

CLIMATE-RELATED RISKS & OPPORTUNITIES

Goldman Sachs 2019 TCFD Report



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Introduction

At Goldman Sachs, we have long recognized the urgency of climate change and have worked to harness market solutions to help address the challenge. We also believe in the importance of providing greater transparency on our approach to managing climate-related risks and opportunities across our business and operations.

Our inaugural *Task Force on Climate-related Financial Disclosure (TCFD) Report* provides an overview of our strategy and approach to climate-related risks and opportunities, including how the management and oversight of climate change is integrated across our global business. We also include in this report the initial steps we have undertaken on climate risk scenario analysis to understand the impacts of both transition risk and physical risk.

We recognize that climate change is highly complex and that it is inherently difficult to project how related financial risks will materialize across the global economy and markets. In addition, climate scenario analysis is relatively new and evolving rapidly, including with respect to underlying assumptions, methodologies and data. As such, this report represents the first step in our journey with the commitment to deepening our understanding of and advancing our approach to climate-related risks and opportunities over time.

Climate-related opportunities and risks manifest in many different ways across our businesses. We see significant opportunities across our financing, investing, asset management, advisory and risk management activities as we work with our clients to help address the climate challenge. At the same time, extreme weather events may disrupt operations or affect the value of our investments, negative financial impacts on clients from climate change may increase credit risk, and involvement in certain industries associated with climate change may pose reputational risk. Given the broad-based impacts of climate change, our cohesive strategy leverages the breadth of our global businesses and the depth of our expertise and insights to advance climate-related opportunities and to manage climate risk.

Our strategy includes a 10-year, \$750 billion strategic target to finance, invest and advise clients across nine sustainable growth themes, which underlie climate transition and inclusive growth. In addition, given global economies for the foreseeable future are dependent on fossil-based energy and carbon-intensive activities, we are committed to supporting clients across all industries in their efforts to accelerate their climate transition and doing so in an orderly manner. This enables us to not only better serve the interests of our clients but also more effectively manage our own risk exposures.

In 2019, we strengthened our firmwide efforts by establishing the Sustainable Finance Group (SFG), which reports to the Chairman's Office and is responsible for partnering with our global businesses to deliver leading sustainability expertise and drive innovative solutions for our clients. This effort is supported by a cross-divisional steering group of senior business leaders to deliver the breadth of our capabilities.

Our strategy also entails understanding and managing climate-related physical, transition and reputational risks. This is embedded both in our comprehensive firmwide risk management approach and more specifically in our climate change risk management framework. In addition to managing risk across our client activities and related balance sheet exposure and reputational risk, we continue to adopt best practices to reduce our own carbon footprint and integrate resiliency into our global operations.

Underlying our strategy is an ongoing commitment to deepening our understanding and knowledge of, and progressing our approach to, managing climate risks and advancing market opportunities. To that end, we leverage the lessons learned from managing our own business and serving our clients, as well as from our external stakeholder engagement, to help inform the work we do and further best practices across the financial services industry and more broadly. We also harness our research insights and thought leadership to help inform markets and policy, and engage in broader partnerships to further market solutions.



Governance

Given climate-related impacts manifest across our businesses in different ways, oversight and management of climate change is integrated into our existing governance structure. This helps to ensure that climate change is strategically managed and the expertise of the firm is both integrated and leveraged across relevant committees and functions.

At the most senior level, under the oversight of the Board of Directors and at the direction of senior management, we are committed to serving our clients and delivering robust risk management, including on climate-related opportunities and risks. Our focus on not only clients but on effective risk and controls is core to our commitment to excellence, as reflected in our Core Values, [Business Principles](#), and [Code of Business Conduct and Ethics](#).

Board of Directors:

Our [Board of Directors](#) (the “Board”) and its committees are responsible for overseeing the management of the firm’s most significant risks, placing significant focus on reputational risk and management’s operation of the firm for the long term.

- The Board’s [Public Responsibilities Committee](#) (PRC) provides oversight of our firmwide sustainability strategy and sustainability issues affecting the firm, including with respect to climate change. As part of its oversight, the PRC receives updates on the firm’s Environmental Policy Framework (EPF), which serves as an ambitious roadmap for how we seek to leverage our people, capital and ideas to address critical environmental challenges and promote sustainable economic growth across our businesses. The EPF also includes environmental and social risk guidelines, including for carbon-intensive sectors.
- The [Risk Committee](#) of the Board oversees the firm’s overall risk-taking tolerance and management of financial and non-financial risks, including climate risk. In this respect, the Risk Committee provides oversight of the firm’s Risk Appetite Statement (RAS), which conveys the firm’s view of its risk culture, risk appetite and risk management philosophies, including those related to climate change.

Firmwide Committees:

In addition to Board-level oversight, we have a series of firm-level committees with risk management mandates that have oversight or decision-making responsibilities for risk management activities and environmental, social and governance (ESG) issues, including relevant climate change considerations. At a firmwide level, the **Enterprise Risk Committee** oversees all of our financial and non-financial risks, including climate-related risk.

In addition, we have firm-level risk committees that provide oversight for different businesses, activities, products, regions and entities. For example, the **Firmwide Capital Committee**, which approves and oversees debt-related transactions, including balance sheet-related commitments, integrates relevant climate-related considerations. For our own operations, the **Firmwide Resilience and Operational Risk Committee** provides oversight over operational risk and resiliency, including physical risks relating to climate change.

All of our committees have responsibility for considering the reputational impact of transactions and activities that they review. The **Firmwide Reputational Risk Committee** provides oversight over transactions that may have heightened reputational risk, which includes considerations relating to environmental and social factors, such as climate-related reputational risk.

Below are relevant key committees.

Committee	Description
Management Committee	Oversees global activities directly and through authority delegated to committees it has established. This committee consists of our most senior leaders.
Firmwide Enterprise Risk Committee	Oversees all of our financial and non-financial risks as well as the ongoing review, approval and monitoring of our enterprise risk management framework.
Firmwide Reputational Risk Committee	Assesses reputational risks arising from transactions that have been identified as having potential heightened reputational risk.
Firmwide Capital Committee	Approves and oversees debt-related transactions and ensures that business, reputational and suitability standards for underwritings and capital commitments are maintained on a global basis.
Firmwide Commitments Committee	Approves and oversees underwriting and distribution activities with respect to equity and equity-related products, and sets and maintains policies and procedures designed to ensure that legal, reputational, regulatory and business standards are maintained on a global basis.
Firmwide Investment Policy Committee	Reviews, approves, sets policies and oversees certain principal investments, including review of risk management and controls for these types of investments.
Firmwide Resilience and Operational Risk Committee	Oversees operational risk, and ensures our business and operational resilience.
Physical Commodity Review Committee	Maintains a consistent approach to evaluating risks associated with engaging in, investing in, or the financing of physical commodity activities that may have an impact on the environment or human health and safety.

Relevant Divisions /Functions:

Climate change risks and opportunities are integrated across relevant areas of our businesses. As part of their responsibilities, the following three divisions/functions play a specific role in managing climate-related risks and opportunities and ensuring that we continue to advance our insights and expertise.

- **Risk Division:** The Risk Division has a range of climate-related functions, working with business units and control groups on risk identification and stress-testing activities. The division also assesses financial risks of counterparties and transactions, including credit risk. In addition, the division oversees the firm's operational resilience framework, which factors in potential impacts from climate-related risks on the firm's activities.
- **Executive Office (EO) — Sustainable Finance Group (SFG):** The SFG, which reports to the Office of the Chairman, is responsible for partnering with the firm's global businesses to deliver leading sustainability expertise and capabilities to our clients and drive innovative market solutions that advance climate transition and inclusive growth. SFG also engages with the firm's stakeholders to stay abreast of and, where relevant, help inform sustainable finance and climate change-related policy. In addition, SFG works with the Business Intelligence Group, the Risk Division and the business units on firmwide environmental and social risk management and related guidelines. By being part of the EO and working across all of the global businesses, clients and stakeholders, SFG brings together the breadth of our knowledge and capabilities and ensures we continue to deliver our insights and expertise.
- **Services Division — Corporate Services & Real Estate (CSRE), Crisis Management Group:** The Services Division provides essential commercial advisory and management services to enable the firm's flow of business, drive operational efficiency, manage risk and deliver the world's best work experience and environment. CSRE partners with the Crisis Management Group to assess and plan for near- and long-term climate-related risks across our operations through infrastructure and business continuity reviews of the firm's global corporate real estate portfolio. This enables climate-related risk to be actively monitored and threats to be minimized to ensure the firm operates continuously through and swiftly recovers from any business disruption.

Cross-Divisional Groups:

In addition to the specific divisions/functions, we have established cross-divisional steering groups to more effectively leverage the firm's capabilities and activities and to ensure a holistic, firmwide approach to managing climate-related risks and opportunities. These include:

- **Sustainable Finance Steering Group:** Comprised of senior leaders responsible for integrating sustainability expertise across our divisions and bringing our capabilities together across the firm. The group convenes periodically to guide and support firmwide sustainable finance efforts relating to key strategic initiatives and client delivery, while providing leadership for cross-divisional work streams and new opportunities.
- **Climate Change Risk Steering Group:** Comprised of representatives from the Risk Division, Services Division and the Executive Office that are responsible for evaluating climate-related scenario analysis and the broader TCFD assessment. This group also reviews the implementation of the strategic climate risk management approach outlined in this report to strengthen climate-related financial risk integration across our businesses and practices.



Strategy — Advancing the Opportunity

As markets and client activity shift in response to climate change, we have a substantial opportunity to harness innovative capital market tools and partner with our clients to help accelerate their climate transition. In addition, our ability to leverage the breadth of our capabilities, our commitment to continuously deepening our expertise and refining our insights, and applying these both across our own operations and in serving our clients' needs, ensures we stay front-footed in integrating climate change opportunities and risks.

In December 2019, we announced a new [sustainable finance target](#) of \$750 billion of financing, investing and advisory activity by 2030. This target encompasses activities across nine strategic growth themes, which are rooted in 10+ years of market research, focused on climate transition and inclusive growth. Areas of focus in our climate transition activity include clean energy, sustainable transport, sustainable food and agriculture, waste and material, as well as ecosystem services — areas where we can help scale technology and solutions through greater and more efficient capital deployment. In addition to this target, we have expanded our work with clients more broadly to help them with their climate transition and in ensuring sustainable growth more broadly, and we are harnessing innovative market solutions to help clients better manage and adapt to climate risks.

Leveraging the Breadth of Our Businesses

We leverage our capabilities across financing, advisory, risk management solutions, asset management and investing to help our clients achieve their climate-related goals, facilitate the low-carbon transition, and strengthen adaptation and resiliency. The following table provides an overview.

Business Activity	Key Examples
<p>Investment Banking: Our Investment Banking franchise is well-positioned to support clients with climate transition strategies and to assist both incumbents and new companies to innovate and grow. Goldman Sachs is a leading global M&A advisor and is regularly recognized for our leadership in clean energy financing and innovative sustainability financing solutions.</p>	<ul style="list-style-type: none"> • Deployed more than \$115 billion toward clean energy financing and investing since 2006 • Active underwriter of catastrophe bonds, helping raise more than \$20 billion to manage weather-related events since 2006 • Underwrote nearly \$59 billion in green, social and sustainability bonds since 2014 • Advising clients on low-carbon transition and sustainable growth strategies
<p>Asset Management: Goldman Sachs has one of the leading investing and asset management franchises across the breadth of asset classes and with global scale. A key area of strategic focus is ESG and impact investing as well as investing in climate transition and sustainable growth themes.</p>	<ul style="list-style-type: none"> • Merchant Banking has a track record of investing in renewable energy and clean technology solutions globally • Goldman Sachs Asset Management (GSAM) has \$74 billion in ESG and impact investing assets under supervision (AUS) as of December 2019 • GSAM recognizes that environmental factors, including climate change, can affect investment performance and considers it an engagement priority. It has supported shareholder proposals related to climate change disclosures 60 percent of the time and shareholder proposals related to a 2-degree scenario analysis 100 percent of the time¹
<p>Consumer & Wealth Management: ESG and impact investing is a fast-growing area for our consumer and wealth management businesses, with investment strategies across a number of innovative environmental and social themes.</p>	<ul style="list-style-type: none"> • Provides innovative client solutions across portfolios, investment strategies and products, including customizable passive ESG options, ESG structured notes, and renewable funds and other climate offerings
<p>Global Markets: Goldman Sachs facilitates the efficient development of carbon and other climate-related commodity markets. Our Global Markets business has been a leading participant in the global energy markets for over 20 years and is active in both carbon and renewable energy markets, helping developers and corporates scale solutions and mitigate risks.</p>	<ul style="list-style-type: none"> • Supported over \$1.5 billion of new build renewable investments through 1,250 MW+ of renewable offtake transactions since 2018 • Market maker in carbon credits, participating in the EU Emission Trading Scheme from its inception and in the California carbon market

¹GSAM Stewardship Report, 2019.

Global Markets and our other businesses are supported by our **Global Investment Research** (GIR) division. GIR is a leading provider of ESG thought leadership with a dedicated global SUSTAIN team. SUSTAIN research includes an ESG framework through which to evaluate corporate ESG engagement, and investing roadmaps and thematic pieces on the risks and opportunities associated with sustainability. Climate change has been a growing area of research focus, with topics such as carbon pricing, climate resiliency of cities, climate strategies of Big Oil companies, and investing in climate solutions. Read the reports [here](#).

For additional details, please refer to our [2019 Sustainability Report](#).

Public Policy and Industry Engagement

We continue to work with other companies, nonprofit organizations and other stakeholders to share insights and further best practices that advance sustainability and climate transition. In addition, where appropriate, we advocate for effective climate policy to help inform ways to advance market solutions that can help address climate change.

The following are examples.

- **Paris Climate Agreement:** We have actively engaged in making the business case for global climate action, including support for the 2015 [UNFCCC Paris Agreement](#). We were one of the first US companies to commit to the [White House American Business Act on Climate Pledge in 2015](#); we signed an [open letter alongside 29 other CEOs](#) in 2017 to support the US staying in the Paris Agreement; and more recently, we were part of a [group of 80+ CEOs and labour leaders](#) reiterating our support that staying in the Paris Agreement will strengthen US competitiveness in global markets.
- **Carbon pricing:** We have long articulated the need for governments to provide transparency around the costs of greenhouse gas (GHG) emissions and to create long-term value for GHG emissions reductions. More recently, in a December 2019 [editorial](#), our CEO David Solomon underscored the urgency and business case for climate transition and called for governments to put a price on carbon. In February 2020, Goldman Sachs, alongside more than 25 companies, joined as a founding member of the [Climate Leadership Council](#) (CLC) to support a revenue-neutral carbon fee and dividend plan for the US.
- **Catalyzing climate finance:** We have continued to leverage our market insights to help catalyze greater capital flows to address climate change. In 2019, we joined the CEO-led [Climate Finance Leadership Initiative](#) (CFLI) as one of seven founding members, to support greater mobilization of climate finance flows. In September 2019, CFLI delivered its [Financing the Low-Carbon Future](#) report to the UN to inform ways to further mobilize private climate finance at the scale and speed needed to support a rapid and orderly transition to a low-carbon global economy.
- **Integrating climate-related risks and opportunities:** In 2019, Goldman Sachs Asset Management teamed up with a select group of other leading asset managers to advance climate-related investment among national sovereign wealth funds (SWFs). Known as the [One Planet Asset Managers Initiative](#), this collaboration supports the efforts of the One Planet SWF Working Group, composed of leading sovereign wealth funds, to drive a deeper consideration of the impact of climate change on investment portfolios.

Operational Best Practices

In addition to harnessing the breadth of our businesses to help our clients with their climate transition and scaling innovative market solutions to address climate change, Goldman Sachs is committed to being a leader in implementing sustainability practices that minimize the impact of our global operations on the environment. For example, we have been carbon neutral from 2015 onward across our global direct Scope 1, indirect (market-based) Scope 2, and Scope 3 business travel emissions. Additionally, by year-end 2020, we are committed to procuring 100% renewable energy and attaining LEED Gold or equivalent for 70 percent of our global corporate real estate footprint.

In December 2019, we established a new suite of 2025 operational sustainability goals with a focus on strategic, collaborative partnerships that drive market transformation, as outlined in our [Sustainability Report](#). The firm has been a member of [RE100](#) since 2015 and recently joined additional initiatives [EV100](#) and [EP100](#) with ambitious commitments to electrify transport and deploy smarter energy use — making us the first US company to become a member of all three of [The Climate Group](#)'s global corporate leadership initiatives to accelerate the clean energy transition.



Risk Management

Because we are a global financial services firm with clients operating in diverse sectors and offices across many countries, climate change presents a range of potential risk considerations across our businesses and activities. For example, climate change may cause extreme weather events that disrupt operations at one or more of our primary locations, which may negatively affect our ability to service and interact with our clients and also may adversely affect the value of our investments. Climate change may also have a negative impact on the financial condition of our clients, which may decrease cash flows from those clients and increase the credit risk associated with loans and other credit exposures to these clients. Additionally, our reputation may be impacted as a result of our involvement, or our clients' involvement, in certain industries or projects associated with climate change.

The table below provides a description of the range of climate-related risk considerations.

Risk	Description
Market	Physical and transition risk could impact the value of assets in which we make markets and invest.
Credit	Counterparty financial performance and collateral values could deteriorate as the transition and physical impacts of climate change manifest over time.
Liquidity	Climate-related disruptions could impact the availability and accessibility of capital in markets for certain sectors and securities.
Operational	Increased severity of climate-related events could impact our office locations and disrupt our systems, people and processes across our global footprint.
Reputation	Growing stakeholder focus on corporate action to meet emissions reduction targets can result in increased reputational risk and reduced client and employee loyalty, investor divestment and impacts to client activity.
Legal	Climate-related disclosures are increasingly important and climate-related litigation could also result from stranded assets, acute climate events or resulting market price declines.

Climate-Risk Scenario Analysis

Our overall business structure, strategy and comprehensive risk management provide a strong foundation for managing and mitigating these potential risks. However, climate change is highly complex and non-linear, with many uncertainties. In addition, new data, tools, and expectations are continuously evolving. As such, we have a climate change risk management framework, which includes stress testing based on an initial set of scenarios. As part of ongoing implementation, we are undertaking further refinement of the scenarios with the goal of improving their risk management benefit.

As a global financial institution, we use a variety of stress-testing techniques to calculate the potential impact of a wide range of potential market moves. We perform stress testing on a regular basis to ensure a comprehensive analysis of our vulnerabilities and idiosyncratic risks in anticipation of market events or conditions, which include climate considerations. For climate stress testing, we perform both (i) transition risk stress tests on the value of our balance sheet-related equity and credit assets, and (ii) physical risk stress tests on our global properties. The following is what we have initially undertaken:

(i) Transition Risk Stress Test

Transition risk arises from changes to policy, technology and consumer preferences over time that reduce reliance on carbon-intensive products and services. The composition of industries, particularly in the energy sector, will change as a result of compliance with climate policy changes such as the implementation of the Paris Agreement. Since individual countries will implement decarbonization policies in different ways, changes to industries will also depend on where they are located and how the policies evolve over time. Climate policy changes introduce financial risks to financial institutions that may own or finance companies whose value could be affected. To measure these risks, we perform transition risk stress testing.

Currently, we perform transition risk stress tests under two scenarios: 1) a scenario in which the Paris Agreement is fully implemented by all countries; and 2) a scenario in which the Paris Agreement is partially implemented in line with current policy plans. In implementing each scenario, we assume that a credible policy change is announced and that the market consequently adjusts credit ratings and prices of affected companies and trades. In each stress test, we estimate the change in credit ratings that would result from each policy change as well as the changes in equity and credit prices that are consistent with those credit rating changes. We then reprice all affected assets on our balance sheet to measure the total change in value that would result under each scenario.

(ii) Physical Risk Stress Test

Physical risk arises from changes to the environment that are produced directly by the continuing concentration of GHGs in the atmosphere and the consequent increases in temperature, precipitation, sea level and other environmental factors. Physical changes in the environment may affect the value of properties directly; an increase in sea level, coupled with more extreme precipitation and hurricanes, would affect the value of coastal properties, for example. But physical risks may also influence the value of assets indirectly by reducing local economic growth, worsening health or lowering labor productivity. The magnitude of physical risks that manifest is linked to transition scenarios, since GHG emissions and their resulting impacts will be determined by policy-driven mitigation measures.

In our physical stress test, we examine the effect of heat stress, water stress, extreme precipitation, sea level rise, and flooding on our properties. The climate policy that we assume in our stress test is a high-emissions policy. We assume that the concentration of GHGs increases even more than expected under current policies and that therefore temperature and other environmental risks worsen relative to business-as-usual expectations.

(iii) Next Steps

These initial stress tests were helpful in understanding relative sensitivities and providing a starting point for further refining the analysis. To that end, we are working to enhance our transition risk and physical risk stress tests along a number of dimensions in order to improve their decision usefulness. In our transition risk stress test, we are examining how to increase its flexibility so that we can run a wider range of scenarios that incorporate more varied policy changes. Similarly, in our physical risk stress tests, we are exploring how we might incorporate a wider range of policy changes, such as full adherence to the Paris Agreement. We are also considering how to add more physical risks to our physical stress test, such as wildfires, and how to better estimate the effects of physical risks on asset values. More broadly, we are investigating whether the transition risk and physical risk stress tests should be unified or whether it would be more beneficial to keep them separate.

Comprehensive Risk Management Approach

Business Structure and Strategy:

As a global financial institution with a diverse set of businesses and clients, our business structure and strategy help us manage overall climate-related risks and increase our ability to participate in climate-related opportunities.

- A significant part of our client financings in our **Investment Banking** business are provided through our underwritten offerings where we connect users of capital with investors versus holding financings on our balance sheet. For underwritings, how we perform due diligence, make business selection decisions and provide relevant disclosures are critical and form part of our comprehensive risk management approach.
- Our **Asset Management** and **Consumer & Wealth Management** businesses largely relate to client assets and are integrating ESG considerations, including climate-related strategies for our clients, as well as taking into account factors that could be material in valuing performance and risk, such as those relating to climate change.
- Our **Global Markets** business is highly diversified and managed in a way that reflects real-time information and shifts in potential risks.

Given this current business mix and structure, and based on our initial stress tests, the direct balance sheet impacts from climate change are relatively modest. However, our ability to effectively manage climate risks and opportunities is important across our businesses in serving our clients and managing and protecting existing pools of assets while creating opportunities for further growth.

Business Activities:

We believe that effective risk management is critical to our success. Accordingly, we have a well-established enterprise risk management (ERM) framework, which is ultimately overseen by our Board. The ERM framework employs a comprehensive, integrated approach to risk management, and it is designed to enable robust risk management processes through which we identify, assess, monitor and manage the risks we assume in conducting our business activities.

As part of our risk management approach, we have firmwide policy guidelines and dedicated teams that support business selection and review processes:

- **Firmwide policy guidelines** for carbon-intensive sectors and activities, such as coal-fired power generation, palm oil, and oil & gas are included in our [Environmental Policy Framework](#) (EPF). The EPF was updated in December 2019 to restrict certain carbon-related business activities and to strengthen our work with clients to help them with their climate transition.
- Upfront **business selection** and **due diligence processes** that include 14 key sector and cross-sector [guidelines](#), and worst-case-loss calculations for physical commodities in certain carbon-intensive sectors, complement the EPF. These guidelines and tools are leveraged across the various activities of the firm at the business selection stage and through designated committee review processes. There are escalation mechanisms and protocols undertaken at each stage. Where relevant, we also incorporate extreme weather and flooding event probability into worst-case-loss calculations for certain transactions. See [Environmental and Social Risk Management](#) for more information.
- **Risk Identification and Scenario Design**, which is a periodic process that we undertake to review the materiality of evolving risks in our business activities over a two-year forward-looking horizon, includes the assessment of impact from climate change.

In addition, our ongoing risk monitoring from credit, liquidity, and market risk management teams, mark-to-market portfolio valuations, dynamic hedging, and insurance requirements where relevant, enables overall position management and exposure reduction where potential material risks are identified.

Operations:

For our physical assets, the Firmwide Resilience and Operational Risk Committee oversees business continuity planning and crisis management efforts, including planning for climate-related risks. The committee oversees efforts related to:

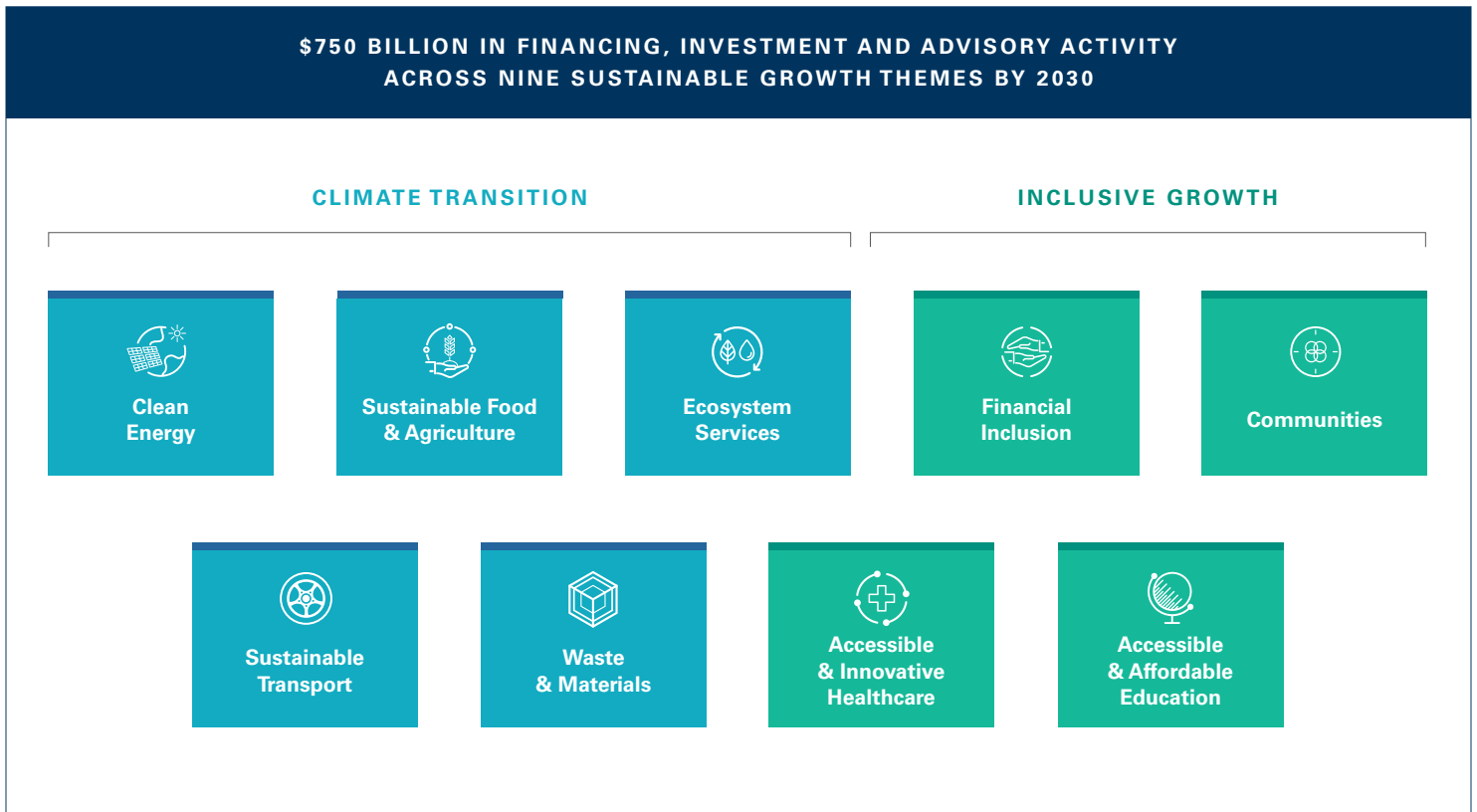
- Regular resiliency reviews
- Comprehensive infrastructure and business continuity assessments
- Overall real estate site selection and management strategy
- Business Continuity Planning and remote access infrastructure

We also consider such risks through all stages of our corporate real estate strategy, from site selection and building design to occupancy and facilities management. Within our operations, we utilize various metrics and dashboards to prioritize and track risks that pose a threat to the health and safety of our employees or to the firm's critical infrastructure assets that support core business functions.

Metrics and Targets

Business Opportunities: The firm has had a long-standing commitment to harnessing market solutions to address climate change. One of the key ways we have been doing this is by mobilizing capital to scale clean energy, given energy is the largest contributor of greenhouse gas emissions. Clean energy also brings benefits of energy diversification and security, technology innovation, and green jobs, as well as health benefits. Since 2006, we have mobilized over \$115 billion in clean energy financing and investments.

Going forward, we have a more expansive goal to deploy \$750 billion in sustainable finance over the next 10 years, with a focus on climate transition and inclusive growth. Please refer to our [Sustainability Report](#) for more information about our Sustainable Finance Goals.



Operations and GHG Emissions: To ensure we remain a leader in implementing sustainability practices and reducing operational risk, our Services Division is committed to minimizing the impact of our operations on the environment and adopting best practices. We have been carbon neutral across our global operations and business travel since 2015, and are progressing on our 2020 operational goals. Additionally, alongside the sustainable finance target, we announced new operational goals for 2025, with a focus on strategic, collaborative partnerships that drive market transformation. See [Our Operational Impact](#).

Progress Toward 2020 Goals for Our Operations

Category	2019 Status	2020 Goal ¹
Renewable Energy Meeting our global electricity needs using renewable energy	98%	100%
Energy Efficiency Reducing absolute energy use across our operationally controlled facilities	-12%	-10%
Green Buildings Achieving LEED Gold or equivalent green-building certifications	61%	70%
Green Operational Investments Dedicated budget for investing in green buildings and innovative green technologies	\$1.7B	\$2B

¹2020 goals are from a 2013 baseline except for our green operational investments, which includes capital invested since 2015, and our plastics reduction goal, which is from a 2018 baseline.



We currently measure, disclose and reduce Scope 1 and Scope 2 GHG emissions from our own activities, and also disclose Scope 3 emissions related to business travel. See the following page for our latest GHG emissions and energy use data for 2019.

Energy and GHG Emissions

	Trend 2018–2019	2019	2018 ¹	2017 ¹
Energy				
Global Direct Energy Consumption (MWh)	↑	45,281	41,237	41,207
Natural Gas		93%	91%	90%
Fuel Oil		7%	9%	10%
Global Intermediate Energy Consumption (MWh)	↓	489,908	508,703	499,077
Purchased Electricity		96%	96%	97%
Purchased Steam & Chilled Water		4%	4%	3%
Global Direct and Intermediate Energy Consumption (MWh)	↓	535,189	549,940	540,283
◊Reduction in Global Energy Consumption from Baseline (%) ²	↓	-12%	-10%	-12%
Global Renewable Energy Consumption (MWh)	↓	460,455	463,192	453,518
◊Percent Renewable Energy	↑	98%	95%	94%
Greenhouse Gas (GHG) Emissions				
Scope 1 — Direct (metric tons CO₂ equivalent [tCO₂e])	↑	12,673	11,565	11,231
Natural Gas		68%	66%	67%
Fuel Oil		6%	8%	9%
HFC Refrigerants		26%	26%	24%
Scope 2 (location) — Indirect (tCO₂e)	↓	166,249	187,418	189,599
Purchased Electricity		98%	98%	99%
Purchased Steam & Chilled Water		2%	2%	1%
Scope 2 (market) — Indirect (tCO₂e)	↓	9,109	16,284	18,410
Purchased Electricity		64%	81%	87%
Purchased Steam & Chilled Water		36%	19%	13%
Scope 3: Category 6 — Business Travel (tCO₂e)	↓	135,473	139,893	120,001
Commercial Air		83%	88%	88%
Other Travel ³		17%	12%	12%
Total Emissions: Scope 1 & 2 (location) (tCO₂e)	↓	178,922	198,983	200,830
Office Scope 1 & 2		55%	53%	53%
Data Center Scope 1 & 2		45%	47%	47%
Total Emissions: Scope 1, 2 (market) (tCO₂e)	↓	21,782	27,849	29,641
Total Emissions: Scope 1, 2 (market), and 3 Category 6 (tCO₂e)	↓	157,255	167,742	149,642
Verified Carbon Offset Emissions Reductions (tCO ₂ e) ¹		157,255	165,051	146,950
◊Net Emissions: Scope 1, 2 (market), and 3 Category 6 (tCO₂e)¹		0	0	0
Revenues (tCO₂e/\$M)⁴	↓	4.9	5.4	6.1
Rentable Square Feet (KgCO₂e/sq. ft.)⁴	↓	14.9	17.9	20.7
Employee (tCO₂e/employee)⁴	↓	4.7	5.4	6.0

Notes:

Note 1: Historical energy, water and GHG emissions data has been adjusted and restated from baseline 2013 onward to account for acquisitions and divestitures.

Carbon offsets and net emissions reflect verified totals in the year of initial reporting.

Note 2: This symbol ◊ before an indicator denotes an environmental commitment through Goldman Sachs' 2015 EPF; reductions are from a 2013 baseline.

Note 3: This includes charter air, rail/bus, ferry, car and hotels.

Note 4: Metrics are normalized using Scope 1 & Scope 2 (location) emissions.



The Path Forward

This report is the first step in our application of TCFD recommendations. Goldman Sachs is committed to continuing our work with various stakeholders, including clients, shareholders, peer banks and other key constituents to improve methodologies on climate-related risk analysis and disclosures and to furthering climate-related opportunities to facilitate the transition to a sustainable low-carbon economy. Per the TCFD recommendations, which acknowledge that implementation is a journey that will evolve over time, we will continue to refine our climate initiatives and disclosure in a way that progresses our ability to more effectively manage risk-and-capture strategic growth opportunities while helping to inform the broader market. We look forward to continuing our engagement on this important topic, and leveraging the breadth of our businesses to navigate the transition to a low-carbon economy.

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