

# Welcome to your CDP Climate Change Questionnaire 2021

## C0. Introduction

### C0.1

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

IBM is the world's leading hybrid cloud and AI cognitive solutions company for enterprises: cognitive to ingest and extract value from data in all its forms to create competitive advantage and societal value; and hybrid cloud as the platform on which these solutions are designed, built, tested and deployed in the world. The company's global capabilities include IT based services, software, systems, and fundamental research.

IBM creates value for clients through integrated solutions and products that leverage the full spectrum of data, most advanced information technologies, deep expertise in industries and business processes, and the world's premier industrial research labs, leading in ground-breaking work in areas like AI and quantum computing.

Application of these information technologies (IT) and business insights enables IBM to realize its two principal goals: helping clients to become more innovative, efficient and competitive; and providing long-term value to shareholders.

The IBM disclosure addresses our performance against our energy and climate goals, complete scopes 1 and 2 greenhouse gas (GHG) emissions inventories for our global operations and five scope 3 categories for which IBM has varying degree of primary data.. However, IBM does not guestimate other categories of Scope 3 GHG emissions because the assumptions associated with such estimates simply do not lead to credible results. You can read IBM's position on Scope 3 emissions [here](#).

In 2018, IBM established a second-generation goal for the use of renewable electricity and a fourth-generation goal to reduce carbon dioxide (CO2) emissions. We also continued with our longstanding energy conservation goal. Those goals were to:

- Conserve energy equal to 3% of IBM's annual energy consumption. In 2020, IBM implemented nearly 1,400 energy conservation projects at more than 230 locations globally. These projects delivered annual energy savings of 145,500 MWh, equal to 3.5% of our total energy use during that year.

- Procure 55% of the electricity IBM consumes worldwide from renewable sources by 2025. In 2020, 59.3% (2,083,000 MWh) of the electricity consumed across IBM's global operations came from renewable sources, meeting our second-generation goal five years early.
- Reduce operational CO2 emissions associated with IBM's energy consumption 40% by 2025 against base year 2005, adjusted for acquisitions and divestitures. In 2020, we surpassed this goal when we reduced our CO2 emissions 56.6% against base year 2005, adjusted for acquisitions and divestitures. These reductions were the result of a significant increase in our purchases of renewable electricity, lower overall energy consumption (partly driven by COVID-19), and an overall lower carbon intensity of various electric grid regions where IBM consumes electricity. Excluding the impact from COVID-19, we would still have met our target at an estimated 54 percent reduction against 2005.

In executing against these goals, we include renewable electricity (a) in the grid mix IBM receives from utilities, (b) for which IBM contracts over and above what is contained in the grid mix, and (c) generated on site. We do not purchase unbundled Renewable Energy Certificates (RECs) to comprise any percent renewable if IBM cannot credibly consume the electricity those certificates represent.

Our energy and emissions goals and reporting cover all activities taking place in IBM-owned or leased facilities. These facilities include IBM data centers located in facilities managed by third parties where IBM does not procure the energy or control the operations of the buildings – also known as co-location data centers.

In February 2021, IBM established a third-generation goal for the use of renewable electricity, a fifth-generation goal to reduce GHG emissions, and several other goals to help us achieve net-zero GHG emissions. Our new goals include:

- Procure 75 percent of the electricity IBM consumes worldwide from renewable sources by 2025, and 90 percent by 2030.
- Reduce IBM's GHG emissions 65 percent by 2025 against base year 2010, adjusted for acquisitions and divestitures.
- Reach net-zero GHG emissions by 2030 using feasible technologies to remove emissions in an amount which equals or exceeds IBM's residual emissions. Aim for residual emissions of 350,000 mtCO2e or less by 2030.
- Conserve 275,000 MWh of energy conserved by implementing a minimum of 3,000 new energy conservation projects from 2021 to 2025.
- Improve average data center cooling efficiency 20 percent by 2025 against base year 2019.

IBM's new 2025 GHG emissions reduction goal achieves a rate of reduction that exceeds what scientists from the UN Intergovernmental Panel on Climate Change (IPCC) indicate is necessary to limit the Earth's warming to 1.5 degrees Celsius above pre-industrial levels. We are using 2010 as the baseline year to align our reporting with IPCC recommendations. We will publish results against our new goals beginning in 2021.

## 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
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Reporting year	January 1, 2020	December 31, 2020	No
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## C0.3

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

## 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

# 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
Board-level committee	The Directors and Governance Committee of the Board of Directors. The Committee oversees IBM's environmental programs & performance, incl. those related to climate change. IBM's Chief Sustainability Officer (CSO, see role in row below) briefs the Committee annually covering topics such as our environmental controls posture, performance incl. against goals, new or significant focus, emerging requirements & challenges. Our climate related goals include energy conservation, renewable electricity procurement & GHG emissions reduction. The Committee provides feedback to the CSO and it also updates the full board on topics for which it has oversight responsibility.
Chief Sustainability Officer (CSO)	IBM's CSO is IBM's top environmental executive and is responsible for setting IBM's environmental strategy, requirements & management system; and ensuring the company's performance is consistent globally and supports its commitment to environmental leadership across all business activities.

## C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Directors and Governance committee of the IBM Board of Directors oversees IBM's environmental affairs programs and performance including those related to climate change, such as energy conservation and efficiency, renewable electricity procurement and GHG emissions reduction, product and operational energy efficiency. IBM's CSO is the company's top environmental executive. The CSO briefs the Directors and Governance Committee of IBM's Board of Directors annually on IBM's environmental affairs programs, performance, challenges and emerging issues. IBM began its annual briefing to Board Committee on the topic of environment in 1993 and has continued this practice ever since. IBM executes a comprehensive management review process of our environmental programs and

		<p>performance, from self assessments, to corporate audits, to management reviews up to the Directors and Corporate Governance Committee of IBM's Board of Directors. The requirements of management review are set forth in corporate directives and embedded in our global environmental management system.</p> <p>IBM's CSO is authorized with the responsibility to set IBM's environmental strategy and direct IBM's environmental programs globally, including those pertaining to climate change. The CSO possesses the authority, requisite technical skills, environmental knowledge and business acumen, directly interacts with IBM's top leadership team with influence across the company's businesses and operations to drive actions to achieve desired outcome.</p>
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## C1.2

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

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

## C1.2a

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

IBM's Chief Sustainability Officer reports to the General Counsel/Senior Vice President of Legal and Regulatory Affairs who reports to the CEO. IBM's CSO is the top environmental executive of IBM. In this position the person is authorized to set IBM's strategy for environmental affairs which include matters related to climate change, establish the company's environmental requirements, goals, and management system to drive consistent execution across IBM's global operations and achieve results consistent with environmental leadership. The CSO possesses the authority, requisite technical skills and environmental knowledge, and business acumen, directly interacts with IBM's top leadership team with influence across the

company's businesses and operations to drive actions to achieve desired outcome, including matters pertaining to climate protection, risk assessment and management.

The CSO's specific responsibilities related to climate change include:

1. Leading a corporate staff constituted with technical and subject matter experts on matters related to environmental affairs including energy and climate.
2. Setting corporate policies, strategies, requirements, goals and objectives for environmental affairs including those related to climate change. Specific example areas include energy consumption, efficiency and conservation; renewable energy consumption; GHG emissions inventory and reduction; and product design for the environment / product energy efficiency.
3. Advising business units on climate-related risk and opportunities assessment and management, driving consistent performance toward achieving company goals and desired outcome, and tracking performance.
4. Reporting performance to IBM top management and board committee, preparing internal reports and external disclosures including publication of the annual IBM and the Environment report.

Climate-related issues monitoring process:

1. Quarterly, key performance indicators on our energy management and climate change programs and goals are reported up to the CSO, to identify trends, progress toward meeting our corporate goals and any potential challenges.
2. Annually, the CSO issues a comprehensive IBM Internal Energy Report covering topics including consumption, conservation, trending, outlook, performance against climate goals, and actions forward.
3. On an ongoing basis, the CSO and members of the corporate staff that he leads regularly engage with IBM business organizations as well as peers across industry, eNGOs, governments and academia on matters related to energy and climate.

## 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
Business unit manager	Monetary reward	<p>Other (please specify)</p> <p>Carrying out IBM's energy conservation &amp; climate protection programs, incl. strategies &amp; actions to attain goals. Also, incentives for employees whose R&amp;D in energy and climate innovations result in patents, products and solutions.</p>	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process through which employees set their business goals and receive feedback and assessments on their performance from their managers. The assessments are considered in IBM's employee compensation program to determine an employee's annual salary increases and bonus pay. There are also incentives for employees whose research and development in energy and climate related innovations result in patents, products and solutions.</p> <p>Chairman's award explanation: The IBM Chairman's Environmental Award recognition</p>

			<p>program was established in 1991, and has continued to this day. This annual award encourages environmental leadership, strengthens integration of environmental affairs (covering environmental, energy management and chemical management) throughout IBM's business and recognizes environmental leadership, innovation, and results on the part of IBM's organizations. Each year IBM's Chairman personally presents this annual award to the C-suite executive of the organization being recognized. IBM Watson Advertising and Weather organization received the 2020 IBM Chairman's Environmental Award. The award is purposefully designed to not be a monetary award and has proven to be extremely effective, relevant and meaningful for IBM's organizations and their leaders (i.e., C-Suite leaders) throughout its nearly 3 decades history. It unambiguously conveys the personal interest IBM's Chairman places on the environment and is one of only 2 awards given by the Chairman's office. It is highly competed among C-Suite leaders and the organizations that they lead each year.</p>
Energy manager	Monetary reward	<p>Other (please specify)</p> <p>Carrying out IBM's energy conservation &amp; climate protection programs, incl. strategies &amp; actions to attain goals. Also, incentives for employees whose R&amp;D in energy and climate innovations result in patents, products and solutions.</p>	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other</p>



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Environment/Sustainability manager	Monetary reward	Other (please specify)  Carrying out IBM's energy conservation & climate protection programs, incl. strategies & actions to attain goals. Also, incentives for employees whose R&D in energy and climate innovations result in patents, products and solutions.	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process through which employees set their business goals and receive feedback and assessments on their performance from their managers. The assessments are considered in IBM's employee compensation program to determine an employee's annual salary increases and bonus pay. There are also incentives for employees whose research and development in energy and climate related innovations result in patents, products and solutions.</p> <p>Chairman's award explanation: The IBM Chairman's Environmental Award recognition program was established in 1991, and has continued to this day. This annual award encourages environmental</p>

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Facilities manager	Monetary reward	<p>Other (please specify)</p> <p>Carrying out IBM's energy conservation &amp; climate protection programs, incl. strategies &amp; actions to attain goals. Also, incentives for employees whose R&amp;D in energy and climate innovations result in patents, products and solutions.</p>	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed</p>

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Process operation manager	Monetary reward	Other (please specify) Carrying out IBM's energy conservation & climate protection programs, incl. strategies & actions to attain goals. Also, incentives for employees whose R&D in energy and climate innovations result in patents, products and solutions.	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process through which employees set their business goals and receive feedback and assessments on their performance from their managers. The assessments are considered in IBM's employee compensation program to determine an employee's annual salary increases and bonus pay. There are also incentives for employees whose research and development in energy and climate related innovations result in patents, products and solutions.</p> <p>Chairman's award explanation: The IBM Chairman's Environmental Award recognition program was established in 1991, and has continued to this day. This annual award encourages environmental leadership, strengthens integration of environmental affairs</p>

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<p>Other, please specify</p> <p>Corporate Environmental Affairs Staff, Managers and Executives, and relevant C-Suite officers (other than the CSO)</p>	<p>Monetary reward</p>	<p>Other (please specify)</p> <p>Carrying out IBM's energy conservation &amp; climate protection programs, incl. strategies &amp; actions to attain goals. Also, incentives for employees whose R&amp;D in energy and climate innovations result in patents, products and solutions.</p>	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process</p>

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			<p>competed among C-Suite leaders and the organizations that they lead each year.</p>
Chief Sustainability Officer (CSO)	Non-monetary reward	<p>Emissions reduction target</p> <p>Efficiency target</p> <p>Environmental criteria included in purchases</p>	<p>These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process through which employees set their business goals and receive feedback and assessments on their performance from their managers. The assessments are considered in IBM's employee compensation program to determine an employee's annual salary increases and bonus pay. There are also incentives for employees whose research and development in energy and climate related innovations result in patents, products and solutions.</p> <p>Chairman's award explanation: The IBM Chairman's Environmental Award recognition program was established in 1991, and has continued to this day. This annual award encourages environmental leadership, strengthens integration of environmental affairs (covering environmental, energy management and</p>



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Other C-Suite Officer	Non-monetary reward	Efficiency project	These IBM employees have responsibility for carrying out IBM's corporate policy on company's energy conservation and climate protection programs, which includes defining strategies and driving actions and projects to enable the attainment of IBM's energy and GHG emissions reduction goals. IBM currently has three goals in this area - energy conservation, renewable electricity procurement and GHG emissions reductions, including reaching net-zero GHG emissions by 2030 - details of which are provided in other parts of this disclosure. These responsibilities are executed using the formal Human Resources' "Check Point" process through which employees set their business goals and

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## 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	3	Given the nature of IBM's business and the rapid transformation of the IT industry, we consider a 0-3 year period to be an appropriate short-term period for strategy planning.
Medium-term	3	10	Given the nature of IBM's business and the rapid transformation of the IT industry, we consider a 3-10 year period to be an appropriate medium-term period for strategy planning.
Long-term	10	100	Given the nature of IBM's business and the rapid transformation of the IT industry, we view everything beyond 10 years from the present to be a long-term period.

#### C2.1b

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

Our risk management processes assess the potential for disruptive events and establish plans to safeguard assets and business continuity. These processes consider the potential business impact against significance criteria (the exact criteria are business confidential) and integrate inputs including natural disasters and weather-related events which may be exacerbated by climate change. IBM considers the potential for capacity and/or asset

losses at its facilities and takes pro-active steps during acquisition and operations to mitigate them inclusive of those events that may be influenced by climate change. Our risk management processes also cover global supply chain risk. Suppliers are evaluated across multiple dimensions of risk, which include location, regulatory compliance, geopolitical, sourcing options, social responsibility, financial strength, climatic factors, etc. In addition, suppliers are required to have contingency plans to ensure continuity of goods and services. IBM Global Procurement factors in resiliency planning in sourcing strategies to further ensure supply continuity. One component of IBM's Global Procurement Risk Management System is our Event Watch Program. This program provides the risk team and sourcing community immediate awareness of potential supply chain disruptions globally, enabling pre-emptive actions to be readied and deployed as necessary.

## C2.2

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

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**Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

**Description of process**

IBM's overall enterprise risk management process considers environmental risks, including those related to climate change, and helps establish plans for business continuity and asset protection. In addition, our global Environmental Management System also includes a process for identifying and assessing significant environmental aspects of our business.

IBM considers risks as identified by the Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) in its risk management process. IBM senior management assesses the significance of environmental and climate-related risks. They also manage these risks and provide regular updates to the IBM Board of Directors and its Directors and Corporate Governance Committee.

Furthermore, IBM has established internal objectives and targets for energy conservation, procurement of renewable electricity, greenhouse gas emissions reduction, net zero GHG emissions, and other key environmental performance indicators. Performance against these objectives and targets is monitored as a course of business, and results are reviewed annually by the Board's Directors and Corporate Governance Committee.

## C2.2a

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Main risks of current regulation are non-compliance, compliance costs, and lack of flexibility to develop new products or offerings. Non-compliance could result in fines, inability or delay in placing products and offerings on the market, and impact on reputation. Regulations can also intersect with the way a company conducts business, develops products or invests in technology, affecting options or paths to serve a market and/or societal need. Examples of regulations include those around energy and carbon taxes, renewables portfolio standards and emissions cap and trade schemes. While not uniquely to IBM, these regulations have a direct cost impact on the energy we consume. We monitor these regulations as part of our risk assessment process and make pertinent planning decisions, including financial, to minimize the impact of increased energy prices. In addition, IBM maintains strong mechanisms to identify applicable climate mitigation-related regulations, such as product energy efficiency requirements, and develops and executes compliance strategies while enhancing our posture in competitiveness. We also require our suppliers to implement processes and capabilities to ensure their regulatory compliance.

Emerging regulation	Relevant, always included	<p>Main risks of emerging regulation are uncertainty, lack of harmonization across geographies and jurisdictions, and/or overly prescriptive regulatory requirements. This may impact the operating modes we use to meet our clients' requirements for reliability, availability and serviceability, our product design strategy and our ability to place products on the market, as well as operational and compliance costs. An example involves potential future regulations or government procurement requirements around data center energy efficiency that measure performance and compliance based on ineffective, impractical and/or unimplementable metrics that do not recognize the complexity of data center operations. These regulations may cause reliability risks for data center operations or a company's ability to meet client requirements, given that data center operations are technology-specific and driven by specific, often sensitive client requirements. We include this in our corporate wide risk assessment process by evaluating the ability of our current and next generation products and services to comply with emerging regulations in jurisdictions where IBM does or plans to do business. In addition, IBM has strong mechanisms in place to identify upcoming regulations that apply to our products and offerings worldwide, and we share our experience through the regulatory process to assist in the development of effective and practically implementable rules.</p>
Technology	Relevant, always included	<p>As a cloud services and cognitive solutions company, we are at the forefront of identifying leading edge technologies in support of our business strategy and serving our clients. The risk around technology as it relates to climate change may involve missing out on opportunities to apply advanced analytics, cognitive solutions, blockchain, Internet of Things (IoT) and other innovative tools to help address climate change related challenges. Many of the solutions IBM offers to its clients can be used as an example specific to our company. One such example is our IBM Smarter Buildings solution, which uses advanced analytics and IoT to detect faults in building operating systems before human inspections would, identifying the need for maintenance before problems surface, which translates into operational and energy savings. Other examples are our weather forecasting, data analytics and machine learning capabilities to develop algorithms that predict renewable electricity generation and power demand, helping electricity grid operators and utilities to better plan and integrate more renewable electricity to the grid mix.</p>
Legal	Not relevant, explanation provided	<p>The preponderance of our legal obligations is related to current or future regulations, which have been addressed and discussed in the sections above "Current regulation" and "Emerging regulation".</p>
Market	Relevant, always included	<p>As consumers from all sectors increase their focus on energy efficiency and GHG emissions, companies must anticipate requirements for their products and services and innovate to address changing market needs. This could have the</p>

		potential impact of reduced demand for our offerings, should IBM miss to do so. An example specific to IBM and the technology services industry is our potential to develop solutions that are energy efficient or that help understand, address and mitigate the impacts of climate change in a better way, aided by advanced data insights. As companies throughout the world increasingly recognize the benefits of energy and operating efficiency, IBM is well positioned to develop solutions that help address these needs. This aspect is included in our corporate wide risk management strategy, through which we remain in tune of the market and client needs for new business opportunities. Our focus has led to many IBM solutions with an environmental intersect, currently under deployment with a variety of clients and in multiple geographies. IBM recognizes that we must bring to bear the edge IT capabilities in addressing the world's most challenging environmental issues such as climate change and is committed to identifying opportunities to apply these solutions.
Reputation	Relevant, always included	Companies are increasingly being assessed on their environmental performance. The potential impact of not addressing this risk would be negative brand perception and decreased trust amongst clients and stakeholders. We begin with our commitment to be an environmental leader and we understand that positive brand reputation must be built upon real results. We set forth unambiguous positions, effective programs, requirements and goals, and back up our commitment with demonstrable results. IBM has publicly communicated its position on climate change since 2007. We execute a leading global Environmental Management System which drives consistent conduct no matter where in the world we operate. We have a defined program by which to respond to inquiries from clients, investors and employees on environmental topics, including climate change, calling for transparent and fact-based responses that are supported by data and results. We seek external recognition for our programs and performance, and we believe such recognition must be earned.
Acute physical	Relevant, always included	Our risk management processes assess the potential for disruptive events and establish plans to safeguard assets and business continuity. These processes consider the potential financial impact against significance criteria (the exact criteria are IBM business confidential). Climate change related considerations are integrated into these processes which address natural disasters and weather-related events that may be exacerbated as a consequence of climate change. IBM considers the potential for capacity and/or asset losses at its facilities and takes pro-active steps during acquisition and operation to mitigate these potential impacts inclusive of those events that may be influenced by climate change. A relevant example of an acute physical risk would be a climate change exacerbated event with significant impact on an area where we host our data centers, potentially compromising our ability to meet our contractual obligations with our clients. This impact could be, for example, the loss of power for a prolonged period. This scenario is included in our

		climate-related risk assessment process which integrates resiliency and service reliability of our operations and ensures that our operations have sufficient back-up power to support critical operations during a state of emergency. With an increased move to the cloud, more IT workload and transactions can be virtually transferred to designated “resiliency” data centers, which provides another alternative to continue business activities during a hypothetical situation as the one described above. In short, climate change risk is integrated into our risk management strategy and process.
Chronic physical	Not relevant, explanation provided	At this time, based on the nature and scope of our business operations, IBM does not perceive unusual physical impacts outside of those we plan for as part of our ongoing business and risk management processes. These risk management processes look at business risk comprehensively including, but not limited to, risks and impacts related to climate change. We apply analytics tools to our supply chain assessment activities, integrating and assessing over 10,000 data points to evaluate potential risks. There are potential physical impacts, albeit not unique to IBM, in certain geographies which may include water scarcity or diseases. We expect that the business models of both IBM’s and our suppliers’ operations will enable those operations to anticipate and adapt to potential risks and mitigate the impacts without significant disruptions to the business.

## C2.3

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

Yes

## C2.3a

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

**Identifier**

Risk 1

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



Direct operations

**Risk type & Primary climate-related risk driver**

Emerging regulation

Mandates on and regulation of existing products and services

**Primary potential financial impact**

Increased direct costs

**Company-specific description**

Operational risks exist in three main areas: (1) the impact of potential product and data center energy efficiency regulations, (2) the lack of harmonization and clarity regarding regulations, taxes or cap and trade system to reduce GHG emissions and (3) the impact of increased renewable electricity generating requirements. The following are relevant examples:

1. Multiple jurisdictions are contemplating various forms of server and storage product and data center energy efficiency regulations and/or procurement requirements. There are many and varied approaches to these requirements, and many approaches represent significant business risks because they are based on ill-informed or inappropriate understanding of what constitutes energy efficiency at the product and data center levels. Creation of poorly conceived regulations for products (e.g., idle power limits on server and storage products) or data center operations (Power Usage Effectiveness limits or server utilization requirements) could deny market access of products or restrict or curtail data center operations. Specific examples of product regulations are the EU Lot 9 requirements for server and storage products (idle limits for server products and power supply efficiency requirements for both server and storage products) and data center Green Procurement Practices in the EU.
2. Operationally, energy costs will depend on the structure and implementation of regulations to reduce direct emissions of GHGs. These requirements may affect IBM's energy costs and the reliability of the electrical systems in certain markets servicing IBM.
3. As countries and regional jurisdictions require increasingly higher percentages of renewables in grid supplied electricity, cost of electricity and grid reliability may be affected. An example of this is the Texas ERCOT grid region, where high wind generation capacity decreases energy costs at periods of high wind generation which drives out generation capacity that is required for periods of low wind generation. This in turn is impacting the ability of energy retailers to provide reliable power 24x7 to their customers, causing potential operating instability of the electricity users.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

IBM executes a mature risk management process. However, IBM does not assign specific numerical financial figures to represent risks given the high degree of uncertainty in any estimation process. IBM identifies recognized risks and reports them to management based on their relative magnitude. Over time, we expect some compliance and energy costs increases above our current levels.

**Cost of response to risk**

**Description of response and explanation of cost calculation**

IBM actively participates, as a stakeholder, in regulatory development processes of various jurisdictions. Either alone or through industry associations we provide recommendations in the interest of developing effective, appropriate and practically implementable regulations. In addition, IBM has experienced staff and long-established processes to track and manage enacted regulations and standards including those

affecting the design, sale and marketing of IT products, as well as data center operations. IBM complies with applicable regulations and standards globally.

**Comment**

Since IBM fully expects to comply with all applicable regulations, revenue implication is irrelevant. It would require gross assumptions, nor would it be meaningful to estimate the overall regulatory cost implication (versus a snapshot against a particular regulation) because the regulatory landscape is dynamic. That said, as a general trend, we expect some compliance and energy cost increases above our current levels. However, from a day-to-day operational standpoint we anticipate our management systems will enable us to comply with applicable regulations in a cost-efficient way.

---

**Identifier**

Risk 2

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

Direct operations

**Risk type & Primary climate-related risk driver**

Market

Changing customer behavior

**Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

**Company-specific description**

As consumers from all sectors increase their focus on energy efficiency and GHG emissions, companies must anticipate requirements for their products and innovate to address changing market needs. A specific example is increasing customer interest in server and storage product energy efficiency and in the amount of renewable electricity being consumed in IBM data centers where clients run their IT workloads. IBM works to deliver to customers servers that deliver increasingly more work per unit of energy consumed than competitor's products particularly for computationally intensive cognitive, artificial intelligence and analytics workloads. In addition, our corporate level targets to increase our consumption of renewable electricity will reflect in our data centers using more renewable electricity over time.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

IBM executes a risk management process. However, IBM does not assign specific financial numerical figures to risks due to the high degree of uncertainty in any estimate process. It is not possible to assess the cost and revenue implications of changing customer preferences with certainty. That said, IBM's early action and robust programs on energy conservation and GHG emissions reduction, and our focus on developing energy efficient products, services and solutions for our clients position IBM competitively in addressing changing conditions in the marketplace. Our strategy to drive analytics and cognitive based solutions through a cloud platform enables us to adapt in the current and evolving world of public policy and regulatory environment, client demands and impacts of climate change. These programs and capabilities enable us to avoid / mitigate disruptions and minimize financial impacts while capturing revenue opportunities.

**Cost of response to risk**

### **Description of response and explanation of cost calculation**

IBM has a well-established, global Environmental Management System (EMS), which requires regular assessment of the environmental aspects of its operations and activities, and setting goals and objectives to pro-actively manage its significant environmental impacts. In addition, IBM's operational expertise and experience from executing our own programs and results inform the company regarding potential and likely business opportunities. IBM possesses, and continues to invest in, deep subject matter expertise across private and public sectors of economy that IBM serves enabling IBM to effectively help our clients achieve their business and operational efficiency objectives.

### **Comment**

There are no extraordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions intended to address the impacts of climate change and to offer products and solutions which improve the energy efficiency of our clients' operations.

---

### **Identifier**

Risk 3

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

Direct operations

### **Risk type & Primary climate-related risk driver**

Reputation

Increased stakeholder concern or negative stakeholder feedback

### **Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

### **Company-specific description**

Companies are increasingly being assessed on their environmental performance, including their efforts to improve the energy efficiency of their operations, reducing their GHG emissions and providing products and services that enable their clients to address these attributes of their

operation. IBM has demonstrated decades-long leadership in energy management and climate protection. IBM's products and services enable its clients to improve their performance and demonstrate leadership.

**Time horizon**

Medium-term

**Likelihood**

Unlikely

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

IBM executes a risk management process. However, IBM does not assign specific numerical financial figures to risks due to the high degree of uncertainty in any estimation process. It is not possible to assess the cost and revenue implications of changing customer preferences with certainty. That said, IBM's early action and robust programs on energy conservation and GHG emissions reduction, and our focus on developing energy efficient products, services and solutions for our clients enable IBM to pro-actively anticipate regulatory and stakeholder requirements and positively position our operations to address those requirements. Our strategy to drive analytics and cognitive based solutions through a cloud platform enables us to adapt in the current and evolving world of public policy and regulatory environment, client demands and

impacts of climate change. These programs and capabilities enable us to avoid / mitigate disruptions and minimize financial impacts while capturing revenue opportunities.

### **Cost of response to risk**

#### **Description of response and explanation of cost calculation**

IBM has a well-established, global Environmental Management System (EMS), which requires regular assessment of the environmental aspects of its operations and activities and setting goals and objectives to pro-actively manage its significant environmental impacts. In addition, IBM's operational expertise and experience from executing our own programs and results inform the company's offerings and activities regarding potential and likely business opportunities. IBM possesses, and continues to invest in, deep subject matter expertise across private and public sectors of economy enabling IBM to effectively help our clients achieve their business and operational efficiency.

#### **Comment**

There are no extraordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions that address the impacts of climate change. In addition, IBM has experienced staff and long-established processes to track and manage enacted regulations, standards and emerging environmental issues including those affecting the design, sale and marketing of our products, as well as data center operations. These capabilities position IBM well in response to climate challenges for our company, clients, and society-at-large. IBM complies with applicable regulations and standards globally.

## **C2.4**

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

Yes

### **C2.4a**

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

---

**Identifier**

Opp1

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

Downstream

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

IBM offers IT solutions and consulting services to help clients become more efficient and/or reduce their energy use and associated GHG emissions.

The proliferation of emissions reporting obligations, emissions trading schemes and tracking requirements for Renewable Energy Certificates (RECs) and other accounting processes for zero emissions energy production will likely increase the demand for our products and services. IBM's suite of software and solutions offerings including Building Management Control Center, grid management systems, IBM Blockchain and artificial intelligence capabilities offer IT based software and solutions to inventory, track, assess and manage energy and asset utilization, generation and/or certification, and provide a platform that entities can use to gather data, manage assets, reduce energy use and report energy use or GHG emissions. Using its range of analytics and cognitive capabilities, IBM is poised to develop cognitive solutions that assist our clients to become more effective and efficient in identifying, understanding and complying with laws and regulations that affect them. A specific example is the IBM Smarter Buildings solution which enables identification of systems anomalies that could result in energy losses.

IBM's portfolio of energy efficient IT equipment, data centers, and cloud offerings, deep expertise and offerings in analytics and optimization



solutions, and systems, analytics, cognitive and blockchain capabilities uniquely position IBM to assist its clients in responding to the full range of energy use and GHG reduction mandates that have been established or may be considered in the future. These drivers may include international, national and local laws, regulations, standards and voluntary agreements.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium-high

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

These opportunities present IBM's expanded market opportunities based on its portfolio of systems, software, services and solutions including the building control center; data center management systems; software solutions; service offerings; and analytics, cognitive and research capabilities. IBM is uniquely positioned to apply one, some, or all of these capabilities in a synergistic fashion to assist clients in both private and public sectors to respond to challenges of climate change. Because of the diverse applications of IBM's vast suite of IT products, services and solutions offerings, it is not possible to assign a percentage of revenue to offerings which can be applied solely to climate change issues and improvement of operational efficiency.

## **Cost to realize opportunity**

### **Strategy to realize opportunity and explanation of cost calculation**

IBM implements ongoing and effective business processes to identify, analyze, and exploit emerging business opportunities which can be addressed with IBM's range of expertise and offerings.

### **Comment**

There are no extra-ordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions that address the impacts of climate change. IBM does not provide financial figures associated with these opportunities because we believe there is no credible way in which these can be estimated. Thus, any figure would be meaningless to report or potentially misleading.

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### **Identifier**

Opp2

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

Downstream

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

IBM makes extensive R&D investments - \$6.3 billion in 2020. These investments in higher performance/ capacity energy efficiency server and storage products and IT based solutions using cognitive, analytic, block chain and quantum computing technologies offer clients access to the computational and system management capabilities to improve their energy and material efficiency and reduce their GHG emissions. A specific example is the application of IBM blockchain technology to track generation of carbon credits and environmental attribute certificates to track carbon capture and renewable electricity generation, respectively. These systems enable robust accounting of these attributes to protect/validate project results and provide certifiable accounting to prevent double counting of benefits.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

These opportunities present IBM's expanded market opportunities based on its portfolio of systems, software, services and solutions including the building control center; data center management systems; software solutions; service offerings; and analytics, cognitive and research capabilities. IBM is uniquely positioned to apply one, some, or all of these capabilities in a synergistic fashion to assist clients in both private and

public sectors to respond to challenges of climate change. Because of the diverse applications of IBM's vast suite of IT products, services and solutions offerings, it is not possible to assign a percentage of revenue to offerings which can be applied solely to climate change issues and improvement of operational efficiency.

### **Cost to realize opportunity**

### **Strategy to realize opportunity and explanation of cost calculation**

IBM implements ongoing and effective business processes to identify, analyze, and exploit emerging business opportunities which can be addressed with IBM's range of expertise and offerings.

### **Comment**

There are no extra-ordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions that address the impacts of climate change. IBM does not provide financial figures associated with these opportunities because we believe there is no credible way in which these can be estimated. Thus, any figure would be meaningless to report or potentially misleading.

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### **Identifier**

Opp3

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

Downstream

### **Opportunity type**

Markets

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

Access to new markets

### **Primary potential financial impact**

Increased revenues through access to new and emerging markets

**Company-specific description**

IBM has made significant investments in research and development and associated solutions based on transformational technologies such as higher performance/ capacity energy efficient server and storage products and IT based solutions using cognitive, analytic, block chain and quantum computing technologies offer clients access to the computational and system management capabilities to improve their energy and material efficiency and reduce their GHG emissions. IBM researchers, engineers, technicians and other employees are applying these capabilities to a range of solutions in new markets in the emerging and lesser developed economies across the more than 170 countries in which IBM serves clients. IBM has also established research labs in more than 10 countries to directly serve these markets and identify local or regional opportunities.

**Time horizon**

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

These opportunities present IBM expanded market opportunities based on its portfolio of systems, software, services and solutions including the building control center; data center management systems; software solutions; service offerings; and analytics, cognitive and research capabilities. IBM is uniquely positioned to apply one, some, or all of these capabilities in a synergistic fashion to assist clients in both private and public sectors to respond to challenges of climate change. Because of the diverse applications of IBM's vast suite of IT products, services and solutions offerings, it is not possible to assign a percentage of revenue to offerings which can be applied solely to climate change issues and improvement of operational efficiency.

### **Cost to realize opportunity**

### **Strategy to realize opportunity and explanation of cost calculation**

IBM implements ongoing and effective business processes to identify, analyze, and exploit emerging business opportunities which can be addressed with IBM's range of expertise and offerings.

### **Comment**

There are no extra-ordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions that address the impacts of climate change. IBM does not provide financial figures associated with these opportunities because we believe there is no credible way in which these can be estimated. Thus, any figure would be meaningless to report or potentially misleading.

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### **Identifier**

Opp4

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

Downstream

### **Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Use of more efficient production and distribution processes

**Primary potential financial impact**

Reduced direct costs

**Company-specific description**

IBM has implemented a range of IT enabled, automated, analytics-based systems in its own operations and offers these solutions to its clients. They offer increased server and storage product utilization, delivering more work per unit energy consumed and reducing the installed base of IT equipment required to deliver a given workload; data center cooling optimization systems to reduce data center Power Usage Effectiveness (PUE) and reduce cooling costs; and the smarter building management solutions that monitors a building metering and control points to identify operating anomalies that cause increased energy use. A specific example is the IBM Smarter Buildings solution which enables identification of systems anomalies that could result in energy losses. IBM has also developed client-specific solutions, based on cognitive and analytic technologies. The Weather Company (an IBM company) offers solutions to forecast electricity demand and renewable generation output to better match demand and output, integrate renewables into the grid supply while reducing curtailments of renewable output and carbon emissions from required back-up from fossil fuel assets. These solutions enable the installation and dispatch of more renewables to the grid, reducing overall grid emissions and optimally integrating conventional, renewable and storage assets.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

These opportunities present IBM expanded market opportunities based on its portfolio of systems, software, services and solutions including the building control center; data center management systems; software solutions; service offerings; and analytics, cognitive and research capabilities. IBM is uniquely positioned to apply one, some, or all of these capabilities in a synergistic fashion to assist clients in both private and public sectors to respond to challenges of climate change. Because of the diverse applications of IBM's vast suite of IT products, services and solutions offerings, it is not possible to assign a percentage of revenue to offerings which can be applied solely to climate change issues and improvement of operational efficiency.

**Cost to realize opportunity**

**Strategy to realize opportunity and explanation of cost calculation**

IBM implements ongoing and effective business processes to identify, analyze, and exploit emerging business opportunities which can be addressed with IBM's range of expertise and offerings.

**Comment**

There are no extra-ordinary cost risks, as costs to execute our programs and strategy are embedded in IBM's current operational structure. IBM continues to invest significantly (\$6.3 billion in 2020) in research activities. A portion of these research dollars were applied to the development of products and solutions that address the impacts of climate change. IBM does not provide financial figures associated with these opportunities because we believe there is no credible way in which these can be estimated. Thus, any figure would be meaningless to report or potentially misleading.



## C3. Business Strategy

### C3.1

**(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

### C3.1a

**(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?**

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, and we do not intend it to become a scheduled resolution item within the next two years	

### C3.2

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

Yes, qualitative and quantitative

### C3.2a

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

Climate-related scenarios and models applied	Details
2DS Other, please specify Our goal is in line with the requirements of the IPCC 1.5 degrees Celsius report.	IBM's overall enterprise risk management process considers environmental risks, including those related to climate change, and helps establish plans for business continuity and asset protection. In addition, our global EMS also includes a process for identifying and assessing significant environmental aspects of our business. IBM considers risks as identified by the Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) in its risk management process.

	<p>Overall assessment process:</p> <p>In setting its current GHG emissions reduction goal, IBM selected a 1.5 degrees Celsius with no or limited overshoot (1.5 degrees Celsius) scenario. The implied metric under this scenario, as referenced in various publications (e.g., the IPCC Special 1.5oC report), stipulates that to keep global temperature rise at 1.5 degrees Celsius or less in 2100 global CO2 emissions must be reduced against the 2010 baseline by 45% by 2030, corresponding to a general requirement that overall GHG emissions associated with the global economy reduce at a rate of 2% per year or more through 2050. IBM's GHG emissions reduction goal achieves a rate of reduction that exceeds the recommendations of IPCC to limit the Earth's warming to 1.5 degrees Celsius above pre-industrial levels. Using this metric, IBM followed the process below in setting its goal:</p> <ol style="list-style-type: none"> <li>1. IBM assessed its projected operational energy use for the term of its current goal (through 2025), with input for key energy consuming business organizations and aligned with overall business strategy.</li> <li>2. Based energy use projections for different operational scenarios, we developed the range of likely and feasible energy conservation and renewable electricity procurement opportunities through 2025. We also estimated the carbon intensity of the power grids where IBM consumes power for 2025 using historical data and trend analysis.</li> <li>3. We developed evaluated different energy consumption scenarios and settled upon IBM's likely GHG emissions for the year 2025. The goal was subsequently set against our 2010 GHG emissions baseline, adjusted for acquisitions and divestitures.</li> </ol> <p>Inputs to the assessment:</p> <ol style="list-style-type: none"> <li>(1) Current business plan outlook and technology trends which will drive IBM operational energy consumption (5-year projection),</li> <li>(2) The 5-year trend for energy consumption, renewable electricity purchases and average CO2 electricity emissions factors by grid region,</li> <li>(3) Current and 5-year projection of availability of contracted renewable electricity in countries/locations where IBM operates and</li> </ol> <p>Analytic Method Used:</p> <p>To perform our case study of possible scenarios, an assessment of the range of the projected IBM operational</p>
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emissions was completed and the most probable outcome was chosen to set the GHG reduction goal. Based on the emissions reduction projected for the selected goal, an annual rate of reduction was calculated (percent of emissions reduction divided by number of years between base year and target year) and compared to the rate of reduction recommended by the IPCC. Percentage reduction checks were also done on the low and high emissions scenarios to understand the risks involved with attaining the chosen goal. All areas of our organization (both in terms of structure, business organizations, operations, and geographies) were considered as part of this analysis, since our strategies, objectives and targets are global and corporate-wide in nature. The results of our analysis were that IBM's current GHG emissions reduction goal represented a reduction of more than 2% per year, which is in alignment with the 1.5 degrees Celsius scenario and this informed our decision making and goal setting, which is a key component of our overall environmental strategy, by validating it against such scenario analysis.

### 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	An increased general focus on energy efficiency and climate protection, along with emerging regulations with energy efficiency requirements and GHG emissions restrictions, have generated additional drivers and opportunities for developing new IBM products and offerings that are responsive to capturing the greater demand for efficiency, renewable energy, and climate protection management solutions. (1) our product development teams continually increase their focus on providing server, storage and software management systems that increase IT equipment utilization to deliver more work per unit energy consumed and to do more work with less equipment, (2) our data center teams are leveraging technology refresh cycles to introduce more efficient technologies from IBM and OEMs to improve the overall efficiency of the data center, and (3) our solutions teams are applying cognitive and AI technologies to drive enhanced operational efficiency in many aspects of our client's business. We estimate the magnitude of impact to be moderate and indirect, driven by the market and potential regulations.

Supply chain and/or value chain	Yes	IBM procures many parts, components and products from third party providers; and incorporates them into our products, offerings and solutions. Some of the procured hardware are or may be regulated by energy efficiency requirements that are not harmonized across jurisdictions. This has added complexity to our product design process and required greater resources to addressing these requirements. That said, our robust processes and underlying management systems enable us to ensure compliance with applicable requirements without undue burden on our resources.
Investment in R&D	Yes	<p>As mentioned above, IBM implements ongoing and effective business processes to identify, analyze, and exploit emerging business opportunities which can be harnessed with IBM's range of expertise and offerings to solve challenges related with climate change. This has informed and directed our research focus over the years to create solutions which optimize the integration of renewable electricity generation into the grid and identify water losses and reduce wastage. The magnitude of impact is moderate.</p> <p>IBM invested \$6 billion in research &amp; development in 2020. A portion of this investment was directed to research that addresses climate related issues through increasing the workload delivered or data stored per unit of energy consumed of IBM's IT products &amp; data center operations; to develop solutions for clients in the areas of energy storage, renewable electricity forecasting &amp; deployment, blockchain applications that enable tracking &amp; assigning energy generation attributes, and applying AI to accelerate materials discovery to enable more effective carbon capture to provide just a few examples.</p>
Operations	Yes	<p>We have considered various drivers including, (1) increase of energy prices in the market which can be driven by price on carbon, renewable portfolio standards, and incentives for renewable generation imposed by regulation, (2) building and operational energy efficiency requirements, (3) client interest in energy efficient data center operations toward continually enhancing our longstanding focus on energy efficiency and conservation. The impact magnitude is high and direct, especially due to increased energy prices.</p> <p>IBM continues to invest millions of dollars each year to improve energy efficiency of our operations. Capital &amp; expense were committed to improving &amp; integrating controls systems in our buildings &amp; data center operations to reduce energy use, in data center &amp; IT equipment consolidation to deliver more work per unit of energy consumed &amp; improvements in IBM's &amp; client's operations. The main driver for</p>

		these investments is the economic benefit of using less energy, but also the climate change aspect of striving to continuously reduce our GHG emissions.
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### 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 Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets Liabilities	<p>Revenues:</p> <p>IBM revenues are affected by a wide range of factors. Potential regulatory requirements may potentially affect our product, services and solutions portfolio. IBM has processes and resources in place to assess and engage on developing regulations and pro-actively address potential impacts. There are also potential opportunities to apply IBM's technologies to develop solutions to assist our clients and society-at-large in mitigating and adapting to climate change, resulting in revenue opportunities. Examples of our solutions include those that optimize the integration of renewable electricity generation into the grid and, identify water losses and reduce waste. IBM does not break out revenues by specific solution or services types but does assess potential revenue impacts and opportunities from the full range of possible factors in its financial planning process.</p> <p>Operating costs:</p> <p>Changes in energy costs driven by the movement towards more renewables in the grid mix and the renewable portfolio standard or equivalent programs that require REC purchases at elevated prices represent a cost impact. While wholesale prices for renewables have come down over time the retail cost of electricity at the meter reflecting the total cost of integrating renewables with reliable power needed to operate our data centers at five 9's reliability levels continues to increase in many markets. We plan for these changing energy prices, which are driven by a range of factors. For example, we are working with our utility suppliers in regulated markets and energy retailers in unregulated markets to develop contracts for reliable power supplied with a high percentage of renewable generating assets at a competitive cost.</p>

	<p><b>Capital expenditures / capital allocation:</b>                  Not impacted - IBM has a long-standing energy conservation program which operates within IBM's business process governing approvals of capital investments. Energy efficiency and conservation projects are assessed on their benefits to the business and compete on equal footing with business investments in other areas for capital allocation. We take this approach with the belief that investments can only be sustained when we apply rigor and objectivity in selecting projects. A testament to the effectiveness of this process is IBM's long history of energy conservation which has avoided an average of 3.9% of annual energy consumption over the past 5 years (2016-2020). Savings from energy conservation contribute to reducing operating costs and offsetting energy cost increases where they occur.</p> <p><b>Acquisitions and divestments:</b>                  Not impacted - IBM's acquisition and divestiture strategy is driven by the technology and strategic alignment of the business. Climate change is not a separate consideration in these activities given the nature of IBM's business.</p> <p><b>Access to capital:</b>                  Not impacted - Access to capital is dependent on our financial ratings which are set based on a wide range of criteria. Given the nature of IBM's business climate change is not expected to have a unique or explicit impact on the company's ability to access capital.</p> <p><b>Assets:</b>                  Not impacted - Given the nature of IBM's business, climate change is not expected to have a unique or explicit impact on our assets.</p> <p><b>Liabilities:</b>                  Not impacted - There are no identified liabilities that are purely contingent on climate change issues.</p>
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### C3.4a

**(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

Our global Environmental Management System (EMS) drives internal operational excellence, informing & influencing our business strategy, product roadmaps & service offerings with regards to environmental issues including those related climate change.

Under the IBM EMS, we have determined that energy consumption & GHG emissions are significant environmental aspects of our operations and we have operated under energy conservation, renewable electricity and GHG emissions reduction goals for decades. In 2020, we achieved energy conservation savings of 3.5%, sourced 59.3% of our total electricity consumption from renewables, and reduced GHG emissions by 56.6% against our 2005 baseline.

In February 2021, IBM established a third-generation goal for the use of renewable electricity, a fifth-generation goal to reduce GHG emissions, and several other goals to help us achieve net-zero GHG emissions. Our new goals include:

- Procure 75 percent of the electricity IBM consumes worldwide from renewable sources by 2025, and 90 percent by 2030.
- Reduce IBM's GHG emissions 65 percent by 2025 against base year 2010, adjusted for acquisitions and divestitures.
- Reach net-zero GHG emissions by 2030 using feasible technologies to remove emissions in an amount which equals or exceeds IBM's residual emissions. Aim for residual emissions of 350,000 mtCO<sub>2</sub>e or less by 2030.
- Conserve 275,000 MWh of energy conserved by implementing a minimum of 3,000 new energy conservation projects from 2021 to 2025.
- Improve average data center cooling efficiency 20 percent by 2025 against base year 2019.

IBM's new 2025 GHG emissions reduction goal achieves a rate of reduction that exceeds what scientists from the UN Intergovernmental Panel on Climate Change (IPCC) indicate is necessary to limit the Earth's warming to 1.5 degrees Celsius above pre-industrial levels. We selected 2010 as baseline year to align our reporting with IPCC recommendations. We will publish results against our new goals beginning in 2021.

Climate-related issues have driven business decisions & activities to further our business strategy. For example, IBM continues to invest millions of dollars each year to improve energy efficiency of our operations. In addition, IBM invested \$6 billion in research & development in 2020. A portion of this investment was directed to research that addresses climate related issues through increasing the workload delivered or data stored per unit of energy consumed of IBM's IT products & data center operations; to develop solutions for clients in the areas of energy storage, renewable electricity forecasting & deployment, blockchain applications that enable tracking & assigning energy generation attributes; and applying AI to accelerate materials discovery to enable more effective carbon capture to provide just a few examples. IBM's Energy, Environment & Utility Solutions group offers a suite of capabilities for electricity generation & distribution systems including detailed monitoring & forecasting of weather, energy demand & output; & integration of intermittent renewable generation sources into the grid in a reliable manner.

As society acts to mitigate and adapt to climate change, regulations influencing energy source & material sources, product material & energy use efficiency, facilities siting & operation requirements can have a greater impact on the businesses of IBM & its clients. These changing requirements and the business opportunities associated in turn demand IT based solutions which can address client and regulatory requirements associated with climate-related issues.

From a long-term strategy perspective (10 years & beyond), IBM has set a fifth generation GHG emissions reduction goal based on scientific recommendations of the UN IPCC, , attaining annual emissions reductions aligned with the goal of the Paris Agreement of reducing 2010 global GHG emissions by 80% by 2050 (a 2% reduction per year) and in-line with the reduction required to limit warming to 1.5 degrees C above pre-industrial levels. IBM also evaluates technology trends and focuses its R&D investments to develop the future IT based solutions needed to address the range of society's challenges including climate-related issues.

## 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**

2018

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Other, please specify



Target includes Scope 1 (stationary fuel combustion) emissions, Scope 2 emissions (market-based) from electricity, steam, heat & cooling, and Scope 3 emissions associated with IBM's consumption of electricity at third-party co-location data centers.

**Base year**

2005

**Covered emissions in base year (metric tons CO2e)**

2,028,000

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

**Target year**

2025

**Targeted reduction from base year (%)**

40

**Covered emissions in target year (metric tons CO2e) [auto-calculated]**

1,216,800

**Covered emissions in reporting year (metric tons CO2e)**

880,188

**% of target achieved [auto-calculated]**

141.4955621302

**Target status in reporting year**

Achieved

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

Yes, we consider this a science-based target, but it has not been approved by the Science-Based Targets initiative

### **Target ambition**

1.5°C aligned

### **Please explain (including target coverage)**

IBM's target was developed based on the scientific recommendations of the United Nations Intergovernmental Panel on Climate Change (IPCC). However, we did not pursue "approval" of our goal by the Science-Based Targets initiative (SBTi) or other third party entity given the basis for our goal development.

IBM's GHG emissions reduction goal in effect during 2020 was to reduce CO2 emissions associated with IBM's energy consumption 40% by 2025 against the 2005 baseline, adjusted for divestitures and acquisitions (upon meeting this goal IBM established a new goal in February 2021. See more below). The target covered IBM's Scope 1 emissions from fuel combustion from stationary sources, Scope 2 emissions (market-based) associated with IBM's use of electricity, steam, heating and cooling, and emissions associated with the electricity IBM consumes at its data centers located in third party managed facilities (known as co-location data centers), reported as Scope 3 emissions of "Purchased goods and services".

IBM reduced CO2 emissions 56.6% between 2005 and 2020, reflecting an annual reduction rate of 3.8% and exceeding the scientific recommendations of IPCC which calls for a global reduction of emissions of 45% by 2030 against the 2010 baseline (or 2.3% per year) to limit global temperature increases to 1.5 degrees Celsius above pre-industrial levels. We met our goal five years early. In February 2021, IBM announced its fifth-generation emissions reduction goal which is to reduce GHG emissions 65% by 2025 against our 2010 baseline, adjusted for acquisitions and divestitures. We also set a new target to reach net zero GHG emissions by 2030. More information about these goals can be found here:

<https://newsroom.ibm.com/2021-02-16-IBM-Commits-To-Net-Zero-Greenhouse-Gas-Emissions-By-2030?lnk=hpv18nf1>

## **C4.2**

### **(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

Target(s) to increase low-carbon energy consumption or production

Other climate-related target(s)

## C4.2a

**(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.**

**Target reference number**

Low 1

**Year target was set**

2018

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: energy carrier**

Electricity

**Target type: activity**

Consumption

**Target type: energy source**

Renewable energy source(s) only

**Metric (target numerator if reporting an intensity target)**

Percentage

**Target denominator (intensity targets only)**

**Base year**

2018

**Figure or percentage in base year**

37.9

**Target year**

2025

**Figure or percentage in target year**

55

**Figure or percentage in reporting year**

59.3

**% of target achieved [auto-calculated]**

125.1461988304

**Target status in reporting year**

Achieved

**Is this target part of an emissions target?**

Yes. IBM's purchases of renewable electricity are an essential component for achieving our CO2 emissions reduction target.

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

Other, please specify

IBM doesn't rely on unbundled RECs/offsets to meet its climate-related goals. It is extremely important to IBM that our audience understand what we do and don't do and the actual impact. We communicate this transparently, clearly to our audience.

**Please explain (including target coverage)**

IBM's second-generation renewable electricity goal was to procure 55% of the electricity IBM consumes from renewable sources by 2025, including both purchases via grid from utility providers and specific, direct contracting IBM makes with electricity providers. This target is not measured against a base year, and the year 2018 has been entered as the year in which this target was set. During 2020, 59.3% of our global

electricity consumption came from renewable sources hence meeting our target five years early. In February 2021, IBM set its third-generation renewable electricity goal which is to source 75% of our global electricity consumption from renewable sources by 2025, and 90% by 2030.

## 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**

2018

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

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

Energy consumption or efficiency

MWh

**Target denominator (intensity targets only)**

**Base year**

2020

**Figure or percentage in base year**

0

**Target year**

2020

**Figure or percentage in target year**

3

**Figure or percentage in reporting year**

3.5

**% of target achieved [auto-calculated]**

116.6666666667

**Target status in reporting year**

Achieved

**Is this target part of an emissions target?**

IBM's energy conservation efforts are an essential component of our CO2 emissions reduction target.

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

Other, please specify

IBM's Energy Conservation Program

**Please explain (including target coverage)**

IBM has a goal to conserve energy each year equivalent to 3% of IBM's annual consumption through conservation projects. This goal must be met on an annual basis, thus a "target year" or "base year" in its traditional sense does not apply here. The goal is self-contained (starts and ends) in each year.

---

**Target reference number**

Oth 2

**Year target was set**

1991

**Target coverage**

Product level

**Target type: absolute or intensity**

Absolute

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

Energy consumption or efficiency

kWh

**Target denominator (intensity targets only)**

**Base year**

**Figure or percentage in base year**

**Target year**

**Figure or percentage in target year**

**Figure or percentage in reporting year**

**% of target achieved [auto-calculated]**

**Target status in reporting year**

Achieved

**Is this target part of an emissions target?**

IBM established its product design for the environment (DfE) program in 1991. One of IBM's product energy efficiency goals is to improve the computing power delivered for each kilowatt-hour of electricity consumed for new server products as compared to equivalent, previous-generation products. This is not directly part of an emissions target, but it directly contributes to reducing the emissions associated with the use of our server products.

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

Other, please specify

IBM's Design for the Environment (DfE) Program

**Please explain (including target coverage)**

This target does not have a base or target year, nor is measured against a baseline. Rather, it compares efficiency between current and prior generations of the same model of a product for which there is a valid comparison. IBM's latest POWER9-based servers (the S922, S924 and E950) improved the work delivered per unit of power consumed - as measured by the Standard Performance Evaluation corporation (SPEC) Server Energy Efficiency Rating Tool (SERT) - by 30-60% over previous-generation POWER8-based servers. In 2019, IBM introduced its next-generation mainframe enterprise platform, the IBM z15. The z15 uses 20-30% less power than a comparably configured IBM z14, and improves computing power delivered for each kilowatt-hour of electricity consumed by 31%.

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**Target reference number**

Oth 3

**Year target was set**

1993

**Target coverage**

Product level



**Target type: absolute or intensity**

Absolute

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

Other, please specify

Other, please specify

Quantity of products certified to the requirements and standards described below

**Target denominator (intensity targets only)**

**Base year**

**Figure or percentage in base year**

**Target year**

**Figure or percentage in target year**

**Figure or percentage in reporting year**

**% of target achieved [auto-calculated]**

**Target status in reporting year**

Achieved

**Is this target part of an emissions target?**

IBM established its product design for the environment (DfE) program in 1991. IBM also has a goal to certify at least two-thirds of eligible IBM Power Systems server products and at least one IBM Storage product in each eligible Storage Networking Industry Association (SNIA) taxonomy category to the U.S. Environmental Protection Agency's ENERGY STAR program criteria. This is not directly part of an emissions target, but it directly contributes to reducing the emissions associated with the use of our server products.

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

Other, please specify

IBM's Design for the Environment (DfE) Program

**Please explain (including target coverage)**

This target does not have a base or target year, nor is measured against any baseline. In 2019, IBM had five POWER9-based servers eligible for ENERGY STAR and certified three models (S922, S924 and E950). IBM has 11 IBM Storage products certified to ENERGY STAR and at least one storage product certified from each of the three eligible SNIA taxonomy categories.

## 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		
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	1,400	432,393

Not to be implemented		
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## C4.3b

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

### Initiative category & Initiative type

Low-carbon energy consumption

Other, please specify

Solar photovoltaic, wind, hydro, biomass and geothermal electricity sources

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

381,653

### Scope(s)

Scope 2 (market-based)

### Voluntary/Mandatory

Voluntary

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

1

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

1

### Payback period

>25 years

### Estimated lifetime of the initiative

3-5 years

**Comment**

---

**Initiative category & Initiative type**

Other, please specify

Other, please specify

Energy conservation in buildings and production processes

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

50,740

**Scope(s)**

Scope 1

Scope 2 (location-based)

Scope 3

**Voluntary/Mandatory**

Voluntary

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

15,392,997

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

1

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

IBM implemented nearly 1,400 energy conservation projects at more than 230 locations globally during 2020. These projects delivered annual energy savings of 145,500 MWh, equal to 3.5 percent of our total energy use during 2020 and surpassing the corporate goal of 3 percent. They also avoided 51,000 metric tons of CO2 emissions and saved \$15.4 million in expense. The avoided emissions were equivalent to removing more than 11,000 passenger vehicles from the road during the year. The results reported were achieved through energy conservation projects in the following areas: virtualization and cooling efficiency in data centers; heating, ventilation and air conditioning projects; central utility plant efficiency projects; lighting efficiency projects; building controls projects; and other. Specific investment information is not provided to protect business confidential information.

In measuring performance against IBM's energy conservation goal, we only include the first year's savings from projects. Accordingly, IBM's total energy savings and CO2 emissions avoidance from these projects are actually much greater than this simple summation of the annual results. We do not include reductions in energy consumption resulting from downsizings, the sale of operations or cost-avoidance actions, such as fuel switching and off-peak load shifting, in our energy conservation results.

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

Method	Comment
Financial optimization calculations	We prioritize on energy efficiency and conservation projects that meet our internal financial IRR and ROI requirements and continue to be successful in identifying them. IBM's commitment to meeting its energy conservation goal, combined with the business returns generated by conservation projects sustain our ability to have these projects funded and implemented.
Employee engagement	IBM engages its employees toward achieving energy use and related GHG emission reductions through a variety of programs including publicity campaigns, "best idea" solicitations, personal energy use, software based meters for office employees, and other methods to encourage employees to identify, propose, and/or implement energy saving and GHG emissions reduction ideas.

Compliance with regulatory requirements/standards	Compliance with applicable regulations is absolutely required and enabled with requisite resources. IBM also invests toward meeting meaningful standards (e.g., ENERGY STAR). IBM anticipates and proactively addresses emerging requirements through its product development processes to improve product and service energy efficiency with the objective of competitively positioning the company in the marketplace.
Partnering with governments on technology development	IBM partners with governments around the globe on the development and implementation of innovative solar electricity generation systems, development of technologies and IT based solutions to improve the efficiency of built infrastructure, the use of high performance computers to analyze climate and energy challenges, development of IT based electric grid management systems to facilitate the integration of EV charging stations and distributed, renewable electricity generation into the grid infrastructure, development of innovative data center power and cooling infrastructures, and other projects which drive energy efficient technology development.
Internal finance mechanisms	Within IBM, Corporate Environmental Affairs staff, Finance, and business organizations collaborate to execute a cross functional business process that identifies energy conservation projects which need support and involvement from multiple business units to enable them to be competitive for capital funding.
Other	IBM organizations make use of energy efficiency incentives, grants, and tax incentives offered by governments and utilities to improve the financial viability of projects and contribute to co-fund energy conservation projects.

## C4.5

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

Yes

## C4.5a

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

**Level of aggregation**

Group of products

**Description of product/Group of products**

IBM Server Products: One of IBM's product energy efficiency goals is to improve the computing power delivered for each kilowatt-hour of electricity consumed for new server products as compared to equivalent, previous-generation products. IBM's latest POWER9™-based servers, the S922, S924 and E950, improved the work delivered per unit of power consumed – as measured by the Standard Performance Evaluation Corporation (SPEC) Server Efficiency Rating Tool (SERT) – by 30-60% over previous-generation POWER8®-based servers. In 2019, IBM introduced its next-generation mainframe enterprise platform, the IBM z15. The z15 uses 20-30% less power than a comparably configured IBM z14, and improves computing power delivered for each kilowatt-hour of electricity consumed by 31%. IBM also has a goal to certify at least two-thirds of eligible IBM Power® Systems server products and at least one storage product in each eligible Storage Networking Industry Association (SNIA) taxonomy category to the U.S. Environmental Protection Agency's ENERGY STAR program criteria. In 2019, IBM had five POWER9-based servers eligible for ENERGY STAR and certified three (models S922, S924 and E950).

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

Avoided emissions

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

Evaluating the carbon-reducing impacts of ICT

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

0.01

**Comment**

Specific revenue and R&D investment information is not provided to protect business confidential information. IBM invested \$6.3 billion in research and development activities in 2020 and a portion of this investment went to technologies and solutions which enable clients to become more energy efficient and reduce their GHG emissions. The percent of revenue for low carbon products is an estimate and is not determinant.

---

**Level of aggregation**

Group of products

**Description of product/Group of products**

IBM Storage Products: IBM offers a broad range of storage products — including the IBM FlashSystem® 900, the Storwize® family, the DS8880 enterprise storage family, and tape systems — to address our clients' needs. These products are supported by software-defined storage and capacity optimization methods (COMs) through IBM Spectrum® Scale storage offerings that maximize the utilization of available storage capacity and assign data to the storage tier commensurate with the importance of the data. COM functions include software-based data management capabilities such as Easy Tier®, thin provisioning, data compression and deduplication, and storage virtualization. These capabilities can reduce the storage hardware and energy footprint as well as the capacity required to accomplish a given storage task. IBM has 11 storage products certified to ENERGY STAR and at least one storage product certified from each of the three eligible SNIA taxonomy categories.

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

Avoided emissions

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

Evaluating the carbon-reducing impacts of ICT

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

0.01

**Comment**

Specific revenue and R&D investment information is not provided to protect business confidential information. IBM did invest \$6.3 billion in research and development activities in 2020 and a portion of this investment went to technologies and solutions which enable clients to become more efficient and reduce their GHG emissions. The percent of revenue for low carbon products is an estimate and is not determinant.

---

**Level of aggregation**

Group of products

**Description of product/Group of products**



IBM Cognitive & Analytics offerings enable clients to implement systems management of activities such as logistics, water systems, traffic systems, utility grids, and other processes and infrastructures to optimize activity flows and minimize resource use. The IBM energy management and data center teams leverage analytics-based monitoring to minimize energy use and optimize operating performance at many locations. By looking at the whole data set through a single lens, the IBM Smarter Buildings solution provides early identification of individual faults and broader patterns and root causes. Overall, the solution saves 5 to 15 percent of the overall energy operating costs at the buildings where it is used. By year-end 2019, the IBM Smarter Buildings solution had been installed at 25 major IBM campuses, covering 190 buildings and nearly 25 million square feet. During 2020, this program enabled the identification of energy conservation opportunities which resulted in the avoidance of 9,800 MWh of energy and \$877,000 in expense. Other clients would be expected to achieve similar results.

IBM is working with utilities & governments on projects which utilize smart meters, energy storage, demand response, & renewable generation forecasting to reduce peak electricity demand & better integrate renewable generation into the power grid. Renewable energy generation is one of the fastest growing resources on the electric grid. Weather Company Power Generation Forecasts from The Weather Company, an IBM Business, combines our best-in-the-world atmospheric forecast and our power conversion model to provide power generation forecasts for wind and solar that can be displayed in our simple, intuitive, web-based display. The forecast data feed can also be integrated into any customer system through files hosted on our secure FTP server or accessed via web services. This together with grid management software can improve the utilization of renewable generation assets by 5 to 10%.

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

Avoided emissions

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

Evaluating the carbon-reducing impacts of ICT

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

0.01

**Comment**

Specific revenue and R&D investment information is not provided to protect business confidential information. IBM did invest \$6.3 billion in research and development activities in 2020 and a portion of this investment went to technologies and solutions which enable clients to become more efficient and reduce their GHG emissions. The percent of revenue for low carbon products is an estimate and is not determinant.

## C5. Emissions methodology

### C5.1

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

#### Scope 1

---

**Base year start**

January 1, 2005

**Base year end**

December 31, 2005

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

196,000

**Comment**

These are the emissions associated with IBM's use of fossil fuels for its operations, in accordance with IBM's operational CO2 emissions reduction goal.

#### Scope 2 (location-based)

---

**Base year start**

**Base year end**

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

**Comment**

Our scope 2 (location-based) baseline is irrelevant since IBM's GHG emissions reduction goals are measured against the market-based methodology. These are the emissions associated with IBM's use of electricity and purchased commodities, adjusted for the consumption of renewable electricity (accounted as zero-carbon electricity) in accordance with IBM's operational CO2 emissions reduction goal.

**Scope 2 (market-based)**

---

**Base year start**

January 1, 2005

**Base year end**

December 31, 2005

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

1,832,000

**Comment**

These are the emissions associated with IBM's use of electricity and purchased commodities, adjusted for the use of renewable energy (accounted as zero-carbon electricity), in accordance with IBM's operational CO2 emissions reduction goal.

## C5.2

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

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

## C6. Emissions data

### C6.1

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

### Reporting year

#### Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)

90,906

#### Comment

These are emissions associated with IBM's fuel combustion from stationary sources, fuels consumed for transportation, and fugitive and process emissions.

## C6.2

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

#### Row 1

##### Scope 2, location-based

We are reporting a Scope 2, location-based figure

##### Scope 2, market-based

We are reporting a Scope 2, market-based figure

#### Comment

## C6.3

### (C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?

#### Reporting year

##### Scope 2, location-based

828,794

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

530,365

**Comment**

These are emissions associated with IBM's consumption of electricity and purchased energy commodities (chilled water, hot water and steam).

**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

**Metric tonnes CO2e**

275,882

**Emissions calculation methodology**

These are the emissions associated with IBM data center operations in 3rd party operated data center space (i.e., co-location data centers).

These emissions are in scope of IBM's fourth-generation CO2 emissions reduction goal (in effect through 2020). The emissions are calculated by multiplying the electricity consumed by IBM at these co-location data centers by the specific emissions factor for that location according to the GHG Protocol Scope 2 Guidance.

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

100

### **Please explain**

Some of IBM's data center operations are located in third party operated data center space (i.e., co-location data centers). IBM maintains an inventory of its electricity use in co-location data centers, and uses that inventory to calculate the CO2 emissions associated with electricity consumption for IBM operations at these locations. IBM considers purchased services under this Scope 3 category supporting our operations in co-location data centers to be relevant for the following reasons: (a) reliable information is available for the electricity IBM consumes in these spaces; and (b) the services IBM received support a core, strategic IBM business. IBM does not attempt to quantify Scope 3 emissions from other suppliers in the "Purchased goods and services" category, as there are no effective, accurate methodologies to calculate or allocate those emissions.

### **Capital goods**

#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

There is no rational basis or reliable information on which to estimate or report the embedded emissions of our purchased capital equipment. Any estimation would require gross assumptions to arrive at the product level embedded GHG estimates for building materials, IT equipment, etc. without necessary validity or basis in reality.

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

#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

IBM does not attempt to estimate emissions associated with the transportation of energy commodities, transmission of electricity or other upstream emissions associated with the production of fuels and energy commodities purchased and consumed by IBM because there is no basis or reliable data to do so. Estimating these emissions would generate a grossly inaccurate figure at best due to the many needed assumptions, would place additional burden on carbon accounting rather than dedicating resources to actually reduce emissions, and would deliver a metric upon which IBM would not be able to take any meaningful action.

### **Upstream transportation and distribution**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

IBM's upstream suppliers manage their own logistics and shipping operations. There is a large number of suppliers and locations from which IBM sources parts and components. Also, our suppliers manage transportation and packaging of components and parts to IBM as they are doing the same for multiple customers. We influence the reduction of emissions by focusing on working with our suppliers to reduce packaging volume and weight to make shipping more efficient, through the use of packaging specifications to drive suppliers toward improving their packaging, and by reducing the use of materials, fuel and costs.

**Waste generated in operations**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

There is no rational basis or reliable information that we could use to make credible assumptions, let alone generating an estimate for GHG emissions associated with waste disposal. Since 1988, IBM has maintained a goal for recycling of non-hazardous wastes generated in its operations. IBM focuses its efforts on making its operations more efficient to reduce waste generation and increase recycling. These efforts deliver demonstrable emissions reductions which are able to be understood by our audience, as opposed to an opaque "Scope 3" number. Please see the discussion under the Pollution Prevention section of the IBM Environmental Report for further discussion.

**Business travel**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

84,799

**Emissions calculation methodology**

These are the emissions from business air travel on commercial carriers and car rentals. The CO2 emissions data from rental cars are directly provided by our suppliers, who multiply mileage driven by CO2 emission factor from the vehicle manufacturers to estimate total emissions. We also obtain total CO2 emissions associated with business air travel via our corporate travel booking tool. We understand the vendor responsible for our travel booking tool calculates these emissions on a standard developed by an independent consultancy CE Delft. It consists of multiplying flight distance with fixed emission factors in kgCO2/kilometer. These factors are different for short, medium and long haul flights. Emissions are allocated per seat.

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

100

**Please explain**

This item reports CO2 emissions associated with IBM's airline travel and use of rental cars.

**Employee commuting**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

41,583

**Emissions calculation methodology**

IBM estimates its CO2 emissions from employee commuters in the United States. This estimate was made using the following assumptions: traditional employees commuted 235 days a year; mobile employees commuted 141 days a year; and home office employees commuted 47 days a year; with an average round trip of 27.6 miles using total vehicle distance traveled in miles; CO2 emission factor of 0.344 MT CO2/1000 miles). In 2020, we applied a discount factor based on average building occupancy which was lower than usual due to the COVID-19 pandemic.

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

0

**Please explain**



Estimates of IBM commuter travel in the United States where the most common mode of transportation is driving and where we have a significant number of employees. This figure was calculated using IBM internal data on employee work type assignments and assumptions about the frequency with which the different work types drive to the office or a customer location. CO2 emissions were calculated by multiplying estimated commuter mileage by the appropriate emission factors.

## Upstream leased assets

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

12,756

### Emissions calculation methodology

Lease Vehicle Emission Calculation: IBM car fleet data related to vehicle make and model, term and mileage, fuel type and fuel consumption are collected through our lease vehicle suppliers. All reported vehicles have been active at least one day during the reporting year and only the reporting year's mileage is reported. In some cases, the CO2 emissions associated with the lease car use are supplied directly by our suppliers. Otherwise, CO2 emissions are calculated based on data about the cars and their fuel type provided by our suppliers, dividing the mileage traveled by average mile per gallon for the car type and then calculating the CO2 emissions using the appropriate fuel emission factor. In previous years, these emissions were reported under the Scope 3 "Fuel-and-energy-related activities" category.

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

100

### Please explain

In some countries, certain IBM employees are provided vehicles through a lease program. These vehicles may be used for business purposes as well as for personal use. Reported emissions are apportioned 25% to business use (reported under our Scope 1 emissions), and 75% to work related commute and personal use. The emissions reported here represent the 75% of the emissions from personal use and commuting. IBM continues its effort to move to more fuel-efficient lease vehicles by setting guidelines for lower emissions vehicles that are offered to employees under this program.

## Downstream transportation and distribution

**Evaluation status**

Not relevant, explanation provided

**Please explain**

Logistics and shipping activities directly supporting IBM's operations are managed by many different providers playing different roles and, in most cases, IBM is removed by multiple tiers from the carriers that actually transport our products. Further, IBM's purchases constitute but a very small percentage of any supplier's business. In addition, IBM's logistics operations are widely dispersed across geographies, shippers and consolidated loads to allow credible estimates of CO2 emissions. For this reason, IBM does not presently have plans to try to determine the mileage, weight and GHG emissions associated with the transport of parts and components between suppliers and IBM's manufacturing and assembly locations. We do work to maximize the efficiency of our logistics operations for activities we can control. IBM has a packaging engineering organization which designs and/or improve the efficiencies of packaging for IBM products and packaging used to move components to IBM product assembly locations. These engineering efforts have reduced packaging volume and weight to make shipping more efficient by increasing shipping density. These results effectively reduce the emissions associated with product shipment, in addition to the direct reductions in packaging materials.

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

Not relevant, explanation provided

**Please explain**

IBM divested virtually all manufacturing/processing operations that produce parts, components, assemblies, etc. as of 2015 when we sold our semiconductor manufacturing operations.

**Use of sold products****Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

291,367

### **Emissions calculation methodology**

These are annual estimated emissions associated with the use of server and storage products IBM sold to its customers during the reporting year only (2020), not the entirety of our product installed base. The reported number is based solely on the annual quantity of power used by these products and the following stated assumptions:

1. Scope: server and storage systems sold by IBM in 2020.
2. An average maximum name plate power use is assigned to each machine type.
3. The assigned maximum power is discounted, considering the many product configurations that are sold and the fact that systems do not operate in a fully loaded mode or at full capacity at all times.
4. It is assumed that for every watt of power required to run a server or storage system, 0.59 watts of power is required for cooling, based on an industry average Power Usage Effectiveness (PUE) of 1.59 as published by the Uptime Institute (2019 survey data).
5. Servers and storage systems run 24 hours per day, 7 days per week, 365 days per year.
6. The world's average emissions factor for electricity is used, as published by the International Energy Agency, 0.481 mtCO<sub>2</sub>e/MWh for 2018.

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

0

### **Please explain**

IBM does not believe there is meaningful value to estimating and reporting downstream emissions associated with product use. Installed base quantity, configuration differences, customer use patterns, range of applications, and the very different electricity CO<sub>2</sub> emissions factor depending on where the products are consuming electricity make any calculation highly uncertain if not baseless. We believe environmental impacts, including energy requirements during the use phase of a product should be considered in the product design process because that is the time in which designers can and should determine opportunities for reducing product energy use and take action to improve their energy efficiency. To that end, IBM has sustained a product design for the environment program and maintained product energy efficiency goals since 1991 to achieve these objectives. Products with greater energy efficiency directly lead to less GHG emissions during their use across our value chain and product design for environment is where we invest our resources, versus guesstimating value chain emissions which are a double count of our clients' Scope 1 and Scope 2 emissions. These emissions are most effectively dealt with by those that emit them.

### **End of life treatment of sold products**

### **Evaluation status**

Not relevant, explanation provided

**Please explain**

IBM does not attempt to estimate GHG emissions associated with disposal of its products at end of life. There is no accepted standard or practice for how to determine when a product (in particular non-consumer products as are IBM products) will reach end of life or the ways it will be reused and recycled. There are many variables and a high degree of uncertainty in establishing assumptions and the analysis causing any resulting Scope 3 emissions associated with product disposal not credible. IBM focuses its resources on its product design activities to make systems upgradeable and for ease of disassembly, to allow components to be reused or recycled at end of life, to minimize energy use over the life of the product, and to enable product end of life recycling.

**Downstream leased assets**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

IBM does lease equipment to clients. These emissions are included in the use of sold products.

**Franchises**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

IBM does not operate franchises.

**Investments**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

IBM's Scope 3 emissions result from supplier activities and purchases to support its direct operations. IBM does not make significant investment outside of its own operations.

#### Other (upstream)

##### Evaluation status

Not relevant, explanation provided

##### Please explain

No other relevant upstream emissions.

#### Other (downstream)

##### Evaluation status

Not relevant, explanation provided

##### Please explain

No other relevant downstream emissions.

## 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 CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**

0.00000844

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

621,271

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

73,620,000,000

**Scope 2 figure used**

Market-based

**% change from previous year**

31

**Direction of change**

Decreased

**Reason for change**

The reason for the change was an overall year-to-year reduction of 13% in overall Scope 1 and Scope 2 (market-based) emissions. Key drivers for this decrease in emissions were our execution of 1,399 energy conservation projects and significant increase of renewable electricity consumption during 2020, as well as lower overall energy consumption due to lower office building occupancy caused by the global COVID-19 pandemic.

## 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 CO <sub>2</sub> e)	GWP Reference
CO <sub>2</sub>	81,837	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	7,211	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	127	IPCC Fifth Assessment Report (AR5 – 100 year)
SF <sub>6</sub>	555	IPCC Fifth Assessment Report (AR5 – 100 year)
NF <sub>3</sub>	540	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify Heat transfer fluids	635	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 CO <sub>2</sub> e)
Asia Pacific (or JAPA)	6,693
Europe, Middle East and Africa (EMEA)	9,630
Latin America (LATAM)	1,979
North America	72,604

## C7.3

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

By activity

### C7.3c

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

Activity	Scope 1 emissions (metric tons CO2e)
Fuel combustion from stationary sources	73,941
Fuel combustion from mobile sources (transportation)	7,896
Fugitive and process emissions from stationary sources	9,069

## C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Asia Pacific (or JAPA)	229,996	221,130	396,117	84,380
Europe, Middle East and Africa (EMEA)	220,026	105,936	855,041	610,395
Latin America (LATAM)	44,869	26,212	195,032	144,199
North America	333,902	177,087	1,339,333	829,146



## C7.6

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

By activity

### C7.6c

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

Activity	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)
Consumption of electricity	800,561	501,654
Consumption of purchased energy commodities (heat, steam and cooling)	28,233	28,711

## C7.9

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

Decreased

### C7.9a

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

	Change in emissions (metric tons CO <sub>2</sub> e)	Direction of change	Emissions value (percentage)	Please explain calculation
--	---	---------------------	------------------------------	----------------------------

Change in renewable energy consumption	86,002	Decreased	7	IBM's direct purchases of renewable electricity avoided 296,000 mtCO <sub>2</sub> in 2019; and 382,000 in 2020. The year- to-year delta is 86,000 mtCO <sub>2</sub> . IBM's emissions in scope of our 4th generation emissions reduction goal (in effect during 2020) were 1,222,623 mtCO <sub>2</sub> in 2019. $86,000/1,222,623 = 7.0\%$ (decrease)
Other emissions reduction activities	92,338	Decreased	7.6	IBM's total energy consumption in 2019 was 4,456,000 MWh; and 4,119,000 MWh in 2020. The year-to-year reduction was 337,000 MWh. This was a result of IBM's continued focus on energy conservation, increased operational efficiency and also impacted by lower office occupancy during the COVID-19 pandemic. In 2019, the average carbon intensity of all energy consumed by IBM was 0.274 mtCO <sub>2</sub> /MWh. IBM's emissions in scope of our 4th generation emissions reduction goal (in effect during 2020) were 1,222,623 mtCO <sub>2</sub> in 2019.
Divestment	0	No change	0	Emissions were not significantly impacted by divestitures, acquisitions or mergers during 2020.
Acquisitions	0	No change	0	Emissions were not significantly impacted by divestitures, acquisitions or mergers during 2020.
Mergers	0	No change	0	Emissions were not significantly impacted by divestitures, acquisitions or mergers during 2020.
Change in output	0	No change	0	There was no significant change in output from 2019 to 2020.
Change in methodology	0	No change	0	There was no significant change in output from 2019 to 2020.
Change in boundary	0	No change	0	There was no change in boundary from 2018 to 2019.
Change in physical operating conditions	0	No change	0	There were no significant changes in physical operating conditions during 2020, except for lower office building occupancy due to the COVID-19 pandemic. The emissions reductions associated with this are included above under "Other

				emissions reduction activities." We are not able to deterministically apportion quantity of emissions that were reduced due to the pandemic.
Unidentified	0	No change	0	Not relevant.
Other	164,095	Decreased	13.4	The remaining emissions reductions from 2019 to 2020 are attributable to lower grid emission factors in the grid regions where we operate. IBM's emissions in scope of our 4th generation emissions reduction goal (in effect during 2020) were 1,222,623 mtCO <sub>2</sub> in 2019 and 880,188 mtCO <sub>2</sub> in 2020. The year-to-year delta is 342,435 mtCO <sub>2</sub> .

## 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)	Yes

Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	Yes

## C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	378,885	378,885
Consumption of purchased or acquired electricity		2,082,549	1,430,721	3,513,270
Consumption of purchased or acquired heat		0	35,565	35,565
Consumption of purchased or acquired steam		0	1,270	1,270
Consumption of purchased or acquired cooling		0	189,646	189,646
Consumption of self-generated non-fuel renewable energy		0		0
Total energy consumption		2,082,549	2,036,087	4,118,636

## C8.2b

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

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

## C8.2c

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

### Fuels (excluding feedstocks)

Natural Gas

### Heating value

HHV (higher heating value)

### Total fuel MWh consumed by the organization

305,556

### MWh fuel consumed for self-generation of electricity

0

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

305,556

**Emission factor**

0.181

**Unit**

metric tons CO2e per MWh

**Emissions factor source**

<https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>

**Comment**

---

**Fuels (excluding feedstocks)**

Fuel Oil Number 2

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

58,737

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

0

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

58,737

**Emission factor**

0.253

**Unit**

metric tons CO<sub>2</sub>e per MWh

**Emissions factor source**

<https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>

**Comment**

---

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

13,859

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

13,859

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

0

**Emission factor**

0.253

**Unit**

metric tons CO<sub>2</sub>e per MWh

**Emissions factor source**

<https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>

**Comment**

---

**Fuels (excluding feedstocks)**

Kerosene

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

545

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

0

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

545

**Emission factor**

0.257

**Unit**

metric tons CO<sub>2</sub>e per MWh

**Emissions factor source**

<https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>

**Comment**

---



**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

188

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

0

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

188

**Emission factor**

0.211

**Unit**

metric tons CO<sub>2</sub>e per MWh

**Emissions factor source**

<https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>

**Comment**

**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	3,095	3,095	0	0
Heat	244,445	244,445	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 emission factor in the market-based Scope 2 figure reported in C6.3.**

### Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

### Low-carbon technology type

Other, please specify

Solar photovoltaic, wind, hydro, biomass and geothermal.

### Country/area of consumption of low-carbon electricity, heat, steam or cooling

### MWh consumed accounted for at a zero emission factor

1,171,181

### Comment

This is consumption of renewable electricity at multiple facilities worldwide where IBM has control over electricity procurement. IBM operates and consumes electricity in more than 100 countries. Responding to this question at the prescribed specificity (by country and by source) results in undue burden.

---

**Sourcing method**

Green electricity products (e.g. green tariffs) from an energy supplier, not supported by energy attribute certificates

**Low-carbon technology type**

Hydropower

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

**MWh consumed accounted for at a zero emission factor**

88,358

**Comment**

These are purchases of hydropower through incentivized governmental programs that, per their nature, are not eligible to issue energy attribute certificates. IBM collects alternative evidence from our providers to demonstrate quantities of hydropower purchased and consumed by IBM during a specific time period. IBM operates and consumes electricity in more than 100 countries. Responding to this question at the prescribed specificity (by country and by source) results in undue burden.

---

**Sourcing method**

Other, please specify

Landlord-supplied renewable electricity

**Low-carbon technology type**

Other, please specify

Solar photovoltaic, wind, hydro, biomass and geothermal.

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

**MWh consumed accounted for at a zero emission factor**

260,709

**Comment**

These are quantities of renewable electricity consumed by IBM supplied to us via our landlords' purchases at locations where IBM does not have control over electricity procurement. These quantities do not include unbundled energy attribute certificates. Our landlords' sourcing methods vary by geography. IBM operates and consumes electricity in more than 100 countries. Responding to this question at the prescribed specificity (by country and by source) results in undue burden.

---

**Sourcing method**

Other, please specify

Grid mix of renewable electricity

**Low-carbon technology type**

Other, please specify

Solar photovoltaic, wind, hydro, biomass and geothermal.

**Country/area of consumption of low-carbon electricity, heat, steam or cooling**

**MWh consumed accounted for at a zero emission factor**

562,301

**Comment**

The emission factor for this electricity is already reflected in each country's grid emission factor, which are used to calculate IBM's Scope 2 emissions. IBM operates and consumes electricity in more than 100 countries. Responding to this question at the prescribed specificity (by country and by source) results in undue burden.

## C9. Additional metrics

### C9.1

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

---

**Description**

Other, please specify  
Energy conservation

**Metric value**

3.5

**Metric numerator**

Energy conserved versus total energy consumed in %

**Metric denominator (intensity metric only)**

This is not an intensity metric.

**% change from previous year**

9.4

**Direction of change**

Increased

**Please explain**

In 2019, IBM's energy conservation metric was 3.2%. In 2020, IBM's energy conservation metric was 3.5%. That is a year-to-year increase of 9.4%. This reflects that, during 2020, IBM conserved more energy than in 2019 when compared to its annual total energy consumption each year, respectively. IBM has a goal to conserve energy in an amount equal to 3% of its total energy consumption annually.

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/ section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/ section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

**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**

 IBM\_Assurance Statement 2020\_issued.pdf



**Page/ section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

**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

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Business travel

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Employee commuting

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Upstream leased assets

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

---

**Scope 3 category**

Scope 3: Use of sold products

**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**

 IBM\_Assurance Statement 2020\_issued.pdf

**Page/section reference**

Pages 1-3

**Relevant standard**

ISO14064-3

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

100

## C10.2

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

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

## C11. Carbon pricing

### C11.1

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

Yes

## C11.1a

**(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

EU ETS

## C11.1b

**(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.**

### EU ETS

**% of Scope 1 emissions covered by the ETS**

0.01

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1, 2020

**Period end date**

December 31, 2020

**Allowances allocated**

125

**Allowances purchased**

0

**Verified Scope 1 emissions in metric tons CO<sub>2</sub>e**

595

**Verified Scope 2 emissions in metric tons CO<sub>2</sub>e**

0

**Details of ownership**

Facilities we operate but do not own

**Comment**

The EU ETS has minimal impact on the operating costs at the 2 covered facilities in the United Kingdom because fuel usage is a small part of the operating expense of these facilities and the emissions from these facilities are insignificant. Regardless and pursuant to IBM's ongoing corporate energy conservation program and goal, these facilities routinely implement energy conservation projects to drive reductions in fuel use and emissions. In general, IBM has minimal fuel use at its facilities and would fall under de minimis limits under most cap and trade schemes.

## C11.1d

**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

The EU ETS has minimal impact on the operating costs at the 2 covered facilities in the United Kingdom because fuel usage is a small part of the operating expense of these facilities and the emissions from these facilities are insignificant.

Regardless and pursuant to IBM's ongoing corporate environmental conservation program and goal, these facilities routinely implement energy conservation projects to drive reductions in fuel use and emissions. In general, IBM has minimal fuel use at its facilities and would fall under de minimis limits under most cap and trade schemes.

## 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, our customers

Yes, other partners in the value chain

### C12.1a

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

---

**Type of engagement**

Compliance & onboarding

**Details of engagement**

Included climate change in supplier selection / management mechanism

Code of conduct featuring climate change KPIs

Climate change is integrated into supplier evaluation processes

**% of suppliers by number**

100

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

100

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

68



### **Rationale for the coverage of your engagement**

In 2010 IBM established a requirement that all 1st-tier suppliers establish a MS (MS) to address their social & environmental responsibilities with the objective to help our suppliers build their own capability in this area. Suppliers are required to (1) define, deploy & sustain a MS that addresses corporate responsibility incl. supplier conduct & environmental protection, (2) Measure performance & establish voluntary, quantifiable environmental goals, (3) publish results associated with these goals & other environmental aspects of their MS, (4) cascade this set of requirements to their supplier's suppliers who perform work material to the products & services being supplied to IBM.

IBM expects each supplier to deploy a MS that reflects their particular intersections with corporate responsibility & the environment. This rests on the foundational belief that real results in GHG emissions reduction are enabled by credible & actionable information about a company's energy use & GHG emissions & that individual companies must be accountable for their own operations & are best positioned to drive real GHG reductions. Each enterprise must take responsibility to reduce energy use & GHG emissions.

In April 2021, IBM announced three new supply chain goals. (1) Require key suppliers in emissions-intensive sectors to set emissions reduction goal addressing their Scope 1 & Scope 2 emissions that is aligned with scientific recommendations from the IPCC to limit global temperature increases to 1.5 degC above pre-industrial levels. (2) Require our carriers & shipment suppliers involved with IBM's product distribution globally to establish, by year-end 2021, individual baselines for fleet carbon intensity & starting in 2022, convene with each supplier to set fleet carbon intensity reduction target covering services they provide to IBM. (3) Convene an annual Sustainability Leadership Symposium to recognize progress & achievement among suppliers in emissions-intensive sectors. These new goals deepen our engagement with those suppliers who can have greatest impact on reducing emissions across our supply chain.

IBM has endorsed the Responsible Business Alliance Code of Conduct. This Code establishes a standard-based approach to setting objectives & measuring compliance across several areas incl. labor, health, safety, protection of the environment, ethics & MS.

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

IBM currently engages with over 10,000 suppliers. IBM communicates its Supply Chain Social and Environmental Management System (S&EMS) requirements, which requires each supplier to have an S&EMS, an energy and GHG emissions inventory and reduction plan and a public report of their environmental impacts and results, to all of its suppliers globally. IBM has continued to work with its suppliers to help them build their capabilities to meet IBM's S&EMS and other environmental requirements, setting priority with those suppliers that ask for assistance, those with whom IBM has highest spend, and those whose operations have a greater intersection with the environment. The IBM procurement team has provided training and reviewed supplier performance, including validating that suppliers are disclosing their energy use and GHG

emissions. (1) IBM made available an educational podcast on management systems and provided many external sources of information to all suppliers to explain the EMS requirements, assist them in preparing energy and GHG emissions inventories, and the basic steps needed to conform to the requirements. (2) To-date, our review found suppliers corresponding to the majority of IBM's procurement spend have such a management system in place. Where suppliers are not meeting all of the requirements, we work with them as appropriate to bring their programs up to IBM's requirements. (3) IBM uses the Responsible Business Alliance environmental reporting systems or suppliers' own websites to review suppliers' practice on disclosing energy use and GHG emissions. We measure success based on the conformance of our suppliers with our requirements and the satisfaction of our clients.

### Comment

Only 68% of the reported scope 3 emissions are covered, as product use and employee commuting emissions are not the responsibility of IBM's suppliers or covered by the IBM supplier requirements.

Approximations of Scope 3 GHG emissions can help entities recognize where the greatest amounts of GHGs may be generated during the lifecycle of a typical process, general product or service on a macro level. This can be helpful when assessing, for example, what phases of a general product's design, production, use and disposal provide the best opportunities for improved energy efficiency and innovation. However, IBM does not assert the specific amount of Scope 3 GHG emissions associated with our value chain. The necessary estimating assumptions and corresponding variability simply do not allow for adequate credibility, let alone calculations that could be perceived as deterministic.

Moreover, one company's asserted Scope 3 emissions are another company's Scope 1 and Scope 2 emissions. Like many companies, IBM has thousands of suppliers around the world. They are in all types of businesses and very few, if any, work solely for IBM. Furthermore, the sources of energy used by these suppliers vary and are largely a function of their location. IBM does not believe we could generate a credible estimate or apportionment of the energy used by these suppliers that would be associated with the products or services provided to IBM alone, versus those emissions associated with products or services provided to their other customers. In addition, IBM's specific scope of business with any given supplier remains dynamic, as it is driven by business need.

Since the ultimate goal for climate protection is for global societies to achieve demonstrable reductions in actual GHG emissions, IBM believes real results in GHG emissions reduction are directly achieved when each enterprise takes responsibility to address its own emissions and improve its energy efficiency.

**Type of engagement**

Information collection (understanding supplier behavior)

**Details of engagement**

Collect climate change and carbon information at least annually from suppliers

**% of suppliers by number****% total procurement spend (direct and indirect)**

80

**% of supplier-related Scope 3 emissions as reported in C6.5****Rationale for the coverage of your engagement**

In April 2021, IBM announced three new supply chain goals. (1) Require key suppliers in emissions-intensive sectors to set emissions reduction goal addressing their Scope 1 & Scope 2 emissions that is aligned with scientific recommendations from the IPCC to limit global temperature increases to 1.5 degC above pre-industrial levels. (2) Require our carriers & shipment suppliers involved with IBM's product distribution globally to establish, by year-end 2021, individual baselines for fleet carbon intensity & starting in 2022, convene with each supplier to set fleet carbon intensity reduction target covering services they provide to IBM. (3) Convene an annual Sustainability Leadership Symposium to recognize progress & achievement among suppliers in emissions-intensive sectors. These new goals deepen our engagement with those suppliers who can have greatest impact on reducing emissions across our supply chain.

IBM's approach is to engage with and collect information from key suppliers from energy intensive sectors. In doing so, we identified industry categories that are in scope of our targets described above, and depending on individual categories, our selected suppliers represent anywhere between 60% and 80% of procurement spend within each individual industry sector. We do not attempt to quantify these suppliers as a percent of total suppliers given IBM has more than 15,000 suppliers. For context, our top 50 suppliers by IBM spend in the production and logistics and in the services and general procurement categories represented 90% and 45% of IBM's total 2020 procurement spend in those categories, respectively.

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

IBM currently engages with over 10,000 suppliers. IBM communicates its Supply Chain Social and Environmental Management System (S&EMS) requirements, which requires each supplier to have an S&EMS, an energy and GHG emissions inventory and reduction plan and a public report of their environmental impacts and results, to all of its suppliers globally. IBM has continued to work with its suppliers to help them build their capabilities to meet IBM's S&EMS and other environmental requirements, setting priority with those suppliers that ask for assistance, those with whom IBM has highest spend, and those whose operations have a greater intersection with the environment. The IBM procurement team has provided training and reviewed supplier performance, including validating that suppliers are disclosing their energy use and GHG emissions. (1) IBM made available an educational podcast on management systems and provided many external sources of information to all suppliers to explain the EMS requirements, assist them in preparing energy and GHG emissions inventories, and the basic steps needed to conform to the requirements. (2) To-date, our review found suppliers corresponding to the majority of IBM's procurement spend have such a management system in place. Where suppliers are not meeting all of the requirements, we work with them as appropriate to bring their programs up to IBM's requirements. (3) IBM uses the Responsible Business Alliance environmental reporting systems or suppliers' own websites to review suppliers' practice on disclosing energy use and GHG emissions. We measure success based on the conformance of our suppliers with our requirements and the satisfaction of our clients.

### **Comment**

Approximations of Scope 3 GHG emissions can help entities recognize where the greatest amounts of GHGs may be generated during the lifecycle of a typical process, general product or service on a macro level. This can be helpful when assessing, for example, what phases of a general product's design, production, use and disposal provide the best opportunities for improved energy efficiency and innovation. However, IBM does not assert the specific amount of Scope 3 GHG emissions associated with our value chain. The necessary estimating assumptions and corresponding variability simply do not allow for adequate credibility, let alone calculations that could be perceived as deterministic.

Moreover, one company's asserted Scope 3 emissions are another company's Scope 1 and Scope 2 emissions. Like many companies, IBM has thousands of suppliers around the world. They are in all types of businesses and very few, if any, work solely for IBM. Furthermore, the sources of energy used by these suppliers vary and are largely a function of their location. IBM does not believe we could generate a credible estimate or apportionment of the energy used by these suppliers that would be associated with the products or services provided to IBM alone, versus those emissions associated with products or services provided to their other customers. In addition, IBM's specific scope of business with any given supplier remains dynamic, as it is driven by business need.

Since the ultimate goal for climate protection is for global societies to achieve demonstrable reductions in actual GHG emissions, IBM believes real results in GHG emissions reduction are directly achieved when each enterprise takes responsibility to address its own emissions and improve its energy efficiency.

IBM does not intend to complete a full Scope 3 emissions inventory because the lack of primary data to do so simply does not allow for credible results. Some of the suppliers from which we collect information would fall under Scope 3 emissions categories which we do not intend to estimate. Therefore, providing a percent of supplier-related Scope 3 emissions are reported in C6.5 is not possible.

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**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Run an engagement campaign to educate suppliers about climate change

Climate change performance is featured in supplier awards scheme

**% of suppliers by number**

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

80

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

**Rationale for the coverage of your engagement**

In April 2021, IBM announced three new supply chain goals. (1) Require key suppliers in emissions-intensive sectors to set emissions reduction goal addressing their Scope 1 & Scope 2 emissions that is aligned with scientific recommendations from the IPCC to limit global temperature increases to 1.5 degC above pre-industrial levels. (2) Require our carriers & shipment suppliers involved with IBM's product distribution globally to establish, by year-end 2021, individual baselines for fleet carbon intensity & starting in 2022, convene with each supplier to set fleet carbon intensity reduction target covering services they provide to IBM. (3) Convene an annual Sustainability Leadership Symposium to recognize progress & achievement among suppliers in emissions-intensive sectors. These new goals deepen our engagement with those suppliers who can have greatest impact on reducing emissions across our supply chain.

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

IBM currently engages with over 10,000 suppliers. IBM communicates its Supply Chain Social and Environmental Management System (S&EMS) requirements, which requires each supplier to have an S&EMS, an energy and GHG emissions inventory and reduction plan and a public report of their environmental impacts and results, to all of its suppliers globally. IBM has continued to work with its suppliers to help them build their capabilities to meet IBM's S&EMS and other environmental requirements, setting priority with those suppliers that ask for assistance, those with whom IBM has highest spend, and those whose operations have a greater intersection with the environment. The IBM procurement team has provided training and reviewed supplier performance, including validating that suppliers are disclosing their energy use and GHG emissions. (1) IBM made available an educational podcast on management systems and provided many external sources of information to all suppliers to explain the EMS requirements, assist them in preparing energy and GHG emissions inventories, and the basic steps needed to conform to the requirements. (2) To-date, our review found suppliers corresponding to the majority of IBM's procurement spend have such a management system in place. Where suppliers are not meeting all of the requirements, we work with them as appropriate to bring their programs up to IBM's requirements. (3) IBM uses the Responsible Business Alliance environmental reporting systems or suppliers' own websites to review suppliers' practice on disclosing energy use and GHG emissions. We measure success based on the conformance of our suppliers with our requirements and the satisfaction of our clients.

### **Comment**

Approximations of Scope 3 GHG emissions can help entities recognize where the greatest amounts of GHGs may be generated during the lifecycle of a typical process, general product or service on a macro level. This can be helpful when assessing, for example, what phases of a general product's design, production, use and disposal provide the best opportunities for improved energy efficiency and innovation. However, IBM does not assert the specific amount of Scope 3 GHG emissions associated with our value chain. The necessary estimating assumptions and corresponding variability simply do not allow for adequate credibility, let alone calculations that could be perceived as deterministic.

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IBM does not intend to complete a full Scope 3 emissions inventory because the lack of primary data to do so simply does not allow for credible results. Some of the suppliers from which we collect information would fall under Scope 3 emissions categories which we do not intend to estimate. Therefore, providing a percent of supplier-related Scope 3 emissions as reported in C6.5 is not possible.

## C12.1b

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

### Type of engagement

Education/information sharing

### Details of engagement

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

### % of customers by number

100

### % of customer - related Scope 3 emissions as reported in C6.5

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

IBM regularly engages with clients upon request to educate them about IBM's energy and climate strategy, positions, goals and performance, and also to help them understand the estimated electricity consumption and resulting GHG emissions associated with their IT workloads running on IBM data centers. These discussions happen at different levels of management, ranging from top level executive roles to hands-on technical experts. In addition, IBM offers consulting services to our clients to help them identify opportunities to reduce total cost of ownership of the services they procure from IBM, which includes looking at cost of power and opportunities for energy efficiency, hence driving emissions reductions. Also, IBM regularly shares information about the environmental attributes of its products and services (including energy efficiency) to clients as part of requests for information, requests for proposals, general inquiries, etc.

We have indicated this covers 100% of our suppliers because IBM engages virtually with any supplier that requests this type of information on an on-going basis. We have not provided a percent of Scope 3 emissions covered because many of our suppliers fall in categories of Scope 3 emissions that IBM does not intend to estimate, therefore, it is not possible to calculate this number.

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

The measurements of success are the energy use and GHG reductions achieved by individual projects initiated for individual clients. We provided example projects in C4.5:

IBM Cognitive & Analytics offerings enable clients to implement systems management of activities such as logistics, water systems, traffic systems, utility grids, and other processes and infrastructures to optimize activity flows and minimize resource use. The IBM energy management and data center teams leverage analytics-based monitoring to minimize energy use and optimize operating performance at many locations. By looking at the whole data set through a single lens, the IBM Smarter Buildings solution provides early identification of individual faults and broader patterns and root causes. Overall, the solution saves 5 to 15 percent of the overall energy operating costs at the buildings where it is used. By year-end 2020, the IBM Smarter Buildings solution had been installed at 25 major IBM campuses, covering 190 buildings. These installations captured 41% of IBM's energy consumption and delivered annual energy savings of 9,800 MWh. Other clients would be expected to achieve similar results.

IBM is partnering with Alectra Utilities Corp to develop a blockchain solution to enable energy trading amongst multiple distributed renewable generation and storage assets. This will enable better integration of distributed, renewable electricity generation into the reliable power supply. <https://www.ibm.com/blogs/client-voices/blockchain-sparks-innovation-energy-grids/>



IBM is working with utilities and governments on projects which utilize smart meters, energy storage, energy demand response, and renewable generation forecasting to reduce peak electricity demand and better integrate renewable generation into the power grid.

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**Type of engagement**

Education/information sharing

**Details of engagement**

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

**% of customers by number**

100

**% of customer - related Scope 3 emissions as reported in C6.5**

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

IBM regularly engages with clients upon request to educate them about IBM's energy and climate strategy, positions, goals and performance, and also to help them understand the estimated electricity consumption and resulting GHG emissions associated with their IT workloads running on IBM data centers. These discussions happen at different levels of management, ranging from top level executive roles to hands-on technical experts. In addition, IBM offers consulting services to our clients to help them identify opportunities to reduce total cost of ownership of the services they procure from IBM, which includes looking at cost of power and opportunities for energy efficiency, hence driving emissions reductions. Also, IBM regularly shares information about the environmental attributes of its products and services (including energy efficiency) to clients as part of requests for information, requests for proposals, general inquiries, etc.

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

The measurements of success are the energy use and GHG reductions achieved by individual projects initiated for individual clients. We provided example projects in C4.5:

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IBM is working with utilities and governments on projects which utilize smart meters, energy storage, energy demand response, and renewable generation forecasting to reduce peak electricity demand and better integrate renewable generation into the power grid.

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### **Type of engagement**

Education/information sharing

### **Details of engagement**

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

### **% of customers by number**

100

### **% of customer - related Scope 3 emissions as reported in C6.5**

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

IBM regularly engages with clients upon request to educate them about IBM's energy and climate strategy, positions, goals and performance, and also to help them understand the estimated electricity consumption and resulting GHG emissions associated with their IT workloads running on IBM data centers. These discussions happen at different levels of management, ranging from top level executive roles to hands-on technical experts. In addition, IBM offers consulting services to our clients to help them identify opportunities to reduce total cost of ownership of the services they procure from IBM, which includes looking at cost of power and opportunities for energy efficiency, hence driving emissions reductions. Also, IBM regularly shares information about the environmental attributes of its products and services (including energy efficiency) to clients as part of requests for information, requests for proposals, general inquiries, etc.

We have indicated this covers 100% of our suppliers because IBM engages virtually with any supplier that requests this type of information on an on-going basis. We have not provided a percent of Scope 3 emissions covered because many of our suppliers fall in categories of Scope 3 emissions that IBM does not intend to estimate, therefore, it is not possible to calculate this number.

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

The measurements of success are the energy use and GHG reductions achieved by individual projects initiated for individual clients. We provided example projects in C4.5:

IBM Cognitive & Analytics offerings enable clients to implement systems management of activities such as logistics, water systems, traffic systems, utility grids, and other processes and infrastructures to optimize activity flows and minimize resource use. The IBM energy management and data center teams leverage analytics-based monitoring to minimize energy use and optimize operating performance at many locations. By looking at the whole data set through a single lens, the IBM Smarter Buildings solution provides early identification of individual faults and broader patterns and root causes. Overall, the solution saves 5 to 15 percent of the overall energy operating costs at the buildings where it is used. By year-end 2020, the IBM Smarter Buildings solution had been installed at 25 major IBM campuses, covering 190 buildings. These installations captured 41% of IBM's energy consumption and delivered annual energy savings of 9,800 MWh. Other clients would be expected to achieve similar results.

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IBM is working with utilities and governments on projects which utilize smart meters, energy storage, energy demand response, and renewable generation forecasting to reduce peak electricity demand and better integrate renewable generation into the power grid.

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**Type of engagement**

Collaboration & innovation

**Details of engagement**

Other, please specify

Energy efficient cloud and IT hardware offerings

**% of customers by number**

25

**% of customer - related Scope 3 emissions as reported in C6.5**

80

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

IBM works to innovate and collaborate with all its clients. IBM invested \$6.3 billion in research in 2020, much of it dedicated to collaborating with clients on leading edge IT solutions for their operations. Our IT products and cloud platform, with the accompanying IT solutions run on those platforms – cognitive, analytic, augmented intelligence (AI) and blockchain solutions, offers our clients solutions which enable them to run their business processes and operations more efficiently and with less energy and associated GHG emissions. Emissions from downstream use of IBM server and storage products and IBM Cloud operations in co-location space represent 80% of the reported scope 3 emissions (C6.5) and the products and Cloud platform enable the delivery of these solutions. We estimate, that at least 25% of IBM's revenue is associated with client engagements that derive benefits from the use of our IT products, Cloud Platform and associated IT solutions which enable them to reduce their operational GHG emissions.

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

The measurements of success are the energy use and GHG reductions achieved by individual projects initiated for individual clients. We provided example projects in C4.5:

IBM Cognitive & Analytics offerings enable clients to implement systems management of activities such as logistics, water systems, traffic systems, utility grids, and other processes and infrastructures to optimize activity flows and minimize resource use. The IBM energy management and data center teams leverage analytics-based monitoring to minimize energy use and optimize operating performance at many locations. By looking at the whole data set through a single lens, the IBM Smarter Buildings solution provides early identification of individual faults and broader patterns and root causes. Overall, the solution saves 5 to 15 percent of the overall energy operating costs at the buildings where it is used. By year-end 2020, the IBM Smarter Buildings solution had been installed at 25 major IBM campuses, covering 190 buildings. These installations captured 41% of IBM's energy consumption and delivered annual energy savings of 9,800 MWh. Other clients would be expected to achieve similar results.

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IBM is working with utilities and governments on projects which utilize smart meters, energy storage, energy demand response, and renewable generation forecasting to reduce peak electricity demand and better integrate renewable generation into the power grid.

## **C12.1d**

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

Our greatest opportunity to contribute towards the environmental sustainability of our planet comes from the innovative technologies and solutions that we deploy to help our clients and society address environmental challenges. IBM routinely collaborates with entities in its value chain to develop solutions to address climate change. IBMers from a multitude of disciplines come together to collaborate with our value change partners and develop and implement environmental solutions to benefit our world. Following are examples of some innovative solutions developed:

- **Marine research organization Promare**, in partnership with IBM, developed one of the world's first, full size, un-crewed autonomous ocean research vessels.

Using IBM automation, edge computing and computer vision technologies, as well as data from The Weather Company (an IBM Business), the Mayflower Autonomous Ship (MAS) will self-navigate by identifying hazards and optimizing course to avoid collision, enabling the vessel to spend long durations at sea collecting critical data about the ocean. Together with Promare, IBM Research is pioneering new AI-powered approaches for in-situ collection and analysis of both water samples and data. Working in tandem with human oceanographers and other autonomous vessels, MAS will provide a flexible and cost-effective option for deepening our understanding of critical issues such as global warming, ocean plastic pollution and marine mammal conservation. Learn more at [ibm.com](https://ibm.com).

· **Balancing fluctuating wind and solar energy production:**

Here are a couple of examples of how utility companies and their ecosystem partners are teaming up with IBM to fuel the future more sustainably:

- As Europe pursues a wide-scale transition to use more renewable energy, smaller and more distributed providers are joining the electricity grid, making it more difficult to balance electricity supply with demand. **TenneT, a leading electricity transmission systems operator (TSO)**, needed a way to control the increased volatility in a highly weather-dependent electricity system. Using IBM Blockchain, leading European TSOs launched the Equigy Crowd Balancing Platform. This platform unlocks the aggregated flexible power from devices such as electric cars and home batteries for balancing the electricity grid. Device owners are rewarded for their participation to keep the grid stable, making the energy transition more inclusive. The ecosystem's joint effort enables TSOs to more intelligently manage flows of electricity in networks with decentralized, distributed energy sources and facilitates the integration of renewable electricity. Learn more at [ibm.com](https://ibm.com).

- A **partnership between Andel and IBM Denmark** is contributing to the Nordics green transition with a solution that optimizes the power system and reduces associated greenhouse gas emissions. Using IoT, AI, blockchain technology and the cloud, IBM and Andel co-developed the Utilities Flex Platform, which can adjust the load from users' electricity consumption to match the system-wide demand, flexibly. This new solution gives large government and private sector energy consumers the ability to reduce their electricity consumption and sell that reduced load back to the grid, in lieu of relying on reserve power plants using fossil fuels. The platform allows energy providers to use that reduced load to keep the power system stable while integrating larger amounts of fluctuating renewable electricity sources into the power system. Learn more at [ibm.com](https://ibm.com).

· **Addressing global environmental challenges** - As a founding member of the United Nations Environment Programme's Science-Policy-Business Forum on the Environment (UN-SPBF), IBM is committed to working with the UN-SPBF and its stakeholders to accelerate the adoption of IT to assist in sound policy making, solutions development and global collaboration. We are currently engaged in applying IBM technology and expertise to cross-industry initiatives to address global environmental challenges. IBM made substantial contributions during the Third Global Session of the UN-SPBF online event in February 2021, sharing some of our ongoing efforts, including:

- o UNEP-IBM pilot project for a marine litter digital hub to address UN Sustainable Development Goal 14, specifically the target related to reducing marine pollution.
- o IBM Research's initiative to apply AI to accelerate discovery of new materials for a sustainable future.
- o Evaluating ways to reduce the environmental footprint of AI

- o Defining ways to improve the management of electronic waste using blockchain.
  - o An IBM and Yara collaboration on a digital farming platform leveraging IBM technology to provide accurate, hyperlocal weather forecasts and real-time recommendations to farmers tailored to the specific needs of individual fields and crops.
- Learn more at the UN-SBPF website.

## C12.3

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

- Direct engagement with policy makers
- Trade associations

## C12.3a

**(C12.3a) On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support with minor exceptions	IBM has been a sustaining and active supporter of product efficiency requirements for ICT products developed under various programs such as the US EPA ENERGY STAR and EPEAT and by various governments including European Union and the Chinese Government. IBM has committed significant human resources, technical expertise and systems assets to generate and provide test data, analyses and recommendations to the US EPA, the EU Commission, China National Institute of Standardization (CNIS) and others regarding product categorization, qualification requirements, test methods and approaches aimed at establishing effective requirements that will lead to real improvements in energy efficiency of ICT products and data center energy efficiency. We conduct advocacies by means both as an individual company and through industry associations globally.	IBM continues to lend its technical expertise to help in developing science-based, rational, economic and credible testing protocols, logical categorization of data centers and server and storage products. We support the development of appropriate thresholds for assessing data center and product energy efficiency at both active and idle state. We ensure the requirements are relevant for the product families in scope and the conditions under which such products are used, and able to be

			implemented and can effectively meet the program objectives.
Clean energy generation	Support with minor exceptions	<p>IBM is a member of the Business Renewables Center - Canada, the Gridwise Alliance, and the Renewable Energy Buyers Alliance. IBM has advocated and continues to advocate for increased corporate access to renewables at scale and for improvements in grid technology to facilitate the integration of distributed generation, specifically wind and solar systems with intermittent power delivery. As currently configured, the grid cannot effectively integrate large, intermittent renewable electricity generation systems. In 2020, IBM signed a letter organized by the Center for Climate and Energy Solutions, urging the incoming Biden administration in the United States to return to the Paris Agreement, and urging the new President and Congress to work together to enact ambitious, durable and bipartisan climate solutions, available here:</p> <p><a href="https://www.c2es.org/site/assets/uploads/2021/01/Post-Election-Climate-Statement-final-justified-47.pdf">https://www.c2es.org/site/assets/uploads/2021/01/Post-Election-Climate-Statement-final-justified-47.pdf</a></p>	<p>IBM has advocated for necessary regulatory adjustments and funding to facilitate the introduction of smart grid technology to enable the diversification of the grid generation system, greater deployment and dispatching of intermittent renewable generation assets and improvements in the stability of the grid. IBM has also worked with NGOs and regulated utilities to explore contractual and regulatory approaches to making renewable electricity more accessible to corporate customers in an economically sustainable manner that will lead to actual increase in renewable consumption. Where we have facilities in regulated utility territories, we have filed letters of support and given public comment on renewable energy procurement programs and rate cases.</p>
Adaptation or resilience	Support	<p>IBM engages with various NGOs, local, state and national governments, academic groups and peers on programs and solutions to assist with adaptation and resiliency to climate change. IBM offers analytics and cognitive based solutions which offer improved monitoring, management, and emergency response capability to a full range of city systems which enable optimization of infrastructure operations (e.g., sewer, water, electricity and traffic systems) and identify preventative actions, rather than reactive maintenance management, pinch or risk points that will benefit from investment or improvements. Through its Corporate</p>	<p>IBM works with governments to execute legislation and programs that enable IT based solutions to more effectively manage, control and modernize city infrastructure to address and manage the impacts of changing demography, land use patterns and climate conditions.</p>



		<p>Citizenship program IBM provided support in a collaboration with the Nature Conservancy on an effort to make it easier for municipalities in the Brazilian Amazon to establish land-ownership records, monitor land use with a goal to stop illegal deforestation. In collaboration with AECOM, we published a Disaster Resilience Scorecard for the United Nations based on the UN's "10 Essentials for Making Cities Resilient". This Scorecard provides a set of assessments that allows local governments to monitor and review progress and challenges in the implementation of the Sendai Framework for Disaster Risk Reduction: 2015-2030, and assess their disaster resilience. It is structured around UNISDR's Ten Essentials for Making Cities Resilient. The scorecard has been deployed by many cities around the world. It is available in the public domain free of charge. In addition, IBM recently voiced its support for the prioritization of investments that can accelerate the transition to a resilient, net-zero economy in any infrastructure legislation, called upon the U.S. Congress, by signing a joint statement organized by the Center for Climate and Energy Solutions, available at this link: <a href="https://www.c2es.org/site/assets/uploads/2021/07/major-us-companies-support-net-zero-investments.pdf">https://www.c2es.org/site/assets/uploads/2021/07/major-us-companies-support-net-zero-investments.pdf</a></p>	
Carbon tax	Support	<p>Became a founding member of the Climate Leadership Council in 2019, supporting its bipartisan plan for a carbon tax with corresponding carbon dividend. As part of the Council, we have directly participated in discussions with members of U.S. Senate and House.</p>	<p>IBM became a founding member of the Climate Leadership Council in 2019 and publicly supported the Council's plan for a carbon tax, with the proceeds of that tax — a "carbon dividend" — to be returned to citizens. This plan would place an economy-wide \$40/ton fee on carbon dioxide emissions, increasing by 5% above inflation every year, sending a powerful signal to encourage technological innovation and accelerate actions to reduce emissions.</p>

## C12.3b

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

Yes

## C12.3c

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

---

### Trade association

Various

### Is your position on climate change consistent with theirs?

Mixed

### Please explain the trade association's position

The positions of specific trade associations of interest to CDP and others can be found on their respective websites. IBM sets and communicates its own positions on climate protection.

IBM's own unambiguous position on climate change can be found at <http://www.ibm.com/ibm/environment/climate/position.shtml> , and we repeat it below:

- IBM recognizes climate change is a serious concern that warrants timely, meaningful action on a global basis to reduce the atmospheric concentration of greenhouse gases (GHGs) in accordance with scientific judgment.
  - IBM believes all sectors of society, the economy and governments worldwide must participate in solutions to climate change.
  - IBM supports joint efforts by the private and public sectors to reduce global GHG emissions. These initiatives are most effective when they are implemented through market-driven mechanisms and are economically efficient, environmentally effective, and sustainable.
- IBM believes a diverse energy portfolio is necessary to achieve an orderly adaptation to a world in which GHG emissions are constrained while maintaining successful economies and secure supplies of energy, and also meeting the needs of humanity.

- IBM considers energy conservation to be a cornerstone of climate protection. IBM will continue to conserve energy and continually improve the energy efficiency of its operations, products and services while collaborating with and encouraging its global suppliers to do likewise. Consistent with its values, IBM will continue to collaborate with clients, governments and other partners to create innovations and solutions to address climate change.

**How have you influenced, or are you attempting to influence their position?**

IBM belongs to various trade and industry associations that add value to IBM, its shareholders and employees. Trade associations cover diverse issue sets, and it is not unexpected that the views of an association member may be differ from that of the trade association on a particular topic from time to time. IBM does not provide any funding for lobbying activities of any trade association of which it is a member.

## C12.3f

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

The process we follow adheres to clearly and explicitly defined organizational roles and responsibilities set by the company and documented in our global Environmental Management System. IBM's Corporate Environmental Affairs staff organization is responsible for developing IBM environmental public policy positions including those addressing climate protection and advocating the company's positions on public policies related to climate change. IBM's lines of business are responsible for executing against the requirements applicable to them. All direct and indirect activities that could be considered to influence environmental policy externally must be approved by Corporate Environmental Affairs staff and Government and Regulatory Affairs staff, ensuring consistency with the company's own position on climate change and commitment to environmental leadership.

## 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).**

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**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

 IBMEnvReport\_2020.pdf

**Page/Section reference**

Highlights: page 4. Goals: page 5-9. Addressing climate change: page 11. Energy and climate change: pages 25-31. Environmental goals and results: page 46

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

[https://www.ibm.com/ibm/environment/annual/IBMEnvReport\\_2020.pdf](https://www.ibm.com/ibm/environment/annual/IBMEnvReport_2020.pdf)

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**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

 IBM-2020-CRR.pdf

**Page/Section reference**

INTRODUCTION (PAGE 6), PROTECTING THE ENVIRONMENT (PAGE 25), 2020 ENVIRONMENTAL RESULTS (PAGE 27)

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

<https://ibmorg-public.s3.us-east.cloud-object-storage.appdomain.cloud/responsibility/cr/pdfs/IBM-2020-CRR.pdf>

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 IBM-Annual-Report-2020.pdf

**Page/Section reference**

Chairmans' Letter and proxy statement.

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

### Comment

[https://www.ibm.com/annualreport/assets/downloads/IBM\\_Annual\\_Report\\_2020.pdf](https://www.ibm.com/annualreport/assets/downloads/IBM_Annual_Report_2020.pdf)

The climate crisis is one of the most urgent issues of our time. IBM has been a leader in corporate sustainability for half a century. Our first corporate environmental policy statement dates back to 1971. Since 1990, we have shared our progress in managing waste, conserving energy, using renewable electricity and reducing carbon dioxide emissions. We are taking other steps to advance our environmental leadership. We are setting a new goal to reach net zero greenhouse gas emissions by 2030 to help address the climate crisis. As a founding member of the Climate Leadership Council, we also support a carbon tax that will reduce carbon emissions globally through market-based incentives.

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### Publication

In mainstream reports

### Status

Complete

### Attach the document

 GRI\_2018\_Report.pdf

### Page/Section reference

GRI Sections – 302 Energy and 305 Emissions.

### Content elements

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

<https://www.ibm.com/ibm/responsibility/reports/gri/gri.html>

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**Publication**

In other regulatory filings

**Status**

Complete

**Attach the document**

 IBM\_Proxy\_2020.pdf

**Page/Section reference**

**Content elements**

Governance  
Strategy  
Risks & opportunities  
Emissions figures  
Emission targets  
Other metrics

**Comment**

<https://www.ibm.com/annualreport/2020/proxy.html>

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**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

**Page/Section reference**

IBM Think Policy Blogs - Policy perspectives for the digital age.

**Content elements**

Other metrics

**Comment**

<https://www.ibm.com/blogs/policy/climate-change/>

## **C15. 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.**



## C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Vice President, Corporate Environmental Affairs and Product Safety Chief Sustainability Officer	Chief Sustainability Officer (CSO)

## SC. Supply chain module

### SC0.0

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

IBM has a longstanding commitment to public disclosure of its environmental programs & results incl. disclosure of its GHG emissions in transparent and authentic manner . IBM has disclosed to CDP since the program's inception in 2003. When requested by clients, we respond to their specific inquiries on making their operations more efficient, joint efforts to reduce CO2 emissions, & providing information specific to the products and services they procure from IBM. This information may include energy use and GHG emissions estimates and explanations of the assumptions that we used in developing any emissions estimates.

IBM does not believe it can credibly allocate its Scopes 1, 2 and/or 3 GHG emissions across its value chain. At a most fundamental level, developing Scope 3 emissions across our value chain is hampered by the lack of primary data. In terms of allocating emissions to our clients, the inherent inaccuracies in any methodologies available today preclude us from doing it in a credible manner. Additional limitations include:

1. IBM has many mixed-use facilities to support operations from research; software labs; consulting services; data centers; hardware design & assembly; & support organizations. There is no logical methodology to meaningfully separately allocate the energy use to these activities.
2. IBM's operations are not divided into differentiable "unit operations" by client or types of clients for which an allocated energy use or GHG emissions estimate could be accomplished.
3. As listed under item 1, the majority of IBM activities are based on knowledge transfer and our clients use numerous and varied combinations of these capabilities. The true measure of worth is the value of services and products offered by IBM.

4. In regard to IT hardware, various parts of component manufacturing and assembly are performed by suppliers. IBM's supply chains are three to six levels deep and both production and non-production suppliers offer a multitude of products and services to a multitude of customers. IBM's business with any given supplier comprises single digit percentages.

With few exceptions, Scope 3 emissions cannot be quantified in a deterministic or credible way across our supply chain.

1. The lack of primary data, the lack of visibility of supply chains from end to end, and the limited ability of companies in any supply chain to inventory their full energy and material use and associated GHG emissions. Even if all of the above listed prerequisites are attainable, standards for Scope 3 emissions accounting are too complex for most companies to comply with its full set of requirements. Further, even if one is able to overcome the standards' requirements the extraordinary resource expenditures required to conform with the requirements of the standards make the process impractical for all but the simplest products and value chains.

2. The number of permutations of the data and the uncertainty associated with assigning allocation percentages through any of the proposed methodologies require gross assumptions -- rendering any results meaningless -- and excessive resource to perform.

Given the above, IBM does not attempt to guesstimate Scope 3 emissions across its value chain and instead, focuses its resources on demonstrably reducing our operational GHG emissions and requiring our suppliers to inventory their own energy use and Scope 1 and Scope 2 GHG emissions and set goals which make a real impact by lowering their energy use and Scope 1 and Scope 2 emissions. To help suppliers acknowledge their accountability and to effectively manage their environmental responsibilities, IBM requires all suppliers with whom IBM directly holds commercial contracts globally to establish an environmental management system (EMS) to identify their key environmental intersections. IBM also requires suppliers to measure performance and set improvement goals in, at a minimum, the following areas: energy conservation, Scopes 1 and 2 GHG emissions, and waste management and recycling. IBM further requires its suppliers to publicly disclose their environmental programs and performance and cascade these requirements to their suppliers who perform work that is material to the goods or services being supplied IBM.

In April 2021, IBM announced three new supply chain goals. For more information about these goals, please visit [https://www.ibm.com/ibm/environment/annual/IBMEnvReport\\_2020.pdf](https://www.ibm.com/ibm/environment/annual/IBMEnvReport_2020.pdf) pages 6-9. These new goals deepen our engagement with those suppliers who can have the greatest impact on reducing emissions across IBM's supply chain.

## SC0.1

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

Annual Revenue
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Row 1	73,620,000,000
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## SC0.2

**(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?**

No

## 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).**

IBM does not attempt to allocate its Scope 1, Scope 2 and any Scope 3 emissions to its clients because (a) as stated above, IBM is not able to develop a full value chain (i.e., Scope 3) emissions due to the lack of primary data, and (b) any allocation of our GHG emissions (Scopes 1 and 2) to any clients cannot be credibly done. We do not wish to dabble in baseless guesstimates and make misrepresentations to our clients. IBM's Scope 1, 2 and select Scope 3 emissions inventory is provided in sections 6 and 7 of the CDP investor response, which is included as part of the IBM CDP supply chain response. Information can also be found in the latest IBM and the Environment Report available at:

<https://www.ibm.com/ibm/environment/annual/reporting.shtml>

If a client has an inquiry regarding the GHG emissions associated with IBM's operations that support the products, services or solutions that IBM specifically provides to them, our process involves having the client contact the IBMer who is the client representative for assistance. We will work with individual clients to understand their specific questions and needs, explain IBM's approach and share our concerns with the misgivings and inaccuracies associated with estimating value chain GHG emissions and/or challenges / limitations of allocating emissions to the client. Also, when developing emissions estimates involving IT workload, we rely upon actual equipment utilization and energy consumption associated with the client's workload. The underlying data, emissions estimate and subsequent allocation are IBM-client privilege and as such IBM does not publicly disclose them but will provide to individual clients upon request.

## 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
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	We have provided a detailed explanation of the challenges and our concerns associated with obtaining credible Scope 3 data, tracking, estimating, and allocating GHG emissions in general associated with the products, services and solutions that IBM sells across our client base in our response to questions SC0.0 and SC1.2. IBM does not attempt to allocate its Scope 1, Scope 2 and any Scope 3 emissions to its clients because (a) as stated above, IBM is not able to develop a full value chain (i.e., Scope 3) emissions due to the lack of primary data, and (b) any allocation of our GHG emissions (Scopes 1 and 2) to any clients cannot be credibly done. Rather than focusing on guesstimating energy use and GHG emissions across its client base we prioritize resources on improving the energy efficiency of our operations and reducing the associated GHG emissions, and developing products, services and solutions which help our clients operate more efficiently and reduce the energy use, GHG emissions and other resource uses associated with their business activities.
Customer base is too large and diverse to accurately track emissions to the customer level	We have provided a detailed explanation of the challenges, misgivings, and our concerns associated with obtaining credible Scope 3 data, tracking, estimating and allocating GHG emissions associated with the products, services and solutions that IBM sells across its client base in our response to questions SC0.0 and SC1.2. We can deliver far greater contribution toward addressing climate change by focusing on improving the energy efficiency of our operations and reducing the associated GHG emissions, and developing products, services and solutions which help our clients operate more efficiently and reduce the energy use, GHG emissions and other resource uses associated with their business activities.
Other, please specify It is impractical to capture meaningful data from suppliers	IBM's business is only a small percentage of the revenue of any of our suppliers. Further, the depth and breadth of our supply chain make data collection and tracking impractical. IBM believes the best use of our resources is not to guesstimate energy use and GHG emissions at a customer level but to focus our available resources on improving the energy efficiency of our operations and reducing the associated GHG emissions, services and solutions which help our clients operate more efficiently and reduce the energy use and GHG emissions associated with their business activities.

## SC1.4

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

Yes

## SC1.4a

**(SC1.4a) Describe how you plan to develop your capabilities.**

IBM has developed methodologies for developing information associated with the products, services and solutions enabling us to respond to specific inquiries from individual clients. We continue to enhance our capabilities in developing credible, client-specific estimates in response to client inquiries.

## 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?**

No

## SC4.1

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

No, I am not providing data

## Submit your response

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

English

**Please confirm how your response should be handled by CDP**

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

**Please confirm below**

I have read and accept the applicable Terms