Cisco 2021 Task Force on Climate-Related Financial Disclosures (TCFD) Response

Building on our new net zero commitment announced in September 2021, we plan to review and update our TCFD analysis in fiscal 2022. The results will be disclosed as part of Cisco's fiscal 2022 ESG reporting.

TCFD was established to assess potential business impacts of climate change, including efforts to reduce GHG emissions and to mitigate the impact of climate change. These impacts can potentially emerge over a time period measured in decades and for which typical business forecasting is not well suited. Suggested TCFD methodology focuses on evaluating scenarios. Per section B.2 of TCFD Technical Supplement, The Use of Scenario Analysis in Disclosure of Climate Related Risks and Opportunities:

> *It is important to remember that scenarios are hypothetical constructs; they are not forecasts or predictions nor are they sensitivity analyses… Scenario analysis is a tool to enhance critical strategic thinking. A key feature of scenarios is that they should challenge conventional wisdom about the future.*

Section B.2 of the Technical Supplement further explains that scenarios should be plausible, distinctive, consistent, relevant and challenging.

The science and scenarios

The impact of increasing greenhouse gas concentrations in the Earth's atmosphere is projected to have increasing impacts on climate as the global average temperature increases due to the retention of energy previously radiated into space. The Data shown in the chart *Atmospheric CO2 at Mauna Loa Observatory* gives a clear view of the potential for climate change given the unabated increases in CO2 concentrations that interfere with black body re-radiation. The Mauna Loa data only reports on CO2. Other GHG emissions, such as methane and chlorofluorocarbons, are also increasing, contributing to the absorption of infrared radiation emitted by the Earth.

Atmospheric CO2 concentrations continue to increase and are increasing at a faster rate (see figure on/showing Atmospheric CO2 concentrations at Mauna Loa Observatory)

Before 1960, the rate of increase was less than 1 ppm CO2 /yr. Today the increase is more than 2.5 ppm/yr, with the absolute CO2 concentration increasing from around 315 ppm CO2 to about 415 ppm CO2. Extrapolating to the year 2050, CO2 concentrations will likely approach or even exceed 500 ppm CO2. This path to 500 ppm by 2050 has been chosen as our base-case scenario. This base case includes GHG reduction efforts implemented worldwide to date and that may continue, but which have not had an appreciable impact on GHG concentrations in the Earth's atmosphere.

From the IPCC report, Climate Change 2014 – Synthesis Report (see figure on or showing Atmospheric CO2 concentrations for the past 800,000 years), the increase in CO2 concentration above the historic maximum of 280 ppm has gone from 35 ppm CO2 in 1960 to 135 ppm CO2 in 2020 (280+35=315 ppm, the approximate CO2 concentration in 1960; 280+135=415 ppm, the approximate CO2 concentration in 2020).

Per the IPCC report, Climate Change 2014 – Synthesis Report (Table 3.1, p. 22), 500 ppm in 2050 is indicative of a 3° C temperature rise "more likely than not." Continued increases in GHG concentration through 2100 would further push temperature upward. Cisco is using the "2050 base case" for its scenario construction and risk assessment.

A second scenario is constructed projecting that, as of some future date, there will be no net impact on GHG concentrations from Cisco operations or from its products. Although terminology such as "carbon neutral" and

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"net zero" has not been standardized, "no net impact" is used to mean that, starting at a to-be-determined future date, there would be no net increase in GHG emissions from Cisco operations or from product manufacture, use, or end-of-life. Accomplishing such a future state would be the result of energy efficiency initiatives, low-carbon sources of energy, and validated carbon offset mechanisms, the latter needed to remove residual GHG emissions from any remaining use of fossil fuels.

Assuming a "no net impact" date of 2050, this second Cisco scenario is aligned with a 1.5°C 21st-century temperature rise, relative to pre-industrial levels, described in Global total net CO2 emissions in pathways limiting global warming to 1.5° C (Figure SPM.3a of IPCC special report) from the 2019 IPCC special report, Global Warming of 1.5° C.

This Scenario 2 has two distinct paths:
1. Cisco successfully implements "no net impact", as does the world.
2. Cisco successfully implements "no net impact", but global action is similar in effect as the Scenario 1 base case.

Analysis
TCFD documentation specifies two kinds of reporting. The first is four widely adoptable recommendations for disclosure on governance, strategy, risk management, and metrics and targets,

Metrics	Sub Metric	Definitions	Disclosure
Governance	Board oversight	Describe the Board's oversight of climate-related risks and opportunities.	The Nomination and Governance Committee of the Board oversees Cisco's policies and programs concerning CSR, including ESG matters. The Compensation Committee of the Board oversees the development and implementation of the Cisco's practices, strategies, and policies used for recruiting, managing, and developing employees (i.e., human capital management). These practices, strategies, and policies focus on diversity and inclusion, workplace environment and safety, and corporate culture. In addition, the full Board receives updates on Cisco's overall CSR strategy, including ESG matters, from management.
	Management's role	Describe management's role in assessing and managing climate-related risks and opportunities.	

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Metrics	Sub Metric	Definitions	Disclosure
Strategy	Risks and Opportunities	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Physical risks from climate change are enveloped by factors already considered in current continuity-of-supply assessments. As part of our response to COVID-19, Cisco has demonstrated substantial resilience to potential physical risks to operations (Cisco-owned or -leased facilities) from climate change, where most of our workforce easily switched to teleworking. Our collaboration technology and associated culture facilitated this ready migration. Adverse weather and other environmental factors can affect our employees in their personal lives, potentially impacting business operation or productivity.
	Impact on Organization	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Transitional climate risks and opportunities have affected our products and services activities through changes in product regulation and standards (risks) and creation of and access to new markets (opportunities). Risks associated with the changing regulations or standards (e.g. product efficiency, labeling, take back) could impact Cisco sales if we do not continue to monitor and manage our compliance with these requirements.
	Resilience of Strategy	Describe the potential impact of different scenarios, including a 2°C scenario, on the organization's businesses, strategy, and financial planning.	Cisco operations and supply chain are relatively energy, water and land efficient with limited presence in coastal regions that may be affected by climate change.
Risk Management	Risk Assessment Process	Describe the organization's processes for identifying and assessing climate-related risks.	Climate-related input is provided to the enterprise risk management (ERM) process, the results of which are presented to the company Board. Cisco includes climate risk assessment details in our response to CDP's annual carbon questionnaire.
	Risk Management Process	Describe the organization's processes for managing climate-related risks.	Cisco uses public goals to address identified environment-related risks, taking advantage of existing sustainability materiality assessment and performance reporting processes.
	Integration into Overall Risk Management	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Climate-related input is provided to the enterprise risk management (ERM) process, the results of which are presented to the company Board.

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Metrics	Sub Metric	Definitions	Disclosure
Metrics and Targets	Climate-Related Metrics	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Cisco reports climate-related metrics in our annual ESG reporting. We establish goals based on sustainability materiality and use the goal approval and release process to establish management consensus and commitment. The seniority of management engaged in this process depends on the required resources and coordination across business functions.
	Scope 1,2,3 GHG Emissions	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Our Scope 1, 2, and 3 emissions are reported as part of our annual ESG reporting and are available on our ESG Reporting Hub. Scope 1 & 2 emissions Scope 3 emissions Cisco's environmental goals, including those related to GHG emissions reduction are provided in our ESG Reporting Hub. Our goals are designed to reduce significant environmental impacts, reducing risk.
	Climate Related Targets	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	

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The second kind of TCFD-specified reporting is a description of climate-related risks and opportunities as depicted in the *TCFD Recommendations of the Task Force on Climate related Financial Disclosure* as provided for Cisco in the tables below.

Cisco climate-related risks and potential financial impact, per Table 1 of *TCFD Recommendations of the Task Force on Climate related Financial Disclosures*

Risks		Potential Impact
Transition Risks	Policy and Legal	Carbon neutrality obligations from regulation, standards, customer requirement, or voluntary/proactive company action can require investing in or purchasing carbon offsets. Projecting carbon-offset pricing is uncertain, but has increased as more companies take on carbon neutrality commitments. Investing in projects to develop carbon removal could also be subject to competition to lock up startups developing such technologies.
	Technology	Continued development of more energy-efficient products may require incremental investment, although managing energy consumption and heat removal is a longstanding design objective as customers fit increased network functionality into locations with fixed power and space.
	Market	Continued and growing demand for information technologies seems likely with business models and success tied to increasing traffic and use of secure networks, applications, analytics, and connectivity. Required material and components for Cisco products should not be subject to unusual cost pressures from climate change.
	Reputation	Maintaining Cisco's reputation as a socially and environmentally responsible company with top-tier ratings in notable rankings will continue to be a company objective.
Physical Risks	Acute	Cisco is not thought to be exposed to acute physical risks from increased severity of extreme weather events.
	Chronic	Cisco is not thought to be exposed to chronic physical risks from increased severity of extreme weather events. A potential impact is logistics and disruptions to the supply chain should transportation facilities and lanes be unavailable for extended periods. While impact on the business physical plant may be manageable, impacts on personnel (housing, water, power, commuting) will need ongoing [re]assessment.

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Cisco climate-related opportunities and potential financial impact, per Table 2 of *TCFD Recommendations of the Task Force on Climate related Financial Disclosures*

Opportunities	Climate-Related Opportunity	Potential Impact
Resource Efficiency	Reduced use of virgin material; increased use of recycled material.	Improved material resource efficiency through implementation of circular economy principles may reduce costs and provide alternative sources of supply.
	Improved energy efficiency in operations and extended operations (supply chain).	Investments to meet Cisco Scope 1 and 2 reduction goals have averaged about 3-1/2 years payback, ranging from <1 year to as long as 5 years. Improved energy efficiency in the supply chain to meet our absolute GHG reduction goal may similarly reduce cost.
Energy Source	Low-carbon/renewable sources of electricity.	Reduced operating costs and less exposure to future fossil fuel price increases. Circumstances can vary in regulated vs. unregulated markets.
Products and Services	More energy-efficient products.	Substantially more efficient products, such as the new 8000-series routers, may provide an incentive for customers to upgrade and retire legacy network gear. This incentive may be higher for a customer that has adopted carbon neutrality, although many such customers have also committed to 100% renewables, which could reduce the GHG-emissions impact of higher energy consumption.
	Cisco solutions that facilitate improved resource buildings, reduced business travel, and teleworking.	Substantial working-from-home during COVID-19 demonstrated the power of remote collaboration technologies, with the same technologies applied to telemedicine, fitness, retail, food service, and entertainment, all at the expense of physical travel and physical presence.
Markets	Acceleration or step change in cultural norms virtualizing many aspects of life.	Refer to the row directly above (the opportunity starting with "Cisco solutions.")
Resilience	Use renewable energy and adopt energy efficiency measures.	Cisco has set FY22 goals to (1) use electricity from renewable sources for 85% of our worldwide electricity and (2) reduce GHG emissions 60% (FY07 baseline) by investing more than $45 million from FY18-22 in energy efficiency and renewable energy.
	Resource substitution.	Increased revenue through collaboration products that facilitate transport substitution.