continues to provide ESG strategy and climate risk oversight.

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	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding business plans Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	The CEO, as a director on the Board is the liaison from the CSR Executive Steering Committee. Information on projects, strategy, and targets are escalated on an as-needed or requested basis. The CEO reports to the Board at least annually on Illumina's progress towards its 2030 environmental sustainability targets and 2050 Net Zero target. The CSR Executive Steering Committee reviews quarterly updates against long term environmental sustainability targets. This committee also approves additional environmental sustainability targets and provides guidance to the CSR functional team and CSR working groups on strategy and project roadmaps to reduce greenhouse gas emissions. In April 2022, the strategic oversight for Illumina's CSR program shifted from the CFO to a newly created department of Public Affairs and our first Chief Public Affairs Officer. The CFO remains on the CSR Executive Steering Committee.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Not assessed	<Not Applicable>	<Not Applicable>	<Not Applicable>

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)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Chief Financial Officer (CFO) *In April 2022, the strategic oversight for Illumina's CSR program shifted from the CFO to a newly created department of Public Affairs and our first Chief Public Affairs Officer. The CFO remains on the CSR Executive Steering Committee.*	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Other C-Suite Officer, please specify (Chief Technology Officer)	<Not Applicable>	Other, please specify (Integrating sustainable product design into new products)	<Not Applicable>	As important matters arise
Other, please specify (Head of Corporate Social Responsibility)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Facility manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Not reported to the board
Environmental, Health, and Safety manager	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Not reported to the board
Corporate responsibility committee	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually
Sustainability committee	<Not Applicable>	Other, please specify (Awareness and grass roots projects)	<Not Applicable>	Not reported to the board
Safety, Health, Environment and Quality committee	<Not Applicable>	Other, please specify (Awareness)	<Not Applicable>	Not reported to the board
Please select	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C1.2a

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues

(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).

Chief Executive Officer

Sits on the Board and supports annual updates to the Board related to elements of sustainability, climate change, and broader CSR strategy and updates. Additional updates are brought to the Board on an as-needed basis.

Chief Financial Officer (CFO)
In 2021, the CFO managed the CSR functional team and chaired the CSR Executive Steering Committee. CSR encompasses environmental sustainability and social responsibility elements. CFO oversees responsibility for supporting the organization on all aspects of finance for commercial, product development, operations, and R&D. The Finance team also performs the following functions: investor relations, accounting, audit, tax, and treasury. In April 2022, the strategic oversight for Illumina's CSR program shifted from the CFO to a newly created department of Public Affairs and our first Chief Public Affairs Officer. The CFO remains on the CSR Executive Steering Committee.

Chief of Global Operations
Oversees Environmental Health & Safety, Facilities, Real Estate Management, Quality, and Manufacturing. Responsibilities related to CSR & sustainability include facilities management and environmental, health and safety. Leads the organization that manages energy, water, and waste reduction projects at our facilities including new facility design and utility data tracking. This team also embeds sustainability into business strategies.

Chief People Officer

Responsible for supporting the elements of People within our CSR strategy such as employee development, talent recruitment, diversity, equity & inclusion, pay equity, benefits, and wellness.

Chief Technology Officer

Leads the organization tasked with design and development of new products and technology. Responsible for embedding Design for Environment (DfE) into the product development programming. DfE is our approach to incorporating sustainability and lowering the environmental impact of products through design. Through DfE, we apply environmental criteria to resource selection, design, packaging, energy use, data processing efficiency, size, weight, stability, shelf life, temperature requirements, end-of-life management, and more. We have established 2030 targets to further reduce the environmental impact of our products.

Head of Corporate Social Responsibility
Leads the functional CSR group and directly reported to the CFO in 2021, and now to the Chief Public Affairs officer. Responsible for overall CSR program, goals, and targets including environmental sustainability target tracking.

Chief Marketing Officer
Responsible for supporting external communication on climate related goals, targets, projects, and community engagement.

CSR Executive Steering Committee
Chaired by the CFO in 2021 (and now the Chief Public Affairs Officer) and compromised of executives from across the organization. The committee is responsible for setting and supporting environmental sustainability targets. Committee conducts a quarterly review of 2030 and 2050 ESG targets and provides guidance on environmental sustainability strategy and CSR program development.

CSR Working Groups
CSR programs are embedded into our business through several supporting cross-functional working groups. These teams work to operationalize and integrate CSR in each of their respective programs. The working group leaders provide direction and lead implementation of programs that support the CSR commitments including environmental sustainability and climate related goals. These groups include: Executive Diversity Council; Environment, Health & Safety Steering Committee; Sustainable Product Core Team; Supply Chain Sustainability & Responsibility Working Group; and Supplier Diversity Governance Committee.

Facility Managers
Responsible for the execution of 2030 energy, water, and waste related targets including managing conservation projects, establishing project roadmap to meet targets, and support of 2050 net-zero target.

EHS Managers
Responsible for support of data collection associated with environmental metrics, employee engagement, grass roots sustainability green teams, and environmental compliance.

Employee Engagement Groups
Employees have the ability to directly participate in our CSR program through a variety of grassroots efforts. These groups provide a wealth of ideas and support for activation at local levels all aimed to link our CSR efforts back out mission. These groups include Sustainability Green Teams, Illumina Cares Volunteer Champions, and Employee Resource Groups that promote environmental stewardship onsite and in our communities.

C1.3

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

	Provide incentives for the management of climate-related issues	Comment
Row 1	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).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Operating Officer (COO)	Monetary reward	Emissions reduction project Emissions reduction target Behavior change related indicator Environmental criteria included in purchases	Responsible for the company's global operations including Manufacturing, Supply Chain, Life Cycle Management, Information Technology and Global Facilities and Real Estate teams. Select sustainability targets are included in annual corporate goals.
Corporate executive team	Monetary reward	Emissions reduction target Energy reduction project	Select ESG targets are included in annual corporate goals and influence executive compensation through the management performance scorecard.
Public affairs manager	Monetary reward	Emissions reduction project Emissions reduction target Behavior change related indicator	Select ESG targets are included in annual corporate goals and influence executive compensation through the management performance scorecard.
Environment/Sustainability manager	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target Behavior change related indicator Environmental criteria included in purchases Supply chain engagement	Environmental managers and EHS leaders are eligible for monetary rewards for special projects and results related to improving environmental sustainability. This includes rewards for energy consumption reduction, greenhouse gas emission reduction, hazardous and non-hazardous waste reduction. The recognition can occur through our Values Awards and Spot Bonuses. Financial awards and other forms of recognition are also presented to employees who have developed a noteworthy project during the year, and this could be related to environmental or energy efficiency enhancements.
Energy manager	Monetary reward	Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target	Personal compensation could be connected to energy and emission targets and projects. All employees are eligible for special recognition for innovative ideas and projects related to improving environmental sustainability. These rewards include projects/ideas that lead to energy consumption reduction and greenhouse gas emission reduction.

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Business unit manager	Monetary reward	Emissions reduction project Energy reduction project Efficiency project Behavior change related indicator	Individual monetary performance bonuses can be achieved by completing projects to reduce greenhouse gas emissions and meeting annual environmental goals (water, waste, energy, and carbon). Applicable projects include supporting energy conservation emission reduction projects and carbon reduction projects. Financial awards and other forms of recognition are also presented to employees who have developed a noteworthy project during the year which could be related to environmental or energy efficiency enhancements including completing projects in line with 2030 environmental sustainability targets.
All employees	Monetary reward	Energy reduction project Efficiency project Behavior change related indicator	Employees have the opportunity to receive giveaways and prizes when participating in sustainability events. Environmental benefits for employees include access to: electric vehicle charging stations on campus; bike lockers and showers for bike commuters; ride sharing vehicles; stipends for commuter programs; and free electric shuttles between train station and work locations.
All employees	Non-monetary reward	Energy reduction project Efficiency project Behavior change related indicator	Employees have the opportunity to receive giveaways and prizes when participating in sustainability events. Environmental benefits for employees include access to: electric vehicle charging stations on campus; bike lockers and showers for bike commuters; ride sharing vehicles; stipends for commuter programs; and free electric shuttles between train station and work locations.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	To ensure we hit critical milestones on our path to net-zero, we created short-, medium-, and long-term targets. These climate commitments include Science Based Targets initiative (SBTi) verified targets aligned to the 1.5 °C pathway. Our short term target outlines a 4% annual reduction in Scope 1, 2 and 3 emissions on our path towards 46% Scope 1, 2 and 3 emissions reduction by 2030. We have also committed to carbon neutrality in direction operations (Scope 1 & 2) by 2023. Functional groups establish projects to meet these short-term goals. Environmental performance metrics are monitored consistently and reported quarterly. Energy or carbon reduction projects are reported at project scoping level with expected impacts and timeline for returns on investment. Long term targets are aligned with UN Sustainable Development Goal (SDG) 2030 timeline and science-based emission reduction approach.
Medium-term	5	8	Illumina has established a Climate Action Plan to prioritize the implementation of sustainable solutions in our facilities and products, as well as across our supply and value chain. We expanded our 2030 climate action targets to minimize risk associated with climate change, build resilience, and identify opportunities for long-term sustainable growth. Illumina commits to reducing absolute Scope 1 and 2 GHG emissions 46% by 2030 from a 2019 base year. We also commit to increase annual sourcing of renewable electricity from 0.6% in 2019 to 100% by 2030. We further commit to reducing absolute scope 3 GHG emissions from purchased goods and services, capital goods, upstream transportation and distribution, business travel, employee commuting and investments 46% by 2030 from a 2019 base year. These targets are aligned to a 1.5 °C climate ambition and externally verified by SBTi. Long term targets are aligned with UN SDG 2030 timeline and science-based emission reduction approach result in functional group projects and goals for shorter term timeline.
Long-term	8	28	With our commitment to responsible and sustainable practices, we have established targets to prioritize the implementation of sustainable solutions in our facilities and products, as well as across our supply and value chain. We set a long-term target of net-zero emissions by 2050 across our operations and value chain (Scopes 1, 2 and 3). This target has been verified by SBTi and is aligned with the most aggressive climate action goals of keeping global warming to 1.5 °C. On the path to net-zero, our milestone targets for 2030 will ensure we hit critical milestones. These targets have been verified by SBTi and include: 46% absolute reduction in Scope 1, 2 and 3 emissions; and 100% renewable electricity. We have also committed to 90% landfill diversion and 10% reduction in water intensity at core sites. To further deepen our impact through philanthropy, we have committed to invest $20 million in philanthropic contributions to sustainability initiatives and projects by 2030.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Illumina defines a substantive financial or strategic impact as those with a potential financial impact greater than 5% of revenue impact. This could be the result of business interruption due to climate related risk or business operational impact. Additional factors considered include the climate related risk that would cause a business interruption and exposure to critical operations.

To understand the potential risks and opportunities of climate change, Illumina conducted an assessment using the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The assessment measured impact utilizing the following definitions:

· Low Impact- Ability to absorb financial, operational, and reputational impact.

· Moderate Impact - Some impact to finances, operations, and reputation.

· High Impact- Substantive financial, operational, strategic, and reputational impact.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered
Direct operations
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
To understand the potential risks and opportunities of climate change, we conducted an assessment in 2020 using the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We engaged with BSR (Business for Social Responsibility) to develop three 2030 climate scenarios linked to global warming by 2100. Our goal was to better understand the implications of climate change for our business and identify opportunities to build resilience. Climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP).

To identify and manage climate-related issues, Illumina is integrating climate impact into our existing risk management structure using the Environment, Health & Safety team management system, the CSR materiality assessment, business continuity program management, supply chain risk reviews, and internal audit risk program. As our enterprise risk management program evolves, we plan to integrate climate as a key component. The climate change elements that have most influenced our strategy are physical risk to operations, supply chain impact, and reputation. These risks have been incorporated into business continuity planning, future product development, redundancy in supply chain where possible, and site selection for future growth. We are actively reviewing opportunities to further integrate climate into our processes and path to further expand resilience.

Examples of incorporation include: targets to align with the UN Sustainable Development Goals and utilization of the Science Based Targets initiative (SBTi) methodology for a well below 1.5°C scenario; holistic goals of reducing the environmental footprint of our products throughout the life cycle; incorporation of Design for Environment into our new product design; improved supply chain planning; and a reduction of air emissions. In 2021 we expanded our climate action targets.

We have implemented redundant planning and maintained safety stock to provide resilience during severe weather events. For financial planning, we include risk and opportunities evaluated through our standard budget planning. Investment in energy-reduction projects that require capital expenditures are evaluated through the Capital Committee planning process. Potential indirect cost associated with supply chain, future tax, or increased operating costs from extreme weather would connect with these internal workstreams.

In early 2021, Illumina launched our first Scope 3 emission inventory assessment across all relevant categories for our value chain. Of the fifteen categories assessed, we selected the most material categories contributing to our emission inventory that represented 7% or more were defined as material and account for 92% of our total Scope 3 footprint. These categories include, upstream transportation and distribution, purchased goods and services, capital goods be the focus of our reduction efforts, investments, business travel, employee commuting. In September of 2021, we successfully received verification from Science Based Targets initiative (SBTi) on our emission reduction approach aligned to a 1.5 °C pathway. Our verified targets include reducing absolute Scope 1, 2 and Scope 3 emissions 46% by 2030 compared to 2019 and increasing annual sourcing of renewable electricity from 0.6% in 2019 to 100% by 2030. To address our Scope 3 emissions, we are working with each functional group on projects to continue to drive down the value chain impact. Initial projects and sample initiatives include updates to our investment policy, communication campaign to our supplier base, supplier mapping optimization, expanding green travel policy, and shifting purchased goods from air to ocean freight wherever possible. Illumina has created a 2030 target for 100% of strategic suppliers to have a commitment to reduce their environmental footprint. Additionally, the emissions associated with our investments accounted for 10% of the impact in our value chain in our 2019 baseline study and was one of the top five areas contributing to our Scope 3 greenhouse gas inventory. Following review of the Scope 3 data, we modified our investments policy to eliminate investing in Energy and Utilities sector bonds unless the associated issuance is identified as a Green, Social or Sustainability (GSS) Bond.

In 2022 we received approval from SBTi on our long-term target to reach net-zero GHG emissions across our direct operations and our value chain by 2050 from a 2019 base year.

Additional processes for identifying, assessing, and responding to climate-related risks and opportunities have been developed. We utilize our enterprise risk management program, emergency preparedness & response program, our environmental management system, and our business continuity program to leverage existing workflows.

We review the environmental management system framework annually as part of the global aspect and impacts clause. Output from this data influences environmental performance and GHG reduction objectives. Illumina also uses our ISO14001 environmental management system as one of the mechanisms to monitor and reduce our environmental impacts from GHG emissions.

The EHS team monitors legislation related to climate change and general environmental regulations at the global, regional, country, and local level. Supply chain data is reviewed through data collection during the RFP process, new supplier onboarding, and regular supplier reviews. Input from government affairs, EHS, regulatory, and compliance teams is also incorporated to overall risk culture and various workstream assessments. Addressing risk at the site level is performed by our site emergency management cross functional group which plan for and react to immediate and near-term physical risks caused by climate change.

C2.2a

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

	Relevance & inclusion	Please explain

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Illumina has a formal EHS review process for monitoring environmental regulatory developments globally and in areas where we do business. This includes external service subscriptions to organizations that monitor regulatory development and an internal system to capture and manage identified issues. We highlight the potential impact and identify action plans for compliance and to internally communicate impacts. We track all relevant emission regulations, ESG related reporting regulations, and chemical related requirements to ensure we have strategies to meet operational and regulatory needs. Current regulatory frameworks such as CAA, CWA, CERCLA, NEPA, TSCA, RCRA, and EU regulatory requirements may begin to include emission specific items and expanded reporting requirements. Additional climate related risks are assessed including the monitoring of local regulation on carbon taxes and emission trading. Changes in current regulations could present a financial risk. Some sites are exposed to high utility costs which could increase cost of goods for manufacturing.
Emerging regulation	Relevant, always included	Illumina continuously monitors new and emerging regulations, to ensure that all operations are prepared to comply with all legal requirements. Assessments are made for proposed regulations that could impact the company and/or specific locations. Legal registers are maintained as part of the management system approach for compliance assessments and future potential impacts. Emerging regulations are considered as part of EHS compliance and environmental management strategies to ensure that local operations meet compliance expectations and that in areas where we sell products, we are compliant with product requirements. Supply chain and regulatory teams also monitor potential and emerging regulatory requirements for product impact. We have incorporated design for environment into our product development pipeline as well. Review of emerging regulation ensure that operations and products will continue to meet compliance expectations. Local operational and product compliance is also essential for long term business continuity. Developing products and manufacturing capabilities that stay ahead of emerging regulatory constraints allows us to proactively prepare for future supply, products, and service needs. For example, Illumina continues to develop instruments to stay ahead of ROHS regulations and to also ensure compliance with any REACH obligations. New and proposed regulations regarding carbon emissions are monitored on a company-wide basis. To minimize internal risk from potential regulation changes, Illumina continues to work on reducing energy usage, increasing renewable electricity use, and has initiated work within the supply chain to magnify impact.
Technology	Relevant, always included	New product technology and advances in infrastructure technology reduce risk and reliance on power consumption from a single source such as the grid. To minimize risks associated with transition to lower carbon systems in our operations, we have implemented on-site solar, battery storage, and fuel cells. Installation of solar and fuel cells offers resilience and cleaner energy options. We regularly evaluate energy-efficiency measures and renewable energy projects to reduce our operational carbon emissions. In 2021, we enrolled in a Community Power offering, shifting all three of our San Diego locations to 100% renewable electricity. All existing San Diego sites will be fully transitioned by the end of 2022. We have committed that all new construction will incorporate green design principles (i.e. LEED or equivalent). A technology implemented in our labs at the San Diego campus included a system called Aircuity that continuously monitors the level of potential hazardous chemicals in the air. With this technology, we are able to keep operating conditions at a much lower air exchange rate as the system has built in safety controls to ramp up the air if it detects any chemicals. We have also used technology to tie HVAC to our occupancy sensors which allows a reduction in energy use associated with both lighting and HVAC when areas are not being used. When we design and install new equipment at our existing or new facilities, we consider the implications of not only capital costs, but also the operating costs and emissions produced. We initiated energy audits in 2021 at our San Diego, Madison, Northern California, Cambridge and Singapore facilities to further identify opportunities to reduce energy consumption across our global operations. We have provided guidance on purchasing energy star devices for items such as stand alone cold storage units used in our labs and other facilities. Within our own products we see opportunities to use technology and innovation to reduce energy needs. We are seeking ways to optimize sequencing power consumption and processing efficiency to reduce the environmental impact of our products. The DRAGENTM (Dynamic Read Analysis for GENomics) Bio-IT platform provides accurate, ultra-rapid secondary genomic analysis of sequencing data. This platform requires 20x less energy to analyze one whole human genome compared to the DRAGENTM-GATK.
Legal	Relevant, always included	The tenets of strong governance are foundational to doing business responsibly. Our culture of compliance and ethics starts at the Board level and is incorporated into every level of our business. We put that strong governance foundation in action through our Code of Conduct and compliance programs. The Illumina Code of Conduct promotes honest and ethical conduct, compliance with applicable laws and regulations, and protection of our business interests. Key topics of our Code of Conduct include fraud prevention, bribery and corruption, anti-discrimination, anti-harassment, human rights, diversity and inclusion, employee safety, corporate social responsibility, marketing and sales claims, and government interaction. We have adopted a company-wide approach, through various mechanisms, to assess and manage risks. We endeavor to ensure that all employees adhere to our ethics and compliance protocols. Our Enterprise Risk Management (ERM) framework has been established to anticipate, assess, monitor, manage and report on risks that could impede our business, and to identify emerging issues and opportunities. Our risk assessments consider various quantitative and qualitative inputs including climate. Additionally, the Internal Audit Department independently and objectively assesses risk and reports insights to the Audit Committee of the Board of Directors. We have implemented a corporate, global, Business Continuity Planning (BCP) program to reduce risk exposure and mitigate negative events to business operations. The ISO 22301:2019 standard is used as a business continuity framework for this program. Our EH&S Department continuously monitors proposed and current environment regulatory requirements globally. Climate-related litigation claims have not been deemed to pose a risk to our business. This is due to the nature of our business and our activities. Our climate actions and external emission reporting are provided voluntarily. To date, no such climate-related claims have been raised and none are anticipated. We are committed to climate action and the integration of climate resilience planning into our risk management program. Our expanded climate action targets are an important part of our overall business strategy to minimize risk associated with climate change, build resilience, and identify opportunities for long-term sustainable growth.
Market	Relevant, always included	During our TCFD climate scenario modeling, the two potential market risks identified for Illumina were carbon/energy tax and supply chain raw material availability/cost. Both of these risks had a medium time horizon of 5 - 8 years but were rated as not likely to occur with a low to moderate level of impact that would not trigger material financial reporting. With our high growth, global electricity consumption is estimated to increase through 2030, which will result in an increase in energy demands accompanied by high electricity prices. While we have committed to procure 100% of our electricity from renewable sources by 2030, there may not be enough renewable energy generated to offset the carbon associated with traditional fossil fuels. Increasing energy costs, whether due to lack of availability or high carbon prices, as well as increasing customer expectations for more energy efficient products, may create risks, but these are not projected to be a material impact for the Illumina product portfolio. The other potential climate-related market risk could include fluctuations in availability of raw materials such as fossil fuel-based substances including plastics used in our cartridges and portfolio of products. This could potentially impact fluctuating prices in carbon and fossil fuels. Mitigation for the above factors include design for environment application in our product development, initiatives to reduce plastic in the design phase, packaging reduction efforts, and assessment of alternative materials. We will also continue to assess increasing use of renewables at our sites. In the extreme 4D climate models, Illumina could be subject to potential changes in raw material access. Supply chain hot spots that were identified for Illumina include raw material availability, cold chain, and supplier community climate resilience. Access to critical raw materials may become more difficult due to either geopolitical tensions or competition for resources with other sectors. Mitigation includes Scope 3 emissions reduction, supply chain redundancy, and linkage to our business continuity planning. Enterprise Risk Management (ERM) uses a risk identification process that incorporates both quantitative and qualitative factors that support risk scoring and prioritization of potential substantive financial or strategic impacts to our business. Considerations include financial, operational, employee, legal & regulatory, and reputational risks.
Reputation	Relevant, always included	Illumina recognizes being a leader in genomics means there is an opportunity and responsibility to be a leader and good steward for the environment. ERM uses a risk identification process that incorporates both quantitative and qualitative factors that support risk scoring and prioritization of potential substantive financial or strategic impacts to our business. Considerations include financial, operational, employee, legal & regulatory, and reputation risks. During our TCFD climate scenario modeling, reputational risk for increased stakeholder concern or negative stakeholder feedback was identified for Illumina with a medium time horizon and a moderate impact but rated as not likely to occur. Climate related reputation risk is assessed through strategy planning, customer feedback, ongoing stakeholder engagement, and our materiality assessment. Reputation risk could impact recruitment and retention of top talent. We recognize the competitive opportunity for recruitment and retention when employees align with the values of our company. Our employee engagement survey demonstrates strength in this area and we look forward to continuously improving. Our 2021 survey indicated 93% reported they were proud to work for Illumina. We recognize that having a reputation for adopting a strong environmental approach could provide a competitive advantage. Reputation loss could lead to a risk in sales. There could be reputational risk with investors, customers, current employees, and potential employees based upon the quality of our response to take climate action. To communicate our achievements and continue to benchmark for continuous improvement opportunities, we participate in many external surveys including Dow Jones Sustainability Index and CDP. We also report transparent progress in our annual CSR Report. We have been recognized on the DJSI, Sustainability Yearbook, America's Most Responsible Companies, Best Places to Work for LGBTQ+, Fortune Change the World, Bloomberg Gender Equality, Most Just Companies, Best for Vets, and Gold Rating from Ecovadis.

	Relevance & inclusion	Please explain
Acute physical	Relevant, always included	During our TCFD climate scenario modeling, two acute physical risks were identified for Illumina: increased severity and frequency of extreme weather and increased severity and frequency of wildfires. Both of these risks had a medium time horizon and were more likely than not to occur but with only a moderate impact. Illumina's potential risks associated with physical impacts of climate change such as wildfires, flooding, and solar heat gain include risks to operational footprint and the supply chain. For the operational footprint, acute physical risks are factored into infrastructure development and business continuity planning. An example of impact already experienced includes our Bay Area sites that have been previously closed due to poor air quality from surrounding wildfires. Updates to facility maintenance programs and infrastructure were made as part of lessons learned from events such as these. The US, UK, Netherlands, and Singapore were identified as having an increased likelihood of severe drought and probability of heatwave from 2020-2030, increasing the risk of fires and water scarcity. Extreme weather events could affect our manufacturing sites, potentially causing reduction or disruption in production capacity. With our insurance carrier FM Global, facilities in higher risk areas are improved based on recommendations during FM risk evaluation. For potential physical impact to supply chain, climate change may disrupt logistics such as shipping routes as well as cold chain shipping mechanisms. An increased risk of wildfire and other physical climate impacts may affect energy and electricity grid stability, causing implications for cold storage and manufacturing, impacting Illumina facilities and offices, as well as the supply chain. Other physical impacts of climate change have the potential to increase the costs of different modes of transport and shipping routes, while cold chain may become more difficult to maintain either due to energy constraints or increased competition from other sectors. Business plans are in place and are updated routinely as part of business continuity planning to respond to supply or production disruptions due to exceptional weather events. Our sites that use management systems apply the elements of global environmental aspects and impacts, risks, and opportunities. Additional mitigation factors include new site planning, supply chain redundancy, water conservation projects, and on-site renewable energy.
Chronic physical	Relevant, always included	Two chronic physical risks were identified for Illumina but had a long-term horizon and rated as low to moderate impact: changes in patterns for precipitation and extreme variability in weather, and rising temperatures and sea levels. Changes in patterns for precipitation and extreme variability in weather is more likely than not to occur and has a potential of low impact on Illumina's operations. Rising temperatures and sea levels is not likely to occur and has a potential of moderate impact on Illumina's operations. Talent and human capital may also be impacted in all scenarios including migration of workers from areas of high risk as well as increased health challenges due to climate change impacts. Chronic physical risks e.g. sustained higher temperatures could present risks to the company. An increase in the number and length of periods of increased temperature could affect the cost to cool water for production. Labs with specific temperature control issues for product integrity may face a higher cost of production in order to maintain temperatures. Our 2030 environmental targets include water reduction targets and emission reduction targets. Energy or material use may depend on long term availability of certain resources. We regularly evaluate energy-efficiency measures and renewable energy projects to reduce our operational carbon emissions. We have implemented a Tesla onsite battery storage at our San Diego Headquarters to capture energy during the day to use at night. Onsite power generation includes fuel cells in San Diego and solar has been added across our portfolio in the UK, San Diego and Northern California to support site growth. Fires and floods are part of our emergency response and business continuity risk assessments and planning.

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	Risks exist but based on our climate scenario modelling, these risks are not currently rated to have potential substantive or strategic impact on our business. The climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The following types of risk were identified in line with TCFD terminology: market, reputation, acute physical, and chronic physical. Each of the risks identified had a low or moderate impact. No risks had a high impact identified which would result in substantive financial, operational, strategic, or reputational impact. We have established a 2050 net-zero target and on our path to net-zero, we have established initiatives to meet our short-term and medium-term GHG emission reduction goals. We have diversified our geographical locations. Compared to other industries and other companies in our own industry, our footprint is relatively small. Our climate risk and opportunities are not currently expected to be financially material. We are working on a holistic approach to both the risk and opportunities associated with climate impact and are continuing to refine the data collection within each element. We will seek to continue to improve, innovate, give back to our communities, and work toward a more sustainable and equitable future.

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?
No

C2.4b

(C2.4b) Why do you not consider your organization to have climate-related opportunities?

	Primary reason	Please explain
Row 1	Opportunities exist, but none with potential to have a substantive financial or strategic impact on business	Opportunities exist but based on our climate scenario modeling these opportunities are not currently rated to have potential substantive or strategic impact on our business. A climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The following types of opportunities were identified: energy source, products & services, resource efficiency, markets, resilience, and reputation. No opportunities identified had a high impact classification which would result in substantive financial, operational, strategic, or reputational impact. For energy source opportunities, a lower emission source of energy was identified with a moderate impact. For products & services opportunities, development of new products or services through R&D and innovation was identified with a low impact. For resource efficiency opportunities, more efficient buildings, processes, and modes of transport were identified with a low impact. For market opportunities, access to new markets was identified with a low impact. For resilience opportunities, participation in renewable energy programs and adoption of energy-efficiency measures was identified with a moderate impact. For reputation opportunities, consumer preferences was identified with a low impact.

We recognize that climate-related opportunities span both physical risk (extreme weather) and transition risks (energy pricing, customer expectations, regulations, and technology). Our expanded climate action targets including net-zero emissions are an important part of our overall business strategy to minimize risk associated with climate change, build resilience, and identify opportunities for
long-term sustainable growth.

Compared to other industries and other companies in our own industry, our footprint is relatively small. Our climate risk and opportunities are not currently expected to be financially material. We are working on a holistic approach to both the risk and opportunities associated with climate impact and seek to continue to improve, innovate, give back to our communities, and work toward a more sustainable and equitable future. |

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan
Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan
Yes

Mechanism by which feedback is collected from shareholders on your transition plan
We have a different feedback mechanism in place

Description of feedback mechanism
We are committed to operating with transparency & open communication to develop trusted relationships with all our stakeholders. Since the creation of our CSR program, we have routinely gathered feedback on ESG topics. As part of our ongoing engagement, we use a variety of ways to gather feedback and gauge interests including customer & employee surveys, industry trade group participation, & guidance from relevant frameworks such as the UN Global Compact & SDGs as well as external benchmarking such as the Dow Jones Sustainability Index & CDP to identify areas of focus and opportunities.

In 2021, we refreshed our materiality assessment to confirm the most material ESG issues & remain attuned to our stakeholder feedback on what is most important to our business, our stakeholders, & where we can make the most impact. Based on the updated materiality assessment, our current CSR focus areas remain relevant, are still reflective of the most material topics for Illumina, & confirm appropriate prioritization of existing efforts.

We govern CSR at the highest level with oversight from the full Board of Directors. This strong leadership supports the management of material ESG issues, including climate action, and ethical, responsible business practices. The Board provides oversight & receives updates on current performance and future strategic plans at least annually or more frequently if material changes occur. Select ESG targets are included in annual corporate goals.

The CSR Exec Steer Co is chaired by a direct report of the CEO & comprised of senior leadership team from across organization. The committee provides guidance quarterly on CSR strategic plans & practices, approves major ESG programs, & monitors progress toward 2030 and 2050 ESG targets. Members include Chief Medical Officer, General Counsel, Chief of Global Operations, Chief People Officer, Chief Technology Officer, Chief Marketing Officer, the Chief Public Affairs Officer (as of April 2022), & Global Head of CSR.

The CSR functional group is responsible for strategy development, program implementation, & ESG reporting to create long-term value and risk mitigation. The CSR team collaborates with cross-functional working groups to further embed CSR in our business. These include Environment, Health & Safety Steering Committee, Sustainable Product Core Team, Supply Chain Sustainability & Responsibility Working Group, Supplier Diversity Governance Committee, & Customer Experience Team.

Frequency of feedback collection
More frequently than annually

Attach any relevant documents which detail your transition plan (optional)
Pg. 11-13, 38-50
illumina-csr-report-2022.pdf

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future
<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	IEA 2DS	Company-wide	<Not Applicable>	In 2020, Illumina engaged with BSR (Business for Social Responsibility) to develop three 2030 climate scenarios linked to global warming by 2100. Our goal was to better understand the implications of climate change for our business and identify opportunities to build resilience. A climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The 4°C scenario utilized SSP 3- baseline and RCP 8.5. The 3°C scenario utilized SSP 4-45 and RCP 6.0. The well below 2°C scenario utilized SSP 1-26 and RCP 2.6. Each scenario assessed the following variables: GHG emissions, energy consumption, carbon price, and physical impacts (temperature change, drought likelihood, heat wave probability, and maximum rainfall.) Physical climate impact models used The World Bank Climate Change Knowledge Portal. The scenarios were reviewed in a cross-functional workshop that included key stakeholders across various business units. The implications for each scenario were discussed and participants identified risk and opportunity hot spots to help direct further integration of resilience planning and embed climate into our developing enterprise risk management program. We will be utilizing the climate scenario insights to expand influence on our climate planning evolution and business continuity plans. We utilized the following time horizons for each of the risks and opportunities identified: Short (0–5 years), Medium (5–8 years), and Long (8–10 years) which align to the Paris Agreement and a scenario of well below 1.5°C. These horizons also align with our 2030 sustainability targets. Our 2030 sustainability target for a 46% reduction in Scope 1, 2, and 3 emissions by 2030 is verified by SBTi. In 2022, we received approval from SBTi on our target to reach net-zero emissions across our direct operations and our value chain by 2050 from a 2019 base year. We have also established 2030 targets to reduce the environmental footprint of our products throughout the life cycle and incorporate Design for Environment into our new product design.
Physical climate scenarios	RCP 2.6	Company-wide	<Not Applicable>	In 2020, Illumina engaged with BSR (Business for Social Responsibility) to develop three 2030 climate scenarios linked to global warming by 2100. Our goal was to better understand the implications of climate change for our business and identify opportunities to build resilience. A climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The well below 2°C scenario utilized SSP 1-26 and RCP 2.6. The largest risks identified for Illumina were: acute physical, chronic physical, reputation, and market. The climate change elements that have most influenced our strategy are physical risk to operations, supply chain impact, and reputation. These risks have been incorporated into business continuity planning, future product development, redundancy in supply chain where possible, and site selection for future growth. We are actively reviewing opportunities to further integrate climate into our processes and path to further expand resilience. We have implemented redundant planning and maintained safety stock to provide resilience during severe weather events. For financial planning, we include risk and opportunities evaluated through our standard budget planning. Investment in energy-reduction projects that require capital expenditures are evaluated through the Capital Committee planning process. Potential indirect costs associated with supply chain, future tax, or increased operating costs from extreme weather would connect with these internal workstreams.
Physical climate scenarios	RCP 6.0	Company-wide	<Not Applicable>	In 2020, Illumina engaged with BSR (Business for Social Responsibility) to develop three 2030 climate scenarios linked to global warming by 2100. Our goal was to better understand the implications of climate change for our business and identify opportunities to build resilience. A climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The 3°C scenario utilized SSP 4-45 and RCP 6.0. The largest risks identified for Illumina were: acute physical, chronic physical, reputation, and market. The climate change elements that have most influenced our strategy are physical risk to operations, supply chain impact, and reputation. These risks have been incorporated into business continuity planning, future product development, redundancy in supply chain where possible, and site selection for future growth. We are actively reviewing opportunities to further integrate climate into our processes and path to further expand resilience. We have implemented redundant planning and maintained safety stock to provide resilience during severe weather events. For financial planning, we include risk and opportunities evaluated through our standard budget planning. Investment in energy-reduction projects that require capital expenditures are evaluated through the Capital Committee planning process. Potential indirect costs associated with supply chain, future tax, or increased operating costs from extreme weather would connect with these internal workstreams.
Physical climate scenarios	RCP 8.5	Company-wide	<Not Applicable>	In 2020, Illumina engaged with BSR (Business for Social Responsibility) to develop three 2030 climate scenarios linked to global warming by 2100. Our goal was to better understand the implications of climate change for our business and identify opportunities to build resilience. A climate scenario analysis was completed using three plausible narrative future representations of our operating environment respectively aligned to a well below 2°C, a 3°C , and a 4°C level of warming. To map assumptions for each trajectory, we utilized standardized third-party climate modeling data, such as the Shared Socioeconomic Pathways (SSPs) and the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP). The 4°C scenario utilized SSP 3- baseline and RCP 8.5. The largest risks identified for Illumina were: acute physical, chronic physical, reputation, and market. The climate change elements that have most influenced our strategy are physical risk to operations, supply chain impact, and reputation. These risks have been incorporated into business continuity planning, future product development, redundancy in supply chain where possible, and site selection for future growth. We are actively reviewing opportunities to further integrate climate into our processes and path to further expand resilience. We have implemented redundant planning and maintained safety stock to provide resilience during severe weather events. For financial planning, we include risk and opportunities evaluated through our standard budget planning. Investment in energy-reduction projects that require capital expenditures are evaluated through the Capital Committee planning process. Potential indirect costs associated with supply chain, future tax, or increased operating costs from extreme weather would connect with these internal workstreams.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

What areas of our operations present potential climate-related risks and opportunities?
Where are we already addressing climate change within our operations and what are some key areas that we should analyze for climate-related risks and opportunities?
What are the top hotspots that Illumina should consider when addressing climate change risks and opportunities?
How can we expand our current climate targets to better address climate-related risks?

Results of the climate-related scenario analysis with respect to the focal questions

Sample hotspots identified during the climate-related scenario analysis were: Supply chain, physical risks, and energy. Supply chain included raw material availability, cold chain, and supplier community climate resilience. Physical risks included the risk of acute and chronic physical risks to Illumina's owned operations and employees. Energy included energy pricing and availability, renewables, customer expectations, and product energy efficiency. In response to these results, Illumina expanded our climate action targets and established a 2050 net-zero target for Scopes 1, 2 and 3 emissions. We established an annual goal of 4% reduction in Scope 1, 2 and 3 emissions to ensure that we are hitting critical milestones on our path to net-zero. Our climate strategy prioritizes the implementation of sustainable solutions in our facilities and products, as well as across our supply and value chain. For facilities, we prioritize incorporating green building design, reducing Scope 1 & 2 emissions, increasing renewable electricity, reducing water footprint, and reducing waste to landfill. For supply chain & value chain, we prioritize reducing Scope 3 emissions, driving sustainable and responsible practices in our value chain, and engage strategic suppliers to reduce their environmental footprint. For products, we prioritize integrating design for environment, optimizing sequencer power and processing, replacing chemicals of concern wherever possible with green alternatives, reducing petroleum-based plastics, and reduce packaging. We have committed to investing in our communities through philanthropy to help ensure a just transition to a decarbonized future.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	In 2021, we expanded our climate action targets as an important part of our overall business strategy to minimize risk associated with climate change, build resilience, and identify opportunities for long-term sustainable growth. As the world seeks innovative solutions to tackle climate challenges and protect our natural capital, we recognize the incredible opportunity the field of genomics and our technology will provide. Currently, our technology is leveraged for studies used around the world on biodiversity, endangered species protection, ecosystem conservation, sustainable agricultural practices, and climate change research. We are committed to respecting and protecting the environment as we develop new products, technologies, and solutions. We utilize Design for Environment (DfE) as an approach to incorporate sustainability and lower the environmental impact of products through design. Through DfE, we apply environmental criteria to resource selection, design, packaging, energy use, data processing efficiency, and end-of-life management. We are addressing climate-related risk & opportunities associated with lowering energy use of products, creating more sustainable options for logistics and transport, and addressing consumer preferences for more sustainable products. Examples: - Applied use of a simplified life-cycle assessment (LCA) tool which enables us to make informed and evidence based decisions about packaging materials and designs. - Deployed a plant based paper insulated cooler instead of foam that is 100% curbside recyclable and compostable. - Implemented returnable and reusable containers to minimize emissions and packaging footprint. - Continued dry ice optimization projects resulting in 80kg less of dry ice per frozen pallet. - Optimized sequencer power consumption and processing efficiency, resulting in our DRAGEN Bio-IT platform for secondary genomic analysis of sequencing data, requiring 20x less energy to analyze one whole human genome compared to the previous DRAGENTM-GATK. - Designed the new sequencing platform, the NextSeq 2000 with smaller reagents, more output, and less waste footprint than the previous NextSeq 550. Learn more about sustainable product development initiatives on pgs. 45-46 of our 2022 CSR Report.
Supply chain and/or value chain	Yes	Illumina has identified potential risks associated with increased severity and frequency of extreme weather and wildfires, changes in patterns for precipitation and extreme variability in weather, and rising temperatures and sea levels. These risks have been incorporated into redundancy in supply chain where possible. As our business operations grow, we continue to identify more efficient and sustainable distribution networks. Project examples have included adding a logistics locations to our network on the east coast resulting in cost savings, improved supply chain planning, and a reduction of air emissions. In early 2021, Illumina launched our first Scope 3 emission inventory assessment across all relevant categories for our value chain. Of the fifteen categories assessed, we selected the most material categories contributing to our emission inventory that represented 7% or more were defined as material and account for 92% of our total Scope 3 footprint. These categories include upstream transportation and distribution, purchased goods and services, capital goods be the focus of our reduction efforts, investments, business travel, employee commuting. In September 2021, we successfully received verification from the Science Based Targets initiative (SBti) on our emission reduction approach aligned to a 1.5 °C pathway. Our verified targets include reducing absolute Scope 3 emissions 46% by 2030 compared to 2019. In 2022, we received verficiation from SBTi for our 2050 net-zero target for our direct operations and value chain. We are working with each functional group on projects to continue to drive down the value chain impact. Initial projects and sample initiatives include updates to our investment policy, communication campaign to our supplier base, supplier mapping optimization, expanding green travel policy, and shifting purchased goods from air to ocean freight wherever possible. Illumina has created a 2030 target for 100% of strategic suppliers to have a commitment to reduce their environmental footprint. We will use our Scope 3 emissions footprint assessment to develop climate indicators to embed in our procurement process and vendor selection. Learn more about our supply chain commitments on pages 47-48 and 81-84 of our 2022 CSR Report: https://www.illumina.com/content/dam/illumina-marketing/documents/company/illumina-csr-report-2022.pdf.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Investment in R&D	Yes	Our technology is used in various settings ranging from clinical health to research and is being used to directly support sustainability, climate change, conservation, and environmental DNA research. As the leader in global genomics, innovation is key for future stability and continued evolution of the field. Our advances in technology continue to drive down the cost of sequencing and make it more accessible to a wider variety of end users. In 2021, we invested 20% of our total revenue in R&D. We continue to pursue acquisitions to expand our operations with applications that build on the transformational impact genomics can provide for human health and the economics of healthcare. Our software portfolio has evolved to help geneticists and clinicians diagnose rare disease patients with Artificial Intelligence (AI) technologies that provide genomic interpretation at scale. Our acquisition of Enancio compression technology provides power-consumption savings per sequencing run, with power savings directly scaling with output capacity. Illumina's Greater Good Initiative grant program spurs critically needed research that will increase the sustainability, productivity, and nutritional density of agriculturally important crop and livestock species. Grant recipients receive donations of Illumina products to support their projects. We are a contributing member of the Earth Biogenome Project, a massive undertaking that aims to sequence the genomes of all species on Earth to help uncover the solutions for preserving and restoring biodiversity. Genomics has revolutionized response to the pandemic and the future of healthcare. The speed of development, and the high efficacy and safety of mRNA vaccines have been an unprecedented medical and scientific triumph. Genomics has now gone mainstream, and will be an increasingly critical part of public health, from fighting and preventing pandemics to revolutionizing diagnosis, treatment, and prevention of disease. We believe the life-changing benefits of genomics should be available to the many, not the few. Through these R&D investments, Illumina is addressing climate-related opportunities for innovative new uses of genetic sequencing products which support human health and wellbeing. This includes improving agricultural efficiency, supporting interventions for infectious diseases, and conducting climate change research.
Operations	Yes	We are responding to climate change risk such as increased severe weather events, potential policy changes, and reputational harm by investing in more renewable energy, integrating green design principles into our facilities and products, and continuing to drive innovation. We continuously seek initiatives to reduce our environmental footprint at existing facilities, while integrating green design principles into new construction projects. Illumina committed to net-zero emissions by 2050 across our operations and values chain. Our 2030 sustainability targets include: reducing absolute Scope 1, 2, and 3 emissions by 46%; converting to 100% renewable electricity; 10% reduction in water use and 90% waste diversion from landfill at core sites. Our 2030 and net-zero emissions have been verified by Science Based Targets initiative. In 2021, we enrolled in Community Power offering, shifting all three of our San Diego locations to 100% renewable electricity. All existing San Diego sites will be fully transitioned by the end of 2022 resulting in an estimated 1,500 metric tons CO_2e reduction annually. We also replaced two air handler units and two AC units with newer, more reliable, and efficient units at our Hayward site. This upgrade will save an estimated 243,000 kWh per year, representing 10% of the entire site's annual electricity usage. We initiated energy audits at our San Diego, Madison, Northern California, Cambridge, and Singapore facilities to further identify opportunities to reduce energy consumption across our global operations. In 2021, we achieved a 24% reduction in Scope 1 and 2 emissions, and 59% of our electricity was procured from renewable sources. 50% of water used in our San Diego facilities is from recycled sources. We are also actively working with our US sites on projects to increase their waste diversion rate. Our EMEA and Singapore sites have already achieved greater than 90% landfill diversion. Illumina will continue to address climate-related risks and opportunities across its operations by identifying additional initiatives to make our facilities more efficient. We will focus on participation in more renewable energy programs and continue to adopt energy-efficiency measures to make our facilities more resilient to acute and chronic physical risks.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures	As part of our climate risk management process, we review opportunities to reduce our climate change impact. Our capital allocation planning includes ROI assessment and connection to our CSR targets. Energy reduction projects and capital expenditures are factored into financial planning. A favorable ROI provides opportunities for savings. Operating costs can be reduced with investment in energy intensive parts of the operations. Planning for capital expenditure projects can take 1-2 years depending on the size and scope of the project. We regularly evaluate energy-efficiency measures and renewable energy projects to reduce our operational carbon emissions. Each of our sites maintains a pipeline of energy projects to contribute to emission reductions. In 2021, we enrolled our San Diego site into a Community Power offering, but all sites will not be fully transitioned until 2022. Energy efficiency projects including the replacement of two air handler unites and two AC units at our Hayward sites commenced in 2020 and were completed in 2021. In 2021, We initiated energy audits which will create a multi-year approach to reducing energy use across our global facilities. Proposed projects will be identified for ROI, emission reductions, energy resiliency, and project lifetime. In 2021, we invested 20% of revenue into R&D and with the integration of Design for Environment, we are working to make our products more sustainable. Illumina technology is being used by scientists to solve some of the world's most challenging and pressing issues, including climate change adaptation, biodiversity conservation, and other environmental DNA (eDNA) solutions.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?
Please select

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

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2
Scope 3

Scope 2 accounting method
Market-based

Scope 3 category(ies)
Category 1: Purchased goods and services
Category 2: Capital goods
Category 4: Upstream transportation and distribution
Category 6: Business travel
Category 7: Employee commuting
Category 15: Investments

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
12489

Base year Scope 2 emissions covered by target (metric tons CO2e)
21915

Base year Scope 3 emissions covered by target (metric tons CO2e)
220103

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
254507

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
92

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
93

Target year
2050

Targeted reduction from base year (%)
100

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
0

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
20296

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
5968

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
298602

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
324866

% of target achieved relative to base year [auto-calculated]
-27.6452121159732

Target status in reporting year
Underway

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

As a science-based organization, we are compelled to ensure our reduction targets are aligned and verified to a science-based approach. In 2021, our Scope 1, 2, and 3 emission targets were aligned to a 1.5 °C climate ambition and externally verified by Science Based Targets initiative (SBTi). We set a long-term target of net-zero carbon emissions by 2050 across our operations and value chain which received validation from SBTi. Our net-zero target includes all material value chain categories: purchased goods and services, capital goods, upstream transportation and distribution, business travel, employee commuting, and investments. We have identified material categories as all relevant categories that represented 7% or more of our total 2019 Scope 3 emissions inventory baseline. These material categories represented 92% of Illumina's 2019 Scope 3 emissions.

Plan for achieving target, and progress made to the end of the reporting year

On the path to net-zero, we have established milestone SBTi verified targets for 2030 including a 46% reduction of Scope 1, 2 and 3 emissions, along with a commitment to source 100% renewable electricity. We have established an annual goal to reduce Scope 1, 2 and 3 emissions by 4% to ensure that hit critical milestones on our path to net-zero. We regularly evaluate energy-efficiency measures and renewable energy projects to reduce our operational carbon emissions. In 2021, we shifted our San Diego locations to 100% renewable electricity and we initiated energy audits at our San Diego, Madison, Northern California, Cambridge, and Singapore facilities to further identify opportunities to reduce energy consumption across our global operations. On our way to reaching 100% renewable electricity by 2030, we achieved 59% renewable electricity in 2021 through on-site solar, utility renewable programs and Renewable Energy Credits. These energy efficiency and renewable electricity projects led to a 24% reduction in Scope 1 and 2 emissions in 2021 compared to our 2019 baseline. We are working with each functional group on projects to continue to drive down the value chain impact associated with Scope 3 emissions. Initial projects and sample initiatives include updates to our investment policy, communication campaign to our supplier base, supplier mapping optimization, expanding green travel policy, and shifting purchased goods from air to ocean freight wherever possible.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

Target reference number

Abs 2

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 3

Scope 2 accounting method

<Not Applicable>

Scope 3 category(ies)

Category 1: Purchased goods and services
Category 2: Capital goods
Category 4: Upstream transportation and distribution
Category 6: Business travel
Category 7: Employee commuting
Category 15: Investments

Base year

2019

Base year Scope 1 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 2 emissions covered by target (metric tons CO2e)

<Not Applicable>

Base year Scope 3 emissions covered by target (metric tons CO2e)

220103

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

220103

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

<Not Applicable>

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

<Not Applicable>

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

92

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

92

Target year

2030

Targeted reduction from base year (%)

46.2

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

118415.414

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
298602

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
298602

% of target achieved relative to base year [auto-calculated]
-77.1962469440468

Target status in reporting year
Underway

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
Our emission reduction target was created using the SBTi methodology of 1.5°C which equates to reducing our Scope 3 emissions by 4.2% annually. This target has been verified by SBTi. In early 2021, we launched our first Scope 3 emission inventory assessment across all relevant categories for our value chain to better understand the holistic impact of our business and to identify the greatest opportunities. Of the fifteen categories assessed in our 2019 baseline, we selected the most material categories contributing to our emission inventory. Categories that represented 7% or more were defined as material and account for 92% of our total Scope 3 footprint. These categories were included in our 2030 and 2050 emission reduction targets.

Plan for achieving target, and progress made to the end of the reporting year
To address Scope 3 emissions, we are working with each functional group on projects to continue to drive down the value chain impact. Initial projects and sample initiatives include updates to our investment policy, communication campaign to our supplier base, supplier mapping optimization, expanding green travel policy, and shifting purchased goods from air to ocean freight wherever possible. The emissions associated with our investments accounted for 10% of the impact in our value chain in our 2019 baseline study and was one of the top five areas contributing to our Scope 3 greenhouse gas inventory. Following review of the Scope 3 data, we modified our investments policy to eliminate investing in Energy and Utilities sector bonds unless the associated issuance is identified as a Green, Social or Sustainability (GSS) Bond. The analysis showed we could adjust our approach without any expected impact to our returns, helping to green our investments without financial impact. To promote sustainable business travel, Illumina enables employees to effectively avert travel for business meetings with a host of digital and virtual tools, reducing carbon emissions associated with business travel. For our highest traveled routes, we are curating preferred partnerships with airlines where sustainable aviation fuel and increased aircraft efficiency are options. Scope 3 emissions associated with employee commuting and business travel decreased due to changes in operations resulting from COVID-19 including a large portion of our workforce working remotely and a decrease in business travel in respondence to the global pandemic. In 2021, Illumina's production, number of units shipped and revenue increased, resulting in an increase in emissions for purchased goods and services, capital goods, and upstream transportation.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

Target reference number
Abs 3

Year target was set
2021

Target coverage
Company-wide

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Market-based

Scope 3 category(ies)
<Not Applicable>

Base year
2019

Base year Scope 1 emissions covered by target (metric tons CO2e)
12489

Base year Scope 2 emissions covered by target (metric tons CO2e)
21915

Base year Scope 3 emissions covered by target (metric tons CO2e)
<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)
34404

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1
100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2
100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)
<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes
100

Target year
2030

Targeted reduction from base year (%)
46.2

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]
18509.352

Scope 1 emissions in reporting year covered by target (metric tons CO2e)
20296

Scope 2 emissions in reporting year covered by target (metric tons CO2e)
5968

Scope 3 emissions in reporting year covered by target (metric tons CO2e)
<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)
26264

% of target achieved relative to base year [auto-calculated]
51.2122067755134

Target status in reporting year
Underway

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Target ambition
1.5°C aligned

Please explain target coverage and identify any exclusions
Illumina's Scope 1 and 2 GHG emission boundary: sites >30,000 square feet or sites that contain manufacturing, distribution, or significant R&D activities. These sites represent our jurisdictional control plus material locations. This scope accounts for 96% of our total estimated footprint for our 2019 baseline.

Plan for achieving target, and progress made to the end of the reporting year
We have established an annual goal to reduce Scope 1, 2 and 3 emissions by 4% to ensure that hit critical milestones on our path to net-zero. We regularly evaluate energy-efficiency measures and renewable energy projects to reduce our operational carbon emissions. In 2021, we shifted our San Diego locations to 100% renewable electricity and we initiated energy audits at our San Diego, Madison, Northern California, Cambridge, and Singapore facilities to further identify opportunities to reduce energy consumption across our global operations. We replaced air handler units and AC units at our Hayward site with more reliable and energy efficient equipment. On our way to reaching 100% renewable electricity by 2030, we achieved 59% renewable electricity in 2021 through on-site solar, utility renewable programs and Renewable Energy Credits. These energy efficiency and renewable electricity projects led to a 24% reduction in Scope 1 and 2 emissions in 2021 compared to our 2019 baseline.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Net-zero target(s)
Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 1

Year target was set
2021

Target coverage
Company-wide

Target type: absolute or intensity
Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Renewable fuel production	Other, please specify (GJ of renewable energy)

Target denominator (intensity targets only)
<Not Applicable>

Base year
2019

Figure or percentage in base year
0.9

Target year
2030

Figure or percentage in target year
100

Figure or percentage in reporting year
59

% of target achieved relative to base year [auto-calculated]
58.627648839556

Target status in reporting year
Underway

Is this target part of an emissions target?
This target supports our 2030 target to reduce absolute Scope 1 and 2 emissions by 46% and our 2050 net-zero target.

Is this target part of an overarching initiative?
Science Based targets initiative - other

Please explain target coverage and identify any exclusions
We commit to increase annual sourcing of renewable electricity from 0.6% in 2019 to 100% by 2030. This target has been verified by SBTi.

Plan for achieving target, and progress made to the end of the reporting year
On our way to reaching 100% renewable electricity by 2030, we achieved 59% renewable electricity in 2021 through on-site solar, utility renewable programs and Renewable Energy Credits. We continue to evaluate renewable energy projects to reduce our operational carbon emissions and to meet our 2030 targets.

List the actions which contributed most to achieving this target
<Not Applicable>

Target reference number
Oth 2

Year target was set
2018

Target coverage
Site/facility

Target type: absolute or intensity
Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management	Other, please specify (90% landfill diversion at all core sites)

Target denominator (intensity targets only)
metric ton of waste

Base year
2019

Figure or percentage in base year
51

Target year
2030

Figure or percentage in target year
90

Figure or percentage in reporting year
49

% of target achieved relative to base year [auto-calculated]
-5.12820512820513

Target status in reporting year
Underway

Is this target part of an emissions target?
This target is separate from our emissions targets.

Is this target part of an overarching initiative?
Other, please specify (Holistic environmental stewardship goals (energy, emission, water, and waste))

Please explain target coverage and identify any exclusions
We have established a 2030 target to divert 90% of waste from landfill at our core sites. Three main sites have already achieved this target: Cambridge, UK; Singapore; and Netherlands. Each of these sites achieved 100% landfill diversion in 2020. This target includes all Illumina main sites: San Diego (i3, Headquarters and Distribution Center), Hayward, Madison, UK Illumina Centre, Netherlands, and Singapore Woodlands.

Plan for achieving target, and progress made to the end of the reporting year
We take a hierarchical approach to waste management, where source reduction is the most preferable option, and landfill is the least preferable. We continue to prioritize innovative waste management efforts as part of our 2030 landfill diversion target. Our Sustainability Green Teams operate at all our major sites, and represent an important and effective means to both engage with employees and enhance the sustainability of our business. For example, our Madison team led the implementation of a project to recycle non-hazardous lab waste by glove and garment recycling through the Kimberly-Clark RightCycleTM Program. In San Diego, the team removed plastic liners from the office recycle container bin to reduce plastic bag usage. Design for the Environment (DfE) is our approach to incorporate sustainability and lower the environmental impact of products through design. Through DfE, we apply environmental criteria to resource selection, design, packaging, size, weight, stability, shelf life, temperature requirements, end-of-life management, and more. We are seeking additional opportunities to engage in circular economy.

List the actions which contributed most to achieving this target

<Not Applicable>

Target reference number

Oth 3

Year target was set

2021

Target coverage

Site/facility

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Other, please specify	Other, please specify (kiloliters of water)

Target denominator (intensity targets only)

square foot

Base year

2019

Figure or percentage in base year

0.1

Target year

2030

Figure or percentage in target year

0.09

Figure or percentage in reporting year

0.11

% of target achieved relative to base year [auto-calculated]

-99.9999999999999

Target status in reporting year

Underway

Is this target part of an emissions target?

This target is separate from our emissions targets.

Is this target part of an overarching initiative?

Other, please specify (Holistic environmental stewardship goals (energy, emission, water, and waste))

Please explain target coverage and identify any exclusions

10% reduction in water intensity at core sites from 2019 baseline. Water target is normalized for intensity by square footage. Core site locations: San Diego HQ, i3 and Warehouse, Hayward, Foster City, Madison, Netherlands, Cambridge, and Singapore Woodlands.

Plan for achieving target, and progress made to the end of the reporting year

We continuously seek opportunities to reduce our water footprint by improving operational efficiencies and assessing potential risks to protect this vital natural resource. We assessed our water usage by comparing the locations of our sites with the baseline water stress risk ranking according to the World Resource Institute and its Aqueduct atlas. For facilities that have been identified as operating in water-stressed regions, we are committed to focusing additional efforts on water management planning. In San Diego, our largest location and highest water risk location, we employ a variety of water conservation applications including: Reclaimed water used for landscape, cooling towers, and water features; Low flow fixtures; Smart timers for irrigation linked to forecasted weather conditions; Synthetic grass in amphitheater; and Succulent and native plant landscaping.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Abs1
Abs2

Target year for achieving net zero
2050

Is this a science-based target?
Yes, and this target has been approved by the Science Based Targets initiative

Please explain target coverage and identify any exclusions
As a science-based organization, we are compelled to ensure our reduction targets are aligned and verified to a science-based approach. In 2021, our Scope 1, 2, and 3 emission targets were aligned to a 1.5 °C climate ambition and externally verified by SBTi. We set a long-term target of net-zero carbon emissions by 2050 across our operations and value chain which received validation from SBTi. Our net-zero target includes all material value chain categories: purchased goods and services, capital goods, upstream transportation and distribution, business travel, employee commuting, and investments. We have identified material categories as all relevant categories that represented 7% or more of our total 2019 Scope 3 emissions inventory baseline. These material categories represented 92% of Illumina's 2019 Scope 3 emissions.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
Yes

Planned milestones and/or near-term investments for neutralization at target year
To ensure we hit critical milestones on our path to net-zero, we created short-, medium-, and long-term targets. These climate commitments include SBTi verified targets aligned to the 1.5 °C pathway. These targets are: 4% annual reduction for Scope 1, 2 and 3 emissions; carbon neutral in direct operations by 2023 (Scope 2 & 2 beyond SBTi verified targets); 46% reduction in Scope 1, 2 and 3 emissions by 2030 (SBTi verified); and 100% renewable electricity by 2030.

Planned actions to mitigate emissions beyond your value chain (optional)
We will utilize green e-certified nature based carbon offsets as a beyond value chain mitigation measure.

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	44	
To be implemented*	5	11944
Implementation commenced*	2	2605
Implemented*	5	4900
Not to be implemented	14	

C4.3b

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

Initiative category & Initiative type

Energy efficiency in buildings	Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)
57

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
48577

Investment required (unit currency – as specified in C0.4)
1700000

Payback period
>25 years

Estimated lifetime of the initiative
21-30 years

Comment
Replaced two air handler units and two AC units with newer, more reliable, and efficient units at our Hayward site. This upgrade will save an estimated 243,000 kWh per year, representing 10% of the entire site's annual electricity usage.

Initiative category & Initiative type

Low-carbon energy generation	Other, please specify (Community Power electricity)

Estimated annual CO2e savings (metric tonnes CO2e)
1500

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
0

Investment required (unit currency – as specified in C0.4)
50000

Payback period
No payback

Estimated lifetime of the initiative
Ongoing

Comment
Enrolled in Community Power offering, shifting all three of our San Diego locations to 100% renewable electricity. All existing San Diego sites will be fully transitioned by the end of 2022 resulting in an estimated 1,500 metric tons CO2e reduction annually.

Initiative category & Initiative type

Energy efficiency in buildings	Other, please specify (Air Compressor Replacement)

Estimated annual CO2e savings (metric tonnes CO2e)
53

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 2 (location-based)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
22955

Investment required (unit currency – as specified in C0.4)
328000

Payback period
11-15 years

Estimated lifetime of the initiative
11-15 years

Comment
Replacement of air compressor dryers with more energy-efficient equipment

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Illumina prioritizes projects that ensure compliance with regulatory requirements and standards. For each project, Illumina analyzes regulatory compliance, alignment with company goals, and reduction of cost impact.
Dedicated budget for energy efficiency	Each project is assessed for return on investment and carbon emission reductions.
Employee engagement	Our Sustainability Green Teams operate at all our major sites and represent an important and effective means to both engage with employees and enhance the sustainability of our business. For example, our Madison Green Team led the implementation of a project to recycle non-hazardous glove and garment lab waste through the Kimberly-Clark RightCycle Program. In San Diego, the Green Team removed plastic liners from the office recycle container bins to reduce plastic bag usage. In EMEA, the Green Team led virtual climate change "lunch n' learn" sessions, and the Singapore Green Team hosted an Earth Day Fair.
Internal incentives/recognition programs	Financial awards and other forms of recognition are also presented to employees who have developed a noteworthy project during the year which could be related to environmental or energy efficiency enhancements. This could include Spot Bonus Awards, Innovation Awards, and Values Awards.
Internal finance mechanisms	Utilize capital committee planning process, individual cost centers, and relevant compliance schemes.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?
No

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
Yes, an acquisition

Name of organization(s) acquired, divested from, or merged with
GRAIL

Details of structural change(s), including completion dates
In 2021, Illumina acquired GRAIL. Pending the outcome of the European Commission's review of the acquisition, GRAIL is required to be held and operated separately. Data contained in this submission does not reflect any GRAIL operations, financial results, or ESG data.

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No, but we have discovered significant errors in our previous response(s)	<Not Applicable>

C5.1c

(C5.1c) Have your organization's base year emissions been recalculated as result of the changes or errors reported in C5.1a and C5.1b?

	Base year recalculation	Base year emissions recalculation policy, including significance threshold
Row 1	Yes	Illumina's policy for GHG inventory recalculation is when a significant change occurs in operations or data collection that results in a 5% or more change in emissions. While conducting analysis for our 2021 Scope 3 emissions, we identified an error in data collection processes for Category 4 which resulted in revisions to our 2019 baseline. We updated and reverified our near term Scope 3 emission target with SBTi and received confirmation of updated baseline in June 2022.

C5.2

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

Scope 1

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
12489

Comment

Scope 2 (location-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
21915

Comment

Scope 2 (market-based)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
21915

Comment
We utilize market-based emissions to track our progress towards our SBTi verified near-term targets and 2050 Net-Zero target.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
72915

Comment
Category included in SBTi near-term and Net-Zero targets.

Scope 3 category 2: Capital goods

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
39940

Comment
Category included in SBTi near-term and Net-Zero targets.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)

Comment
Category calculated annually, but not included in SBTi near-term and Net-Zero targets. Of the fifteen categories assessed, we selected the most material categories contributing to our 2019 baseline emission inventory and included these categories in our SBTi verified targets. Categories that represented 7% or more were defined as material and accounted for 92% of our total Scope 3 footprint in 2019.

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

46327

Comment

Category included in SBTi near-term and Net-Zero targets. While conducting analysis for our 2021 Scope 3 emissions, we identified an error in data collection processes for Category 4 which resulted in revisions to our 2019 baseline. We updated and reverified our near term Scope 3 emission target with SBTi and received approval of updated 2019 baseline inventory.

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

236

Comment

Category calculated annually, but not included in SBTi near-term and Net-Zero targets. Of the fifteen categories assessed, we selected the most material categories contributing to our 2019 baseline emission inventory and included these categories in our SBTi verified targets. Categories that represented 7% or more were defined as material and accounted for 92% of our total Scope 3 footprint in 2019.

Scope 3 category 6: Business travel

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

19350

Comment

Category included in SBTi near-term and Net-Zero targets.

Scope 3 category 7: Employee commuting

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

18012

Comment

Category included in SBTi near-term and Net-Zero targets.

Scope 3 category 8: Upstream leased assets

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

1480

Comment

Category calculated annually, but not included in SBTi near-term and Net-Zero targets. Of the fifteen categories assessed, we selected the most material categories contributing to our 2019 baseline emission inventory and included these categories in our SBTi verified targets. Categories that represented 7% or more were defined as material and accounted for 92% of our total Scope 3 footprint in 2019.

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Category assessed, but determined as not relevant to Illumina's operations.

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
Category assessed, but determined as not relevant to Illumina's operations.

Scope 3 category 11: Use of sold products

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
6968

Comment
Category calculated annually, but not included in SBTi near-term and Net-Zero targets. Of the fifteen categories assessed, we selected the most material categories contributing to our 2019 baseline emission inventory and included these categories in our SBTi verified targets. Categories that represented 7% or more were defined as material and accounted for 92% of our total Scope 3 footprint in 2019.

Scope 3 category 12: End of life treatment of sold products

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
2368

Comment
Category calculated annually, but not included in SBTi near-term and Net-Zero targets. Of the fifteen categories assessed, we selected the most material categories contributing to our 2019 baseline emission inventory and included these categories in our SBTi verified targets. Categories that represented 7% or more were defined as material and accounted for 92% of our total Scope 3 footprint in 2019.

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
Category assessed, but determined as not relevant to Illumina's operations.

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment
Category assessed, but determined as not relevant to Illumina's operations.

Scope 3 category 15: Investments

Base year start
January 1 2019

Base year end
December 31 2019

Base year emissions (metric tons CO2e)
23559

Comment
Category included in SBTi near-term and Net-Zero targets.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
IEA CO2 Emissions from Fuel Combustion
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Emissions & Generation Resource Integrated Database (eGRID)

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)
20296

Start date
January 1 2021

End date
December 31 2021

Comment

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
19701

Start date
January 1 2020

End date
December 31 2020

Comment

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
12489

Start date
January 1 2019

End date
December 31 2019

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
We utilize Scope 2, market-based emissions to report progress towards our SBTi near-term and Net-Zero targets.

C6.3

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

Reporting year

Scope 2, location-based
16618

Scope 2, market-based (if applicable)
5968

Start date
January 1 2021

End date
December 31 2021

Comment

Past year 1

Scope 2, location-based
16872

Scope 2, market-based (if applicable)
16872

Start date
January 1 2020

End date
December 31 2020

Comment

Past year 2

Scope 2, location-based
21915

Scope 2, market-based (if applicable)
21915

Start date
January 1 2019

End date
December 31 2019

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 gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
138563

Emissions calculation methodology
Hybrid method
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
8

Please explain
S&P Global Sustainable 1 used Illumina's FY2021 supplier spend data, combined with supplier disclosed emissions data from Sustainable1 Environmental Register and Sustainable 1EE1-O model, to calculate supply chain emissions through all tiers up to and including raw material extraction.

Capital goods

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
79530

Emissions calculation methodology
Hybrid method
Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
11

Please explain
S&P Global Sustainable 1 used Illumina's FY2021 supplier spend data, combined with supplier disclosed emissions data from Sustainable1 Environmental Register and Sustainable 1EE1-O model, to calculate supply chain emissions through all tiers up to and including raw material extraction.

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

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
9048

Emissions calculation methodology
Average data method

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

Please explain
S&P Global Sustainable 1 calculated emissions based on Illumina's actual electricity and fuel usage data. Energy consumption data was combined with Transmission & Distribution and Well to Tank DEFRA emission factors.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
68934

Emissions calculation methodology
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Category includes emissions from transportation and distribution of products purchased by Illumina including inbound logistics, outbound logistics (e.g. of sold products), and third-party transportation and distribution between Illumina's facilities. Illumina is responsible for the majority of transportation of products to customers, therefore these are also considered in our upstream transportation and distribution emissions. Sustainable 1 used Illumina's distance travelled by various modes of transportation and weight of goods transported along with EEI-O model to calculate emissions.

Waste generated in operations

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
1055

Emissions calculation methodology
Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Sustainable1 calculated emissions using Illumina's waste data and emission factors from DEFRA (2021)- UK Government GHG Conversion Factors for Company Reporting. This category includes all solid waste generated from Illumina's main sites: San Diego (HQ, i3 and Warehouse), Hayward, Foster City, Madison, Eindhoven, Cambridge-UK, and Singapore Woodlands. The emissions calculated were less than 1% of total Scope 3 emissions resulting in this category being not relevant.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
3959

Emissions calculation methodology
Spend-based method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Sustainable 1 used Illumina's spend data by mode of transport and distance travelled combined with Sustainable 1 EEI-O model, to calculate GHG emissions related to business travel. Sustainable1 used number of room nights for hotel stay and combined it with DEFRA hotel stay factors to estimate emissions from hotel stay.

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
7616

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
S&P Global Sustainable 1 used Illumina's global employee head count by country, combined with OECD's published country averages for commuting time, transportation mode and distance, to calculate GHG emissions from employee commuting.

Upstream leased assets

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
547

Emissions calculation methodology
Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Sustainable1 used Illumina's mileage data for its leased vehicles and occupied floor space for rented facilities that were not captured in Illumina's Scope 1 & 2 emissions inventory. Sustainable1 applied average intensities for energy consumption (US Energy Information Administration data) to obtain total consumption by energy source for each facility and DEFRA conversion factors were used to estimate emissions. The emissions calculated were less than 1% of total Scope 3 emissions resulting in this category being not relevant.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Illumina does not own or control vehicles or facilities from which sold products are transported or distributed. Illumina's outbound transportation and distribution services that are purchased by us are excluded from category 9 and included in category 4 (Upstream transportation).

Processing of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
No further processing of sold products takes place for any of Illumina's products, therefore this category is not relevant.

Use of sold products

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
9221

Emissions calculation methodology
Methodology for direct use phase emissions, please specify (Our sequencing instruments utilize electrical power to run samples.)

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

Please explain
S&P Global Sustinable1 used energy consumption data during use phase of the products and IEA country specific electricity grid factors to calculate emissions. Our sequencing instruments utilize electrical power to run samples. The emissions calculated were less than 1% of total Scope 3 emissions resulting in this category being not relevant.

End of life treatment of sold products

Evaluation status
Not relevant, calculated

Emissions in reporting year (metric tons CO2e)
5230

Emissions calculation methodology
Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This category includes Illumina's instrument and reagent products. Total weight of products were used along with region specific waste disposal routes. The emissions calculated were less than 1% of total Scope 3 emissions resulting in this category being not relevant.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Scope 3 emissions resulting from downstream leased assets are not reported because this category is not applicable to Illumina.

Franchises

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Scope 3 emissions resulting from franchises are not reported because this category is not applicable to Illumina.

Investments

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
0

Emissions calculation methodology
Average data method
Investment-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Sustainable1 used Illumina's investment data, combined with company disclosed emissions date from Trucost Environmental Register and Trucost EEI-O model, to calculate emissions.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

Other (downstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

January 1 2020

End date

December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)

100351

Scope 3: Capital goods (metric tons CO2e)

44057

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

5785

Scope 3: Upstream transportation and distribution (metric tons CO2e)

48256

Scope 3: Waste generated in operations (metric tons CO2e)

617

Scope 3: Business travel (metric tons CO2e)

8913

Scope 3: Employee commuting (metric tons CO2e)

7567

Scope 3: Upstream leased assets (metric tons CO2e)

733

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

4850

Scope 3: End of life treatment of sold products (metric tons CO2e)

2245

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

19038

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

While conducting analysis for our 2021 Scope 3 emissions, we identified an error in data collection processes for Category 4 which resulted in revisions to 2019 and 2020 data. These revisions are reflected in this questionnaire.

Past year 2

Start date
January 1 2019

End date
December 31 2019

Scope 3: Purchased goods and services (metric tons CO2e)
72915

Scope 3: Capital goods (metric tons CO2e)
39940

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
6956

Scope 3: Upstream transportation and distribution (metric tons CO2e)
46327

Scope 3: Waste generated in operations (metric tons CO2e)
236

Scope 3: Business travel (metric tons CO2e)
19350

Scope 3: Employee commuting (metric tons CO2e)
18012

Scope 3: Upstream leased assets (metric tons CO2e)
1480

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)
6968

Scope 3: End of life treatment of sold products (metric tons CO2e)
2368

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)
23559

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment
While conducting analysis for our 2021 Scope 3 emissions, we identified an error in data collection processes for Category 4 which resulted in revisions to 2019 and 2020 data. These revisions are reflected in this questionnaire.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic 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
5.8

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
26265

Metric denominator
unit total revenue

Metric denominator: Unit total
4520000000

Scope 2 figure used
Market-based

% change from previous year
49

Direction of change
Decreased

Reason for change
Decreased Scope 1 and 2 emissions in 2021 compared to 2020, while revenue increased in 2021.

Intensity figure
10.4

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
26265

Metric denominator
square foot

Metric denominator: Unit total
2520000

Scope 2 figure used
Market-based

% change from previous year
31

Direction of change
Decreased

Reason for change
Decreased Scope 1 and 2 emissions 24% in 2021 compared to 2019 baseline. Intensity factor was 15.1 in 2020.

Intensity figure
2.9

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
26265

Metric denominator
full time equivalent (FTE) employee

Metric denominator: Unit total
9191

Scope 2 figure used
Market-based

% change from previous year
38

Direction of change
Decreased

Reason for change
Decreased Scope 1 and 2 emissions 24% in 2021 compared to 2019 baseline. We also increased our employee base from 7,828 employees in 2020 to 9,191 employees in 2021. Intensity factor was 4.7 in 2020.

C7. Emissions breakdowns

C7.1

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

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	19884	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	375	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	37	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Netherlands	74
Singapore
Our facilities in Singapore do not have natural gas.	0
United States of America	19454
China
Our facilities in Singapore do not have natural gas.	0
United Kingdom of Great Britain and Northern Ireland	768

C7.3

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

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
Foster City, California	1359	37.569426	-122.269908
Watson, United Kingdom	19	52.100822	0.222121
Madison, Wisconsin	1458	43.05581	-89.486624
San Diego i3, California	756	32.875848	-117.20206
San Diego Headquarters, California	15248	32.870872	-117.199031
Hayward, California	634	37.634032	-122.113123
Woodlands, Singapore	0	1.45535	103.799804
San Diego Warehouse, California	0	32.814339	117.125
Cambridge, United Kingdom	749	52.117232	0.218928
Eindhoven, Netherlands	72	51.458377	5.395762
Shanghai, China	0	31.166936	121.387862
Steenoven, Netherlands	2	51.485531	5.42827

C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Natural Gas used at facilities	20296

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)
Netherlands	420	8
Singapore	8927	341
United States of America	5987	5605
China	358	0
United Kingdom of Great Britain and Northern Ireland	926	14

C7.6

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

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Shanghai, China	358	0
Eindhoven, Netherlands	203	0
Foster City, California	1403	1403
Watson, United Kingdom	23	14
Cambridge, United Kingdom	903	0
Woodlands, Singapore	8927	341
Madison, Wisconsin	2138	2138
San Diego i3, California	200	134
San Diego Headquarters, California	1580	1291
Hayward, California	592	592
San Diego Warehouse, California	74	47
Steenoven, Netherlands	218	8

C7.6c

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

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Electricity used to power facilities	16618	5968

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	10650	Decreased	29	Our Scope 1 + 2 (market-based) emissions for this reporting year are 26,265 MT CO2e. Our global Scope 1 + 2 (market-based) emissions for the previous reporting year of 2020 were 36,573. In 2021, comparing our location-based emissions to our market-based emissions, we get a change in emissions of 10,650 MT CO2e. According to the formula in the explanation of terms, above: (10,650/36,573) * 100 = 29% decrease. The decrease in market-based emissions is attributed to: 1) Enrolling in San Diego Community Power offering, shifting all three of our San Diego locations to 100% renewable electricity (transition will be complete by 2022); and 2) Purchasing Renewable Energy Credits.
Other emissions reduction activities	110	Decreased	0.3	Our Scope 1 + 2 (market-based) emissions for this reporting year are 26,265 MT CO2e. Our global Scope 1 + 2 (market-based) emissions for the previous reporting year of 2020 were 36,573. Our capital expenditure energy efficiency projects reduced emissions in 2021 by approximately 110 MT CO2e. According to the formula in the explanation of terms, above: (110/36,573) * 100 = 0.3% decrease. The decrease is attributed implementing energy efficient system upgrades in Hayward and Singapore.
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		<Not Applicable>		

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?
Market-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 undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	No
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	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 (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired electricity	<Not Applicable>	30361	20890	51250
Consumption of purchased or acquired heat	<Not Applicable>	112003	0	112003
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>	671	<Not Applicable>	671
Total energy consumption	<Not Applicable>	143035	20890	163925

C8.2d

(C8.2d) 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	31365	31365	671	671
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2e

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

Sourcing method
Green electricity products from an energy supplier (e.g. green tariffs)

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify (mix of solar, wind and hydroelectricity)

Country/area of low-carbon energy consumption
United States of America

Tracking instrument used
US-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
1846

Country/area of origin (generation) of the low-carbon energy or energy attribute
United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment
In 2021, we enrolled in the San Diego Community Power offering, shifting all three of our San Diego locations to 100% renewable electricity. All existing San Diego sites will be fully transitioned by the end of 2022.

Sourcing method
Unbundled energy attribute certificates (EACs) purchase

Energy carrier
Electricity

Low-carbon technology type
Renewable energy mix, please specify (Solar, wind and hydropower)

Country/area of low-carbon energy consumption
United Kingdom of Great Britain and Northern Ireland

Tracking instrument used
REGO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)
4297

Country/area of origin (generation) of the low-carbon energy or energy attribute
United Kingdom of Great Britain and Northern Ireland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Standard Used for Verification: Renewable Energy Guarantees of Origin as defined by Ofgem

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Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (non-emitting renewable energy mix)

Country/area of low-carbon energy consumption

Netherlands

Tracking instrument used

GO

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

881

Country/area of origin (generation) of the low-carbon energy or energy attribute

Germany

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Standard Used for Verification: European Legislation Directive 2009/28/EC

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Please select

Country/area of low-carbon energy consumption

China

Tracking instrument used

I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

580

Country/area of origin (generation) of the low-carbon energy or energy attribute

China

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

Sourcing method

Unbundled energy attribute certificates (EACs) purchase

Energy carrier

Electricity

Low-carbon technology type

Please select

Country/area of low-carbon energy consumption

Singapore

Tracking instrument used

I-REC

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

22756

Country/area of origin (generation) of the low-carbon energy or energy attribute

Malaysia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Comment

C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area
United States of America

Consumption of electricity (MWh)
22359

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
22359

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Netherlands

Consumption of electricity (MWh)
1006

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
1006

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
China

Consumption of electricity (MWh)
580

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
580

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
Singapore

Consumption of electricity (MWh)
22942

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
22942

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

Country/area
United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)
4362

Consumption of heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
4362

Is this consumption excluded from your RE100 commitment?
<Not Applicable>

C9. Additional metrics

C9.1

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

Description
Waste

Metric value
2927.75

Metric numerator
Metric tons of waste diverted from landfills

Metric denominator (intensity metric only)

% change from previous year
0

Direction of change
No change

Please explain
In 2021, 49% of total waste was diverted from landfills. This represented a zero percent change from the previous year even as total non-hazardous waste increased by 20%.

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 emissions, and attach the relevant statements.

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
IG_ILMN - 2022 CDP Climate Change Verification Statement (7.25.22).pdf

Page/ section reference

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.1b

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

Scope 2 approach
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
IG_ILMN - 2022 CDP Climate Change Verification Statement (7.25.22).pdf

Page/ section reference

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

Scope 2 approach
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
IG_ILMN - 2022 CDP Climate Change Verification Statement (7.25.22).pdf

Page/ section reference

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.1c

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

Scope 3 category
Scope 3: Purchased goods and services
Scope 3: Capital goods
Scope 3: Upstream transportation and distribution
Scope 3: Business travel
Scope 3: Employee commuting
Scope 3: Investments

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
IG_ILMN - 2022 CDP Climate Change Verification Statement (7.25.22).pdf

Page/section reference

Relevant standard
ISAE 3410

Proportion of reported emissions verified (%)
100

C10.2

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

C10.2a

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

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022 (1).pdf
C7. Emissions breakdown	Other, please specify (Regional Emissions)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C8. Energy	Other, please specify (Renewable Electricity Consumption)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C7. Emissions breakdown	Other, please specify (Country-Specific Scope 2 Market-Based)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C7. Emissions breakdown	Other, please specify (Country-Specific Scope 1)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C7. Emissions breakdown	Other, please specify (Greenhouse Gas Breakdown)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C7. Emissions breakdown	Other, please specify (Facility-Specific Emissions)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf
C7. Emissions breakdown	Other, please specify (Emission Intensity Ratios)	International Standard on Assurance Engagements 3000 (ISAE 3000) and Engagements 3410 (ISAE 3410)	We engaged a third-party organization, ISOS Group, Inc., to provide limited assurance engagement in accordance with ISAE 3000 and ISAE 3410 on our energy usage and GHG emission data. The verification included the following data: Energy Consumption, Energy Consumption by Activity and Region, Renewable Electricity Consumption, Emissions, Regional Emissions, Greenhouse Gas Breakdown, Country-Specific Scope 1, Country- Specific Scope 2 Market-Based, Facility-Specific Emissions, Emission Intensity Ratios, Scope 3 Emissions, Scope 3 Emissions: % of Total Scope 3 Emissions, Water illumina-assurance-statement-2022.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, other partners in the value chain

C12.1a

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

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Other, please specify (Social impact and environmental screening are included in our Request for Information tools when evaluating potential suppliers. All suppliers sign a code of conduct which outlines that theywill demonstrate social and environmental responsibility.)

% of suppliers by number
100

% total procurement spend (direct and indirect)
100

% of supplier-related Scope 3 emissions as reported in C6.5
67

Rationale for the coverage of your engagement
We engage with all strategic suppliers and business partners on climate-related issues and hold them to the same high standards of business conduct that we set for ourselves. We require them to comply with the standards of behavior outlined in our Supplier Code of Conduct and exhibit social responsibility and environmental stewardship. The Supplier Code of Conduct is consistent with commitments we made both as a signatory of the United Nations Global Compact and as a member of the Dow Jones Sustainability World Index. We require strategic suppliers to commit to reducing their own environmental footprint. Through our strategic suppliers scorecard program, we assess environmental sustainability commitments made by our suppliers.

Impact of engagement, including measures of success
Through our supplier scorecard program, we have identified 84% of our strategic suppliers have committed to reduce their environmental footprint with our goal to achieve 100% by 2030. In 2021, we assessed 100% of our supply chain for environmental impact as part of our Scope 3 data collection. Our goal is to empower our suppliers to reduce their collective carbon footprint and encourage transparent reporting on their progress. In turn, this will help us to reduce our overall Scope 3 emissions and achieve net-zero emissions by 2050. In 2022, as part of our supplier engagement we plan to share our net-zero goals with our entire supplier base and invite them to join us in our race to zero. We will require acknowledgment of all our strategic suppliers.

Comment

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

We are committed to operating with transparency and open communication to develop trusted relationships with all our stakeholders. Since the creation of our CSR program, we have routinely gathered feedback on environmental, social, and governance (ESG) topics from our stakeholders. As part of our ongoing engagement, we have used a variety of ways to gather feedback and gauge interests including customer surveys, employee surveys, industry trade group participation, and guidance from relevant frameworks such as the UN Global Compact and Sustainable Development Goals. In addition, we continue to use external benchmarking such as the Dow Jones Sustainability Index, CDP, Gender Equality Index, and Corporate Equality Index to identify areas of focus and opportunities. In 2021, we engaged with an external consultancy firm to refresh our materiality assessment. This gave us an opportunity to confirm the most material ESG issues and remain attuned to our stakeholder feedback on what is most important to our business, our stakeholders, and where we can make the most impact. The updated assessment revealed the themes of access, diversity, and sustainability increased in leveling from the previous assessment.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?
Yes, climate-related requirements are included in our supplier contracts

C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement
Complying with regulatory requirements

Description of this climate related requirement
We require all suppliers to comply with the standards of behavior outlined in our Supplier Code of Conduct which states that: Suppliers will comply with applicable environmental laws and regulations.

% suppliers by procurement spend that have to comply with this climate-related requirement
100

% suppliers by procurement spend in compliance with this climate-related requirement
100

Mechanisms for monitoring compliance with this climate-related requirement
Supplier self-assessment
Grievance mechanism/Whistleblowing hotline
Supplier scorecard or rating

Response to supplier non-compliance with this climate-related requirement
Retain and engage
Illumina supplier-code-of-conduct 2022.pdf

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate
Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
Yes

Attach commitment or position statement(s)
Illumina participates in various trade associations for collaboration and exchange of ideas. Illumina pays annual dues to trade and industry associations, some of which utilize a portion of membership for nondeductible state and federal lobbying and political expenditures. As part of this Policy, Illumina will publicly disclose in its annual Illumina Corporate Social Responsibility Report (i) each trade association to which it has paid dues or made other payments totaling in excess of $5,000 in the immediately preceding year, as well as the total amount of such dues or other payments for each applicable trade association and (ii) for trade association payments in excess of $50,000, that portion of such payments that is non-deductible under Section 162(e)(1)(B) of the Internal Revenue Code, such as payments to organizations designated as 501(c)(4) and 501(c)(6).
Illumina political-disclosure-policy 2022.pdf
final-climate-position-statement.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy
At Illumina, CSR is governed at the executive level with the Board of Directors and is increasingly embedded into all areas of our business. Our CSR strategy focuses on our most significant and material issues, our stakeholders, and the areas where we can uniquely impact the global community. The Board of Directors provides guidance and direction on environmental, social, and governance issues and opportunities that have potential impact on reputation and long-term economic viability, including climate action.

Illumina's Executive CSR Steering Committee, chaired by the Chief Financial Officer (CFO) is comprised of a team of senior leaders drawn from across the organization that provide guidance on strategic plans, and review progress on a quarterly basis. This includes representatives from Medical Affairs, Legal, Product Development, Operations, and other key functions.
These organizations help ensure our engagement activities are consistent with our overall climate change strategy.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association
US Chamber of Commerce

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
Trade association's position on climate change: Combating climate change requires citizens, governments, and businesses to work together. Inaction is simply not an option. American businesses play a vital role in creating innovative solutions and reducing greenhouse gases to protect our planet. A challenge of this magnitude requires collaboration, not confrontation, to advance the best ideas and policies. Together, we can forge solutions that improve our environment and grow our economy—leaving the world better for generations to come.

Illumina's position is aligned.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)
150000

Describe the aim of your organization's funding
Illumina are members of the US Chamber of Commerce so that we may receive timely policy analysis, connect us with leaders in business and government through their events and gatherings, and help us with tools and resources to better advocate at the US Federal Government.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

Trade association
Other, please specify (California Chamber of Commerce)

Is your organization's position on climate change consistent with theirs?
Consistent

Has your organization influenced, or is your organization attempting to influence their position?
We are not attempting to influence their position

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)
California energy policy is a complex interaction of economics, technological challenges, and environmental considerations, all of which must work together to create a reliable and cost-effective system for delivering energy to millions of homes and businesses across California.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)
25000

Describe the aim of your organization's funding
Illumina are members of the California Chamber of Commerce because they provide expert guidance and advocacy to help us comply with frequently changing labor laws and thrive in a heavily regulated environment.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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
Complete

Attach the document
illumina-csr-report-2022.pdf
illumina-csr-report-2022.pdf

Page/Section reference
11-13, 38-50, 81-84, 88-90

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Comment

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	In 2021, we engaged with an external consultancy firm to refresh our materiality assessment. This gave us an opportunity to confirm the most material ESG issues and remain attuned to our stakeholder feedback on what is most important to our business, our stakeholders, and where we can make the most impact. Biodiversity is included as a material topic in our assessment. Our CSR program is governed at the highest level with oversight from the full Board of Directors (Board). This strong leadership supports the management of material environmental, social, and governance issues, including climate action, diversity, equity and inclusion, human rights, cybersecurity, and ethical, responsible business practices. The Board provides oversight and receives updates on current performance and future strategic plans at least annually or more frequently if material changes occur. As the Task Force on Nature-related Financial Disclosures develops a risk management and disclosure framework for organizations to report and act on nature-related risk, we conducted a preliminary review using ENCORE as a tool to offer early insights on potential biodiversity impact and opportunities. We used the following parameters for our review: Sector of Health Care, Sub-Industry of Life Sciences Tools & Services, and Production Process of Life Science, Pharma and Biotech. The impact materiality for our selected subindustries and production process indicated zero very high materiality, zero high materiality, and only 1 medium materiality rating across the potential natural capital categories. The medium materiality rating for our industry was linked to solid waste and the intersection of ecosystem services associated with species (plants, animals, fungi, algae, and genetic resources). At Illumina, our existing environmental-related targets currently include efforts that prioritize reducing the impact of waste in our facilities, supply chain, and product. We will continue to monitor and assess the natural capital elements of our environmental footprint. Our technology is currently used in research to understand and guide conservation of species, to implement more sustainable agriculture and food security pathways, and as a tool for innovation to create new synthetic materials that minimize natural resources use or create alternatives to natural capital withdrawals.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Commitment to respect legally designated protected areas	SDG

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	Yes, we assess impacts on biodiversity in our upstream value chain only	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Species management Education & awareness Livelihood, economic & other incentives

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No	Please select

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Impacts on biodiversity Risks and opportunities Biodiversity strategy Other, please specify (How Illumina technology, grants, and donations, are used to study and positively impact biodiversity.)	pg. 42 illumina-csr-report-2022.pdf

C16. 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.

C16.1

(C16.1) 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 and Board of Director	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Illumina is a global genomics and human health company powering the future of personalized medicine and beyond. At Illumina, our efforts have turned ideas into innovations impacting millions of people and unlocking discoveries across the field of genomics. The results are all around you—in the care you receive, the decisions you make for your family, the environment, and the food you eat. We aim to drive progress in the transformative power of genomics for all and our mission is to improve human health by unlocking the power of the genome. Driven by our mission, we are committed to making our technology more affordable and accessible, realizing health equity for billions around the world.

We are dedicated to making a positive impact on humanity, not just through our technology, but through our actions. By doing so, we aim to help shape a more sustainable and equitable future for all. Our Corporate Social Responsibility (CSR) strategy focuses on delivering sustainable long-term value by addressing the most significant and material environmental, social, and governance areas. Our CSR focus areas are: Expanding Access to Genomics, Empowering Our Communities, Integrating Environmental Sustainability, Nurturing Our People, and Operating Responsibly.

Human health and the health of our environment are intertwined. Our company mission to improve human health is supported through our commitment to operate responsibly and sustainably. We are integrating the risk and opportunities associated with climate impact into our business strategy and we believe addressing climate change is one of the key topics to achieving a sustainable, just, and resilient future for all. To understand the potential risks and opportunities of climate change, we conducted an assessment using the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

We are responding to climate change risk such as increased severe weather events, potential policy changes, and reputational harm by investing in more renewable energy, integrating green design principles into our facilities and products, and continuing to drive sustainable innovation. Opportunities to support climate action through genomics research can create additional positive impacts. We are proud to see our products being used around the world to study climate change impact, conservation biology, and influence more sustainable agriculture practices. We are at the forefront of addressing this critical global issue by enabling our customers around the world to understand these issues through the lens of genomics.

For more details, visit:

- CSR page at www.illumina.com/csr

- 2022 CSR report at https://www.illumina.com/content/dam/illumina-marketing/documents/company/illumina-csr-report-2022.pdf

Climate Change position statement:

Illumina's CSR vision is to deepen our impact on human health by serving as a champion for patients, our community, and our planet. We are committed to integrating environmental stewardship into the fabric of how we operate. We recognize the risk posed by global climate change and the importance of our environment in creating a healthy, sustainable future for all. Illumina supports the conclusions of international frameworks that address climate change and the conclusions from the Intergovernmental Panel on Climate Change (IPCC).   We endorse the use of scientific consensus and science-based targets to address carbon emissions reduction efforts to keep global warming to 1.5 °C above pre-industrial levels. Statement is available at https://www.illumina.com/content/dam/illumina-marketing/documents/company/final-climate-position-statement.pdf

We have committed to:

- Business Ambition for 1.5 °C

- Science Based Targets initiative

- We Mean Business Coalition

- United Nations Race to Zero

- United Nations Sustainable Development Goal 13: Climate Change

- Task Force on Climate Disclosure

We believe all governments and businesses have important roles and responsibilities to address the issue of climate change, and we will continue to seek opportunities to do our part to achieve this critical goal. We have joined other corporate leaders in committing to decarbonization and demonstrating our commitment to leadership in environmental sustainability. We set a long-term target of Net Zero emissions by 2050 across our operations and value chain and our Climate Action Plan includes the following 2030 targets: 46% emission reduction across Scopes 1, 2 and 3; 100% renewable electricity use; 10% reduction in water intensity and 90% landfill diversion at core sites; green design in new construction, and integrating Design for the Environment into new product design.

We are committed to measuring our progress and reporting to stakeholders in a timely and transparent way through our annual Corporate Social Responsibility Report and CDP disclosures.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	4520000000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Please select	

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?
Please select

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below
I have read and accept the applicable Terms