

Morgan Stanley

2021 Climate Report



TABLE OF CONTENTS

3

From Our CEO

4

Introduction

7 Prioritizing Net-Zero Financed Emissions Targets

8 About This Report

10

Governance

11 Board and Executive Oversight

11 Risk Management Oversight

11 Strategic Climate Change Integration

12 Firmwide Executive Committees

14

Strategy

15 Our Approach

16 Net-Zero Commitment and Interim Targets

18 Mobilizing Capital for the Transition to a Low-Carbon Economy

22 Advancing Climate Thought Leadership

23 Informing Climate-Related Policy

24 Deploying Scenario Analysis To Support Our Strategy

26 Training Our People at Climate Change University

26 Delivering Climate Transparency and Disclosures

27 Enhancing the Climate Resilience of Our Global Operations

27 Looking Ahead

28

Risk Management

29 Defining Climate Risk

30 Managing Our Climate Risk

36

Metrics and Targets

37 Morgan Stanley's Net-Zero Commitment and 2030 Interim Targets

40 Morgan Stanley's 2019 FELI and Absolute Financed Emissions

42 Financed Emissions Data Quality and Scoring

43 Supporting the Low-Carbon Transition

44 Minimizing Our Environmental Footprint

46

Conclusion



From Our CEO

As a global leader in financial services, Morgan Stanley has a responsibility to the communities in which we live and work.

The ongoing pandemic continued to create economic uncertainty as well as physical and mental distress over the past year. Extreme weather events continue to drive home the daunting reality that the climate crisis is already with us, and racial tensions continue to remind us that it is critical to focus on diverse representation and racial equity. We are committed to using our resources as a financial institution to help in these areas.

The firm's Climate, Sustainability, and Diversity & Inclusion Reports provide transparency around our strategy and objectives on these important and interrelated topics for our employees, clients and shareholders. Our decision to coordinate the publication of these reports will further enhance access to this information. I am proud that employees across Morgan Stanley are deeply engaged in our shared responsibility to drive change. Below are a few highlights from each report:

CLIMATE

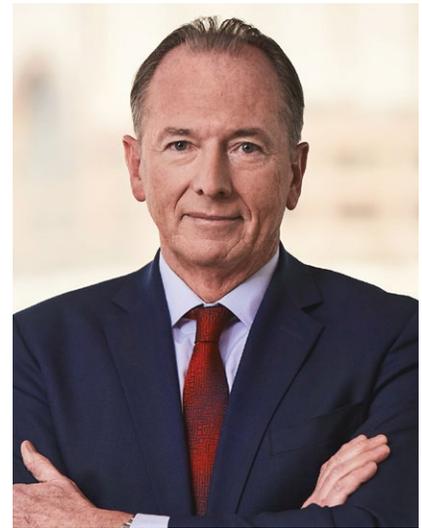
- Building on our commitment to reach net-zero financed emissions by 2050, the firm set [interim financed emission reduction targets](#) in 2021 for lending activities in three carbon-intensive sectors—auto manufacturing, energy and power—to mitigate climate risk, support low-carbon innovation and look to the long term.
- The year closed with the COP26 climate conference in Glasgow, where business and finance leaders joined governments in supporting positive and systemic global change. Morgan Stanley was one of 450 financial service providers representing over \$130 trillion in private capital to join the Glasgow Financial Alliance for Net-Zero (GFANZ), an organization that aims to decarbonize the global economy.

SUSTAINABILITY

- The firm committed to mobilize \$1 trillion by 2030 to support environmental and social solutions that relate to the U.N. Sustainable Development Goals.
- We selected the first cohort of our Sustainable Solutions Collaborative, which aims to address the most complex global sustainability issues, such as climate change, social justice and plastic waste by supporting innovators of transformative solutions.
- We launched the Future of Plastic Index, in partnership with Solactive and ISS ESG, which features companies leading on solutions to the plastic waste crisis.

DIVERSITY & INCLUSION

- The firm has made progress as we continue to focus on increasing diverse representation across our workforce. More immediately, we have set goals to increase the number of women officers globally by 25%, and Black and Hispanic officers in the U.S. by 50% and in 2021 we made meaningful progress towards those goals. Our new Managing Director class reached historic highs for diverse groups, with women representing one-third of promotes globally; and we saw continued growth in the U.S. for Black, Hispanic and Asian Managing Directors as a result of our promotions and hires.
- We deepened our investments in efforts to help close the racial wealth gap and drive greater career outcomes for underrepresented communities through the launch of several new initiatives such as our Small Business Academy and the Equity in Education and Career Consortium.



I am proud of the progress Morgan Stanley has made across our climate, sustainability, and diversity efforts over the past year. These reports highlight our progress while maintaining accountability for future commitments. While we still have more work to do, I look forward to the journey ahead and to continuing to work with all of you.

A handwritten signature in black ink that reads "James P. Gorman". The signature is written in a cursive, flowing style.

James P. Gorman
Chairman and CEO, Morgan Stanley
June 2022

Introduction

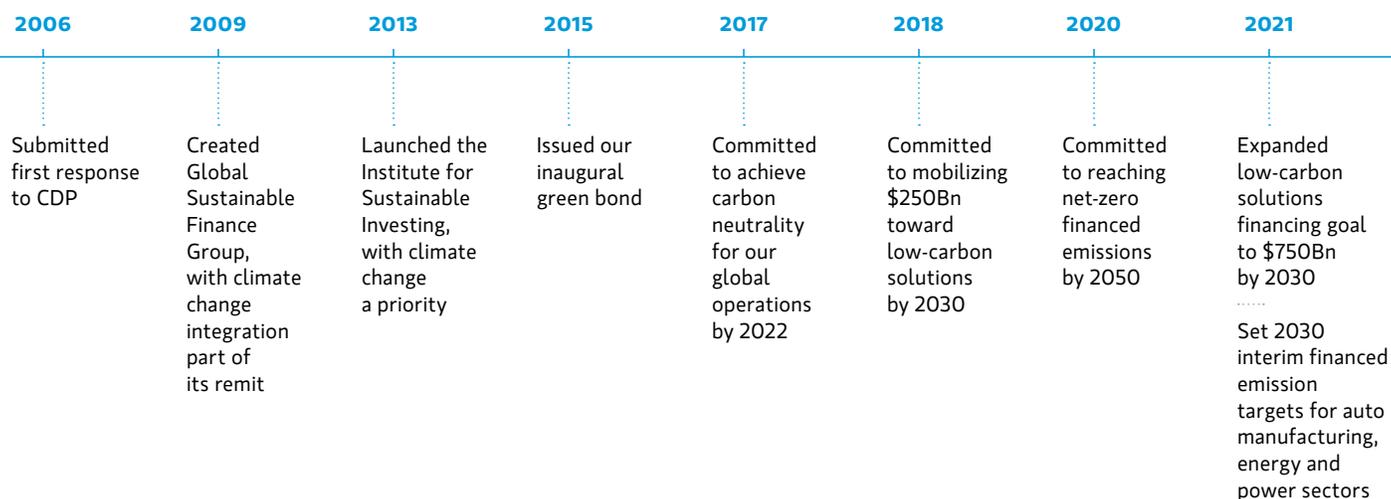


The latest findings from the Intergovernmental Panel on Climate Change (IPCC) coupled with growing global extreme weather events make clear that the world must make urgent progress toward reaching net-zero emissions by 2050. Recognizing this imperative, businesses and investors are seeking to accelerate the transition toward a net-zero economy while grappling with how to address climate-related risks and opportunities. Effective approaches will require science-aligned target-setting, credible, ambitious and achievable low-carbon transition planning; robust governance; and mitigation and adaptation strategies that set a course toward a sustainable future.

The private sector is responding to the climate crisis by increasingly incorporating climate considerations into business strategy and capital allocation decisions. At Morgan Stanley, we are using our position as a global financial services firm to leverage capital markets in ways that mobilize capital at scale to support sustainability solutions. We work alongside our clients, employees, investors and other stakeholders in government and civil society to address this global threat.

Our [inaugural climate report, published in late 2020](#), highlighted our history of leadership in detail. Since then, we have continued to advance our four-pillar climate strategy (see graphic on [page 6](#)), which includes setting 2030 interim targets for financed emissions related to our corporate lending activities and tripling our low-carbon financing commitment.

OUR CLIMATE ACTION MILESTONES



Morgan Stanley's Climate Change Strategy and Progress

1

SUPPORT THE TRANSITION TO A LOW-CARBON ECONOMY

- First major U.S.-headquartered global financial services firm to commit to achieving **net-zero financed emissions** by 2050
- Commitment to mobilize **\$750Bn** to support **low-carbon solutions** by 2030

2

MANAGE CLIMATE RISK

- Climate change considerations integrated into the firm's **risk management** and **governance** processes under the Chief Risk Officer
- Climate risks overseen by the **Risk Committee of the Board of Directors**

3

PROVIDE RELEVANT, TRANSPARENT AND USEFUL CLIMATE-RELATED DISCLOSURES

- Only major U.S.-headquartered global financial services firm on the **Partnership for Carbon Accounting Financials (PCAF) Steering Committee**
- Inaugural **climate report** published in 2020

4

ENHANCE THE CLIMATE RESILIENCE OF OUR OPERATIONS

- **Carbon neutrality** across global operations by 2022
- **Source 100%** of global operation's electricity needs from **renewable sources** by 2022

2021 PROGRESS AND HIGHLIGHTS



Over \$450Bn mobilized through 2021 to help clients support low-carbon solutions



Committed to net-zero financed emissions* by 2050 and announced 2030 interim targets



Launched Measure-Manage-Report framework to track progress on our 2030 and 2050 net-zero targets



Operational completion of a new wind farm will account for an estimated 30% of Morgan Stanley's carbon footprint

*Net-zero reflects a state in which the amount of greenhouse gas (GHG) emissions being released into the atmosphere is matched by the amount of greenhouse gases being removed from the atmosphere via natural "sinks." Financed emissions are the absolute greenhouse gas emissions attributed to banks through their loans and investments.



Prioritizing Net-Zero Financed Emissions Targets

In September 2020, Morgan Stanley became the first major U.S.-headquartered global financial services firm to publicly commit to achieve net-zero financed emissions by 2050. This commitment is helping to focus the evolution of our core businesses and serves as a “North Star” for our four-pillar climate strategy. In particular, it supports our efforts to mitigate climate risk to our communities and business as well as support the low-carbon transition. In November 2021, we announced 2030 interim targets for this 2050 goal, starting with our lending activities in the most emissions-intensive sectors—auto manufacturing, energy and power (see [page 37](#)). Our firm is very involved in the key industry-led initiatives that inform how financial institutions set net-zero targets, and measure and disclose financed emissions, including the Net-Zero Banking Alliance (NZBA) and the Partnership for Carbon Accounting Financials (PCAF).

Reflecting the urgency of the climate crisis, in 2021, we also tripled our commitment to mobilize capital toward low-carbon solutions to \$750 billion by 2030. This goal is part of a larger commitment to mobilize \$1 trillion in capital toward broader sustainability solutions in support of the U.N. Sustainable Development Goals (see [page 18](#)). Together, these goals drive our efforts to craft innovative, market-leading climate finance and investment solutions that meet growing client demand.

Over the past year, and since our last report, we marshaled resources to support our climate strategy and develop new analytical capabilities that address climate change and support our efforts to manage related risks. Externally, we continued to engage a wide range of stakeholders and leverage the expertise of industry collaborations to enhance our methodological approaches and use of climate data to measure progress.

About This Report

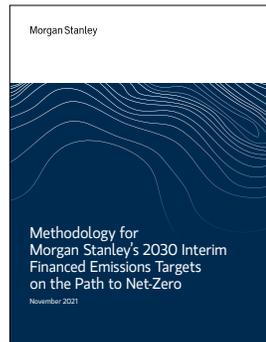
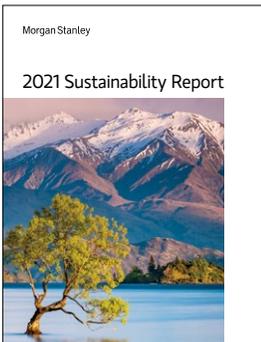
Our climate disclosures are guided by the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This second climate report summarizes Morgan Stanley's climate-related business and operational activities during calendar year 2021. It describes our efforts to further integrate relevant climate change considerations into governance, strategy, risk management, and metrics and targets to enable long-standing success for our business and clients.

This publication complements our annual Sustainability Report, which charts yearly progress across all sustainability goals and topics.

We aim to publish annual climate reports alongside summaries of climate-related progress on our [Sustainability Insights and Reports website](#) and in other relevant disclosures. For our 2021 operational emissions, which will become available in mid-2022, please refer to our [Sustainability at Work website](#).

Additional information on our climate change-related activities and broader sustainability efforts can be found in the following locations:

- [Our latest Sustainability Report](#)
- [2030 Interim Targets Methodology](#)
- [Our Sustainability webpages](#)
- [The Morgan Stanley Institute for Sustainable Investing webpages](#)
- [Our 2021 CDP Climate Change Questionnaire \(for Fiscal Year 2020\)](#)



About TCFD

The Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board following a mandate from the G20. The TCFD's recommendations aim to help companies provide actionable information on portfolios, client relationships and operations to investors, lenders and insurers. Staffed by prominent industry experts, the TCFD examined the physical, liability and transition risks associated with climate change, and effective financial disclosures across industries.¹

TCFD recommends that companies organize disclosures into four categories: Governance, Strategy, Risk Management, and Metrics and Targets. Our climate report follows this structure.

CORE ELEMENTS OF RECOMMENDED CLIMATE-RELATED FINANCIAL DISCLOSURES



1

Governance

The organization's governance around climate-related risks and opportunities

2

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning

3

Risk Management

The processes used by the organization to identify, assess and manage climate-related risks

4

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

¹ <https://www.fsb-tcfid.org/about/>

Governance

Morgan Stanley's senior leadership evaluates and drives decisions that help address and mitigate climate change impacts to our businesses, clients, investments, operations, employees and local communities. To facilitate firmwide responses, we have equipped our businesses and employees with the appropriate governance, risk management structures and climate expertise.

Board and Executive Oversight

Climate change management is a priority for senior leadership at Morgan Stanley. We take a globally harmonized approach to managing climate-related risks, opportunities and activities with oversight from firm leadership and input from our businesses.

The Nominating and Governance Committee of our Board of Directors reviews corporate governance principles and environmental, social and governance (ESG) initiatives. The Board's Risk Committee oversees climate-related risks and is regularly briefed by the firm's Chief Risk Officer (CRO) and other senior leaders on developments and progress. In 2021, the CRO reviewed our 2030 interim financed emissions targets and their corresponding sectors within our corporate lending portfolio with the Board. Moving forward, firm leadership will oversee the shift in relevant business activities toward net-zero.

Risk Management Oversight

Our CRO leads the Firm Risk Management (FRM) Division and has ultimate responsibility for managing climate-related risks across our businesses and operations, reporting to the Board's Risk Committee. Along with Morgan Stanley's CEO, the CRO chairs the Firm Risk Committee (FRC), the highest-level firmwide risk governance body. Our CRO, alongside the Vice Chairman and Head of External Affairs, also co-chairs the Climate Risk Committee—the most-senior governance body solely focused on climate risk. The Climate Risk Committee reports to the Firm Risk Committee (see [Firmwide Executive Committees](#)). In 2020, the CRO appointed Global Co-heads of Climate Risk to help coordinate climate integration across FRM.

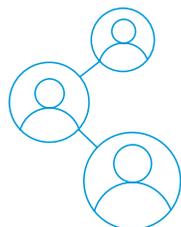
Our Environmental and Social Risk Management (ESRM) Group identifies and assesses broader environmental and social risks that could impact the firm's reputation, as set forth in our [Environmental and Social Policy Statement](#). Approved by the Global Franchise Committee and the Board Nominating and Governance Committee, the policy statement provides guidance on enhanced due diligence criteria for specific sectors, including carbon-intensive sectors, as well as when to escalate transactions to senior management and the Regional or Global Franchise Committees for further review. For more information on ESRM oversight, see our [Sustainability Report](#), page 53.

Strategic Climate Change Integration

Morgan Stanley's Global Sustainable Finance (GSF) Group drives the firm's climate change strategy and is led by our Chief Sustainability Officer. A major focus of its work is the integration of climate change into the firm's decision-making, client solutions and business activities. GSF partners with senior leaders across our three business segments—Institutional Securities, Wealth Management and Investment Management—as well as relevant support services and risk functions such as Finance, ESRM and FRM.

Housed within GSF, the Morgan Stanley Institute for Sustainable Investing (the Institute) delivers actionable analysis to accelerate financial market adoption of climate-focused investing and finance. The Institute seeks to drive innovation by delivering insights and thought leadership for investors, and developing the next generation of sustainable finance talent. The Institute supports two capacity-building efforts that help emerging talent contribute their ideas to sustainable solutions—the Kellogg-Morgan Stanley Sustainable Investing Challenge and the Sustainable Investing Fellowship. Its [Advisory Board of outside experts](#) helps ensure that our approach to climate change is comprehensive, rigorous and innovative.

For more on the Institute, see page 40 of our [Sustainability Report](#).



Firmwide Executive Committees

To execute all aspects of our climate change strategy, we convene senior leaders across the firm through the following bodies. For more information on broader sustainability governance, see page 56 of our 2021 Sustainability Report.

The Firm Risk Committee (FRC)

is our most senior risk governance body, with primary responsibility for all relevant and material risks, including from climate change. Co-chaired by our Chairman and CEO and our CRO, it includes C-suite executives from across business units and control and advisory functions. The FRC periodically reviews results of climate-related stress testing and other risk-related aspects of climate change.

The Climate Risk Committee (CRC)

reports to the FRC and is responsible for, among other things, integrating climate-related risk considerations across the firm. It is co-chaired by our CRO, and Vice Chairman and Head of External Affairs and receives input from GSF, climate risks leads in FRM and others.

Regional and Global Franchise

Committees oversee franchise risks to the firm, including reputational risks associated with climate change. Members of the Committees are senior representatives from Firm Management, Business Units and Infrastructure (such as Legal, Compliance, Financial Crimes, Regulatory Relations, Corporate Communications, Risk Management, Human Resources) and personnel from the relevant regions. Business transactions and clients that meet designated environmental and social risk criteria may require escalation to the Regional and Global Franchise Committees. Items presented to the Franchise Committee for review must be endorsed in advance by the relevant senior divisional and regional management.



Strategy



As the world continues to warm and governments accelerate climate policy in response, the private sector must prepare for both physical and transition risks. Proactively working to mitigate emissions as quickly as is feasible while preparing for a carbon-constrained world will be critical for business resilience. Recognizing this, Morgan Stanley was the first major U.S.-headquartered financial institution to set a goal for net-zero financed emissions. Our 2050 target will help mitigate the firm's climate risk, support client low-carbon innovation and improve the resilience of the firm's strategy.

Our Approach

Morgan Stanley is well positioned to provide the financing required to achieve net-zero emissions globally, and to partner with clients to mobilize capital at scale for the low-carbon transition. Our operations are increasingly resilient as we invest in resource efficiency and renewable energy. Together, these efforts mitigate our climate risk, enhance our businesses and support societal transition to a more sustainable future.

Our climate change strategy and underlying activities are built on four pillars, shown in the graphic below. Our firmwide commitment to net-zero financed emissions by 2050 is the centerpiece of our strategy, supporting our business activities, risk management and strategic positioning for long-term success.

Our Climate Strategy

1

Support the transition to a low-carbon economy by mobilizing capital toward low-carbon solutions for clients, and publishing industry-leading research and thought leadership for an investor audience.

KEY ACTIVITIES

- Supporting clients' efforts to achieve net-zero financed emissions. In 2021, we tripled our low-carbon solutions financing commitment to \$750Bn by 2030. We raised over \$450Bn through 2021.
- Publishing frequent, actionable analysis for investors that supports low-carbon transition

2

Manage climate risk by integrating climate change considerations across risk management processes and governance structures.

KEY ACTIVITIES

- Pursuing net-zero financed emissions to significantly mitigate our transitional climate risks. As a start, we published 2030 interim targets to measure and help reduce our financed emissions.
- Developing scenarios and stress-test modeling capabilities to inform our evolving climate strategy and risk management process.
- Supporting and informing the development of methodologies, tools and frameworks to measure, manage and report (see graphic on [page 17](#)) financed emissions and associated risks in the financial sector.

3

Provide relevant, transparent and useful climate-related disclosures in our TCFD report and other publications.

KEY ACTIVITIES

- Publishing annual climate reports, disclosing steps taken toward the achievement of net-zero financed emissions, low-carbon financing and operational commitments.
- Introducing and implementing a transparent Measure-Manage-Report framework to inform our financed emissions disclosure.
- Holding leadership positions in PCAF and NZBA, the expert organizations guiding our path and disclosures on net-zero financed emissions.

4

Enhance the climate resilience of our operations by minimizing our footprint and enhancing operational resiliency.

KEY ACTIVITIES

- Committing to achieving carbon-neutral global operations by year-end 2022 and using 100% renewable energy.
- Pursuing on-site power generation, power purchasing agreements, renewable energy credits and carbon offsets.

NORTH STAR: NET-ZERO BY 2050

Net-Zero Commitment and Interim Targets

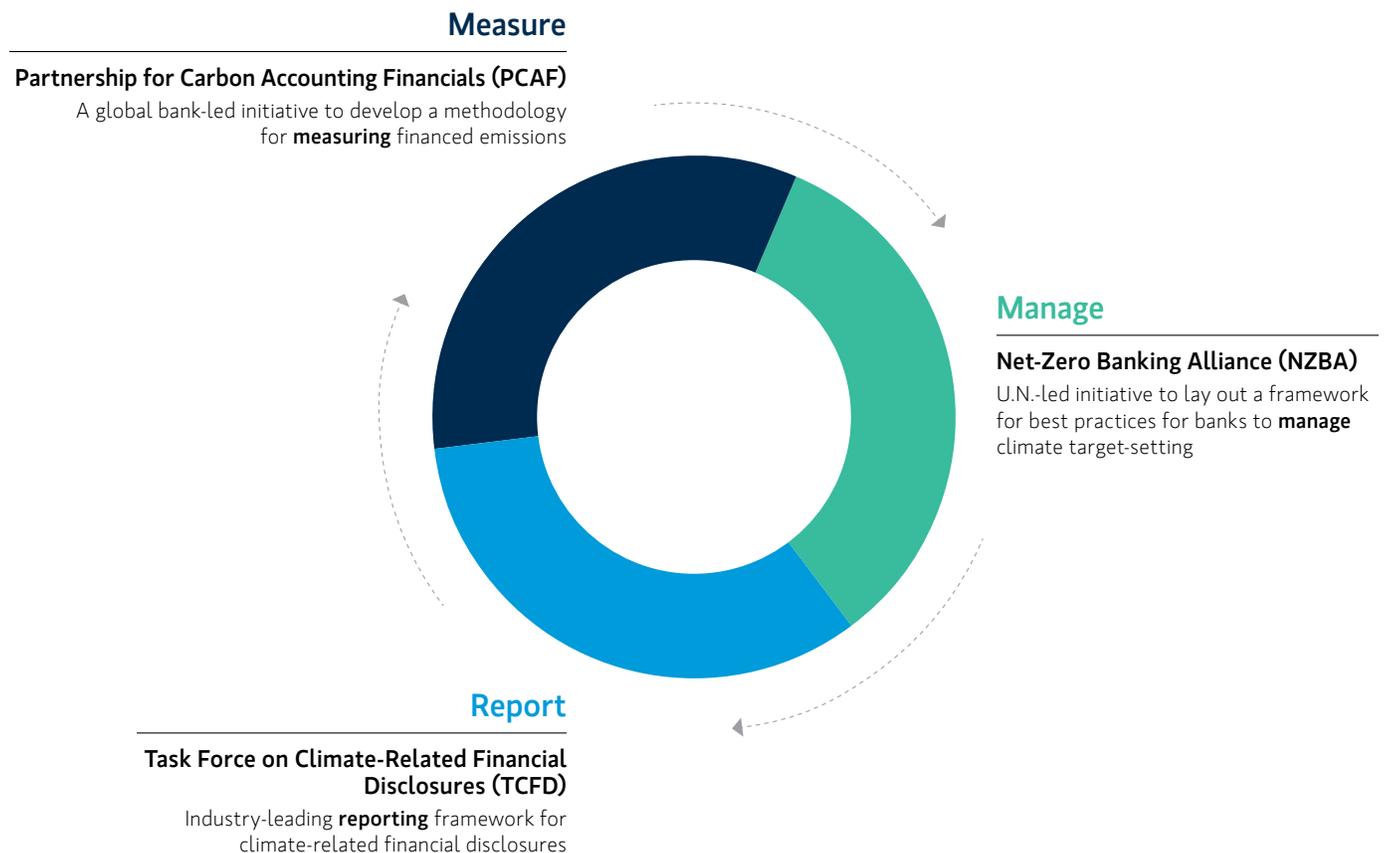
In September 2020, Morgan Stanley became the first major U.S.-headquartered global financial services firm to commit to achieving net-zero financed emissions by 2050. We set this goal to maintain Morgan Stanley's innovative and leading approach to sustainable investing, finance and business. This commitment is both a destination and a journey, with the goal of helping to keep global emissions below a 1.5° Celsius temperature-aligned threshold. The commitment will involve close collaboration with clients across our businesses and is the foundation of our climate strategy. Net-zero financed emissions by 2050 drives how we consider our efforts across all four pillars, including our efforts to strengthen our operational resilience.

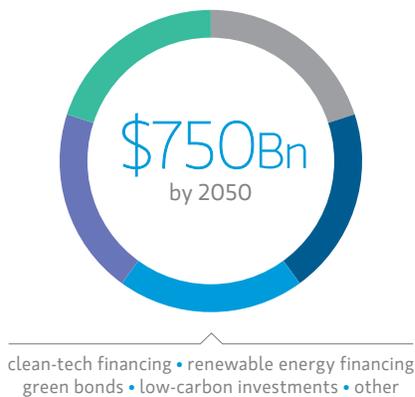
In November 2021, we announced 2030 interim financed emissions targets to guide our lending activities and align with the latest climate science. These targets focus on the most emission-intensive sectors in our lending portfolio—auto manufacturing, energy and power—and mark an important start toward our 2050 commitment to net-zero financed emissions.

For more details on these targets, see the Metrics and Targets section, page 37. A detailed explanation of our target-setting approach can be found in our 2030 interim targets methodology report.

Measure-Manage-Report: Our Framework for Net-Zero Financed Emissions

In our approach to net-zero and related interim targets, we utilize a three-part framework to measure, manage and report financed emissions, as shown below.



LOW-CARBON FINANCING GOAL**Mobilizing Capital for the Transition to a Low-Carbon Economy**

Morgan Stanley has been focused on sustainable finance for a long time. Our businesses support the transition to a low-carbon economy by providing lending and capital markets solutions for our clients as well as innovative, climate-focused thought leadership and research. Our low-carbon financing target and net-zero financed emissions commitment provide a strategic framework as we help clients pursue their own transition plans.

To accelerate progress and drive global systemic change, in 2021, we tripled our original goal of mobilizing \$250 billion for low-carbon solutions by 2030 to \$750 billion. This goal is part of our larger commitment to mobilize \$1 trillion in capital toward sustainability solutions in support of the U.N. Sustainable Development Goals (see page 14 of our [Sustainability Report](#)).

Since 2018, we have mobilized over \$450 billion toward our low-carbon solutions financing goal. To achieve our expanded commitment, our businesses will increase their focus on low-carbon solutions such as clean-tech, renewable energy and green bond financing.

Morgan Stanley's Institutional Securities Group (ISG), Morgan Stanley Investment Management (MSIM) and Morgan Stanley Wealth Management all facilitate transactions and investments that support clients in allocating capital toward a low-carbon economy. Each business offers unique climate-focused services and solutions for clients, including asset managers, asset owners, corporations, governments and individual investors.

Their approaches are summarized on the next page, with a snapshot of 2021 highlights.

INSTITUTIONAL SECURITIES GROUP

ISG has a long history of using the scale and speed of capital markets to generate positive environmental benefits for innovative companies. It achieves this with a range of solutions for clients, including lending, mergers and acquisitions, and underwriting services. Teams across the business—including Global Capital Markets, Public Finance, Investment Banking, Commodities and Research—pursue these objectives.

In 2021, the business continued its record of supporting transactions that drive innovation and support the low-carbon transition. Some of the most impactful transactions are summarized on the next page.

2021 Climate-Related Financial Transaction Highlights

\$2.5Bn

Served as joint bookrunner and sustainability investor marketing coordinator to Ford Motor Company's (Ford) **10-year fixed-rate green bond**—the first from a U.S. automaker. Ford will direct bond proceeds toward the design, development and manufacturing of zero-emission battery-powered electric vehicles.

~\$1Bn

Acted as joint lead bookrunner for Fluence Energy's **initial public offering**. The firm, an AES and Siemens company, is a global market leader in energy storage products and services, and digital applications for renewables and storage.

\$1.5Bn

Acted as sole financial advisor to Plug Power's **\$1.5 billion equity investment from SK Group**, a South Korean business conglomerate. Plug Power provides hydrogen engines and other low-emission fueling solutions. The transaction represents the largest U.S. clean energy private investment in public equity in the last 20 years. At the same time, Plug Power and SK Group announced plans to start an industry joint venture in South Korea to provide hydrogen fuel cell systems and fueling stations to Asian markets.

\$12Bn

Served as lead left bookrunner for Rivian's **initial public offering**. The all-electric vehicle manufacturer will expand development of electric sports utility vehicles, pickup trucks and delivery trucks for future mass production, addressing significant gaps in the growing EV market.

\$273MM

Served as joint senior manager and green structuring agent on the Red River Valley Alliance's **green bond financing of the Fargo-Morehead Metropolitan Area Flood Risk Management Project**. This public-private project in North Dakota is a partnership with the U.S. Army Corps of Engineers to reduce flood risk from the Red River and other local waterways. Coordinated by ISG's Public Finance Group, the transaction aims to impact SDG 11, Sustainable Cities and Communities, and SDG 13, Climate Action.



€500MM

Served as joint active bookrunner for Verbund's **inaugural green and sustainability-linked bond issuance**, the first to combine a green use of proceeds and EU Taxonomy alignment. Proceeds target investments in renewable energy projects and climate change mitigation, and Verbund established key performance indicators for renewable energy production and additional transformer capacity.

\$1Bn

Served as active bookrunner, and billing and delivery agent for Verizon's **third green bond** toward its renewable energy commitments. Proceeds will finance the development, construction or operation of facilities, equipment or systems that generate or transmit renewable energy.

INVESTMENT MANAGEMENT

MSIM takes the view that ESG factors—including climate change—influence risk, return and opportunity. Across the business, various portfolio managers and investment teams incorporate consideration of climate-related risks and opportunities that could have significant impact on value. Approaches include evaluating, as applicable, the carbon footprint and intensity of investments as well as climate resiliency and adaptation strategies. As of year-end 2021, MSIM offered eight investment strategies (with over \$2 billion in assets under management) that seek to align with Paris Agreement goals.

MSIM's understanding of climate change risks and opportunities is deepened by active engagement with portfolio companies on their emission profiles, controls and preparedness to manage climate-related risks. The business also uses its position as an investor to advocate for climate action and transparency. In 2021, MSIM supported 73% of shareholder proposals for enhanced climate change reporting from U.S.-based companies and 55% of proposals urging companies to adopt greenhouse gas emission reduction targets.²

As part of the firm's 2021 acquisition of Eaton Vance, an investment management company, MSIM acquired Calvert Research and Management, a longtime leader among responsible investment management companies in the United States. Adding Calvert's ESG expertise further enhances our portfolio company research and engagement, and our suite of sustainable and climate-focused products.

Investment teams screen assets and investments for climate risks, ranging from impaired or stranded asset values to increased operational costs, unforeseen liabilities and penalties, loss of access to markets/customers and reputational damage. Their tailored mitigation responses can vary across and within asset classes and investment teams.

Some teams whose investments include highly diversified portfolios employ "tilting" approaches to help mitigate climate risk. In other words, shifting investments or exposures away from issuers subject to significant climate transition or physical risks and toward low-carbon leaders across industries. For example, as issuers pivot their business model toward more sustainable products and operations, MSIM Fixed Income tilts some of its sustainable portfolios toward better ESG performers and lower emitters within each sector, potentially generating favorable returns alongside positive sustainability outcomes.

CASE STUDY²

AIP CLIMATE IMPACT SOLUTIONS (CIS) FUND

The Alternative Investment Partners (AIP) Private Markets Solutions Group manages one of our notable funds that seeks to identify and accelerate impactful climate solutions. CIS is a multi-asset private markets fund targeting commercial risk-adjusted returns and measurable climate-related results in key sectors, including mobility, power, sustainable food and agriculture, and the circular economy.

As of December 31, 2021, the \$109 million fund has closed on 19 investments, reaching over \$70 million in committed capital. Measurable impact in 2020 alone includes 11.2 million tons of CO₂e emissions avoided, 7.8 million cubic feet of water saved, and 385 GWh of clean electricity generated. The fund's investments include:

- A leading provider of sustainable digital solutions to energy providers in North America, helping homes and businesses save energy and lower costs, and encouraging clean energy adoption.
- A specialized lender in India, catalyzing meaningful development of solar installations for commercial and industrial customers.
- An owner and operator of open-access rapid EV charging stations across the U.K., encouraging the uptake of EVs across all demographics and ultimately helping reduce NOx emissions from the roads, which is particularly important in urban areas.

These case studies are provided for illustrative purposes only. There is no assurance that the engagements will be successful and/or result in positive investment outcomes.

MSIM's Global Balance Risk Control Group pursues a tilting approach for one of their strategies, the Global Balanced Sustainable Fund, which treats climate change as a potential systemic risk that could threaten the stability of financial markets. This fund takes into account the long-term climate change objectives of the Paris Agreement, and employs both stock-specific and sector-specific climate tilts.

² References and metrics in this report that pertain to 'MSIM' and 'Investment Management' relate to Legacy MSIM. 'Legacy MSIM' means Morgan Stanley Investment Management, excluding those businesses that were wholly owned by Eaton Vance Corp. prior to the acquisition of Eaton Vance Corp. by Morgan Stanley on March 1, 2021.

WEALTH MANAGEMENT

Morgan Stanley Wealth Management's [Investing with Impact Platform](#), launched in 2012, offers individuals, families and institutions access to a range of investment products, portfolio solutions, tools and analyses that address multiple environmental and social issues, including climate solutions. The Investing with Impact team develops and updates toolkits focused on global sustainability trends and investor demands that provide Wealth Management Financial Advisors with access to educational materials and investment resources to implement their clients' unique environmental and social goals. For example, the Climate Change and Fossil Fuel Aware Toolkit first launched in 2016 and is updated regularly (see the case study on the right for more information).

Since 2019, Morgan Stanley IQ® has provided clients with a tool to identify and prioritize investments across more than 100 social and environmental impact preferences, including climate solutions. In June 2021, we built on this patented³ application by launching Impact Signal, part of our suite of manager scoring tools that enables our Financial Advisors to evaluate more than 15,000 funds and separately managed accounts globally on the strength of their impact, including climate impact, among other environmental and social issues. One of the industry's first holistic manager scoring tools, Impact Signal is built upon our decade-plus experience in impact and sustainable investing. It also draws on reputable third-party data partners and the Wealth Management Global Investment Office's quantitative manager scoring tools.

Since 2019, Morgan Stanley IQ® has provided clients with a tool to identify and prioritize investments across more than 100 social and environmental impact preferences, including climate solutions.

CASE STUDY

CLIMATE CHANGE AND FOSSIL FUEL AWARE INVESTING TOOLKIT

Morgan Stanley Wealth Management equips Financial Advisors with the Climate Change and Fossil Fuel Aware Investing Toolkit to support clients' awareness and adoption of climate solutions investing. The Toolkit includes a list of investment products focused on transitioning to a low-carbon economy. With the Toolkit, investors can work with their Morgan Stanley Financial Advisor, Private Wealth Advisor or Institutional Consultant to develop a tailored investment approach to incorporate climate change and fossil fuel awareness into their portfolio based on their unique objectives. As of year-end 2021, over 30% of the Platform's 200-plus strategies align with our Climate Change and Fossil Fuel Aware investing framework.



³ U.S. Pat. No. 11,188,983

Advancing Climate Thought Leadership

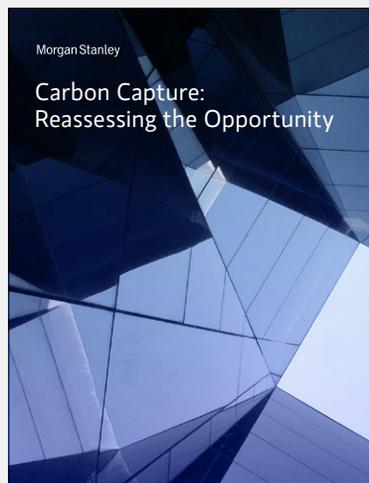
Morgan Stanley delivers key, actionable insights to clients and investors about the vast reach of climate change across markets, sectors and investment areas.

For the past decade, the Morgan Stanley Institute for Sustainable Investing has helped drive the global adoption of sustainable investing and finance strategies through knowledge sharing and thought leadership. Among 2021 highlights, the Institute and MSIM published [Climate-Related Data for Real Assets: A Framework for Assessment](#). This white paper guides investors through evaluating data providers and products when considering climate in the sector, and how to integrate physical climate data into due diligence processes.

In addition, each of our businesses is expanding climate-related research to better inform clients and the market. For example, our Global Sustainability Research team within ISG provides institutional clients with insights into ESG risks

and opportunities that can impact investment performance, including those related to climate change. A recent example is [Carbon Capture: Reassessing the Opportunity](#), which provides a deep dive into the emerging technology and the incentives needed to bring it to scale across various sectors. Elsewhere, MSIM published [Decarbonisation: The Basics](#), an introductory primer on climate change causes and economic consequences in a planned carbon-themed series for investors.

We also host high-level climate-themed forums that foster an exchange of views and insights among leading academics and finance and technology experts. In 2021, these events included a Carbon Capture Symposium and our third annual Sustainable Investing Summit. The 2021 Summit featured influential speakers such as former Vice President Al Gore, former Securities Exchange Commission (SEC) Chair Mary Schapiro, and the United Nations Special Envoy for Climate and Finance, Mark Carney (see page 42 of our [Sustainability Report](#) for details).



Informing Climate-Related Policy

Morgan Stanley supports science-aligned and, where possible, market-based policy, including a price on carbon, that will help the global economy achieve net-zero emissions by 2050. We engage with policymakers, industry groups and trade associations to promote effective global and national climate policies that support an orderly transition to a low-carbon economy.

TRADE ASSOCIATIONS

We leverage our membership in leading trade associations to promote positions on commonsense and cost-effective climate policy. These associations include the Securities Industry and Financial Markets Association, the Futures Industry Association, the Financial Services Forum, the American Bankers Association, the Investment Company Institute and the Institute of International Finance, among others.

Morgan Stanley is also a member of the U.S. Chamber of Commerce's Climate Action Task Force as well as the Climate Solutions Working Group, an external group composed of Chamber members who want to see the Chamber more proactively support climate policies and regulations that quickly and effectively reduce greenhouse gases. We engage directly with the Chamber in a constructive dialogue to share our views. In 2021, we encouraged the Chamber to support [the climate-related provisions of the federal reconciliation and infrastructure legislative bills](#), including market-based strategies such as carbon pricing, support for emerging technology development and efforts to ensure a just transition for economically disadvantaged communities.

As a member of the Business Roundtable, an association for CEOs of leading U.S. companies, we contributed to its climate policy paper calling for a robust, market-based approach to reducing U.S. emissions. In 2021, we also supported a Business Roundtable statement expressing support for the Clean Electricity Payment Program proposed by Congress to help decarbonize U.S. power generation as well as their letter supporting the Environmental Protection Agency's proposed methane regulations. Morgan Stanley co-signed a [statement from the Center for Climate and Energy Solutions](#), urging both Congress and the current administration to enact ambitious, durable and bipartisan climate policies.



POLICYMAKERS

Globally, financial regulators are exploring potential mandatory disclosures of scopes 1, 2 and 3 greenhouse gas emissions, which could include financed emissions reporting for the financial sector. In 2021, we engaged with U.S. financial regulators to explain the PCAF initiative and methodology, and its potential supporting role in helping financial institutions measure, track and report emissions from financing and lending.

Our leaders and experts will continue to engage with policymakers and other key stakeholders globally, as opportunities arise, to support the development of effective public policies that accelerate the transition to a low-carbon economy.

Deploying Scenario Analysis To Support Our Strategy

TCFD recommends companies conduct scenario analysis to better understand climate-related opportunities and vulnerabilities for their business over the near to long term. Morgan Stanley views scenario analysis as an important part of our climate journey (see table below). We have developed scenario analysis capabilities to help inform our view of and consider potential future conditions brought about or exacerbated by climate change, in terms of both opportunities and risks.

DEVELOPING LONG-TERM SCENARIO NARRATIVES TO INFORM OUR BUSINESS

In 2021, we expanded our modeling and analytical capabilities by developing our own proprietary, long-term 10-year climate scenario narratives (the “Climate Narratives”) that can be considered across the firm to inform our future work on climate.

GSF and other experts across Morgan Stanley participated in a series of workshops to design four, long-term scenario narratives, the Climate Narratives, which may also support, as needed, the firm’s work on shorter-term scenario analysis.

How Scenario Analysis Informs Our Climate Strategy

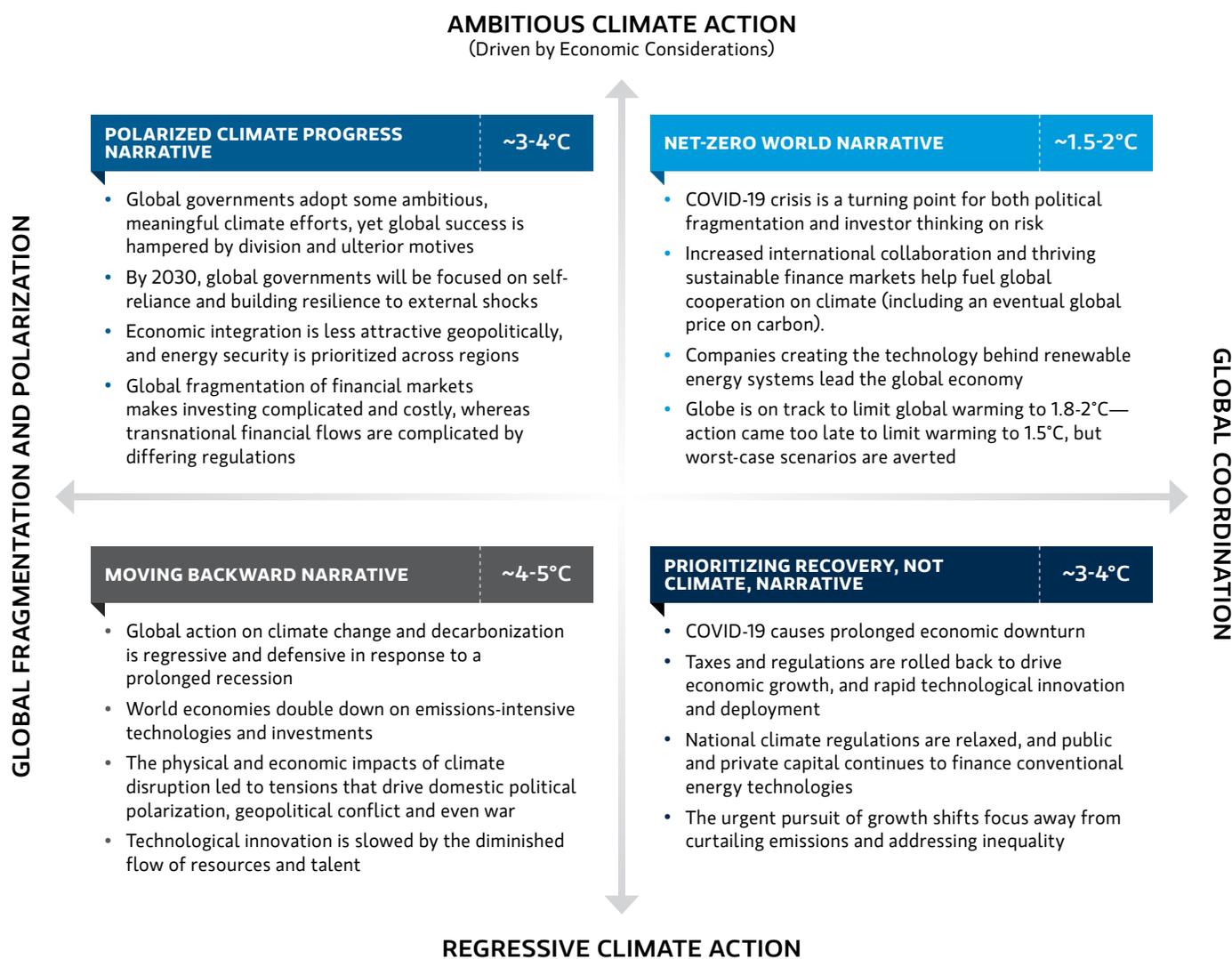
SUPPORT THE TRANSITION TO A LOW-CARBON ECONOMY	MANAGE CLIMATE RISK	ENHANCE THE CLIMATE RESILIENCE OF OUR OPERATIONS
<ul style="list-style-type: none"> Provides key analytical input to inform firm’s future strategic decisions 	<ul style="list-style-type: none"> Identifies potential losses and types of conditions or events that cause them 	<ul style="list-style-type: none"> Explores how extreme physical risks can impact firm operations
<ul style="list-style-type: none"> Helps evaluate possible future economic conditions 	<ul style="list-style-type: none"> Helps approximate the degree to which ratings migration could shift under a scenario’s hypothetical assumptions 	<ul style="list-style-type: none"> Informs resilience and transference plans to reduce losses stemming from operational disruptions
<ul style="list-style-type: none"> Highlights sectors that require significant investment in a transitioning economy 		
<ul style="list-style-type: none"> Enables firm to navigate high-risk sectors that are subject to climate-related vulnerabilities 		

The group worked to synthesize diverse perspectives and insights on climate change-driven impacts on the financial markets and how they intersect with climate issues that may face our businesses.

To help ensure consistent scenario development, the group followed a well-defined methodological process. Collectively, the group identified potential future-facing themes that could drive changes to the firm’s operating context and impact business with varying uncertainty over the next 10 years. Such themes were characterized by possible observable trends that could impact firm business and strategy, and uncertainties that could drive the shape and trajectory of those trends.

Both trends and critical uncertainties were assumed in the scenario development process. Thus, each scenario narrative was based on assumptions that lead to different possible futures, and we mapped projected global temperature increases against each scenario in order to guide future modeling work.

The exercise resulted in four transition risk-based scenario narratives that depict alternate plausible future operating contexts over the next 10 years (see graphic below). These will serve as inputs into future qualitative and quantitative analyses that are designed to help the firm identify risks and opportunities going forward. The matrix below summarizes the challenges and opportunities under each scenario narrative.



It is important to note that climate change scenario analysis is still in a nascent development stage and rely on data, assumptions and methodologies that continue to evolve and may change in the future. Any results of such analysis may not be predictable of future results and are subject to risks and uncertainties that may cause future results to differ materially. See also Managing Our Climate Risk on [page 30](#).

Training Our People at Climate Change University

Since 2019, our Climate Change University (CCU) has educated Morgan Stanley's risk managers about how climate change impacts the firm and our clients, from a business perspective. In response to growing demand, GSF rolled out the educational program to all employees in early 2021.

The online platform provides employees with tools to make well-informed climate-related business decisions in a rapidly shifting global business landscape. Core courses on climate change fundamentals, risks and opportunities are complemented by an expert external speaker series and a weekly brief on climate news, science and developments from our GSF team. CCU also offers an expansive reference library. These resources allow employees at various stages of their climate education to easily find information that complements the CCU core curriculum material. Thousands of employees engaged with the program during its first year.

Delivering Climate Transparency and Disclosures

Climate risk disclosure helps the firm communicate our actions and progress in a transparent manner. We commit to regularly publishing reports aligned with the TCFD recommendations as well as other disclosures that update investors and other stakeholders on our climate-related business and operational activities.

In particular, our journey toward net-zero financed emissions by 2050 requires measurable progress that is shared with our clients, shareholders and other stakeholders. In 2021, we launched 2030 interim net-zero targets for our lending activities in three key sectors that will drive our early efforts toward our 2050 goal, utilizing a transparent financed emissions metric to track progress. Please see the [Metrics and Targets](#) section on page 36 for details on our financed emissions reporting.

Our approach to setting net-zero targets and tracking progress toward them is based on our three-part framework to measure, manage and report financed emissions (see graphic on [page 17](#)). We also hold leadership positions in PCAF and NZBA, the expert organizations guiding our path to and disclosures on net-zero financed emissions.

DATA LIMITATIONS AND CHALLENGES WITH CLIMATE DISCLOSURES

Appropriate and up-to-date climate data is crucial to properly assess and quantify climate change impacts on our business activities, clients and operations. Climate data informs our firmwide climate strategy, helps measure our firm's performance toward our net-zero commitment and reveals the global economy's transition to a low-carbon economy. Data also contributes to our assessment of financial impacts stemming from transitional and physical events related to climate risk. This requires evaluating and onboarding a range of data related to both transition and physical risks. However, climate data gaps, lack of timeliness and limitations exist, impacting financed emissions disclosures.

Expert groups that help guide our Measure-Manage-Report framework (TCFD, NZBA and PCAF) acknowledge such data limitations and highlight the difficulties in accurately quantifying climate risk. These groups encourage firms to use the best data available to analyze and disclose climate risk exposure, citing the urgency the climate crisis demands.

Morgan Stanley's approach to climate risk data is consistent with this view. Our financed emissions calculations depend on GHG data drawn from primarily two sources—publicly reported company data and third-party vendor data estimations. We explain how we source GHG data in our [2030 Interim Targets Methodology](#) document in detail. GHG data is often estimated. These estimates can differ for a given company depending on the estimation methods used. Specifically, scope 3 GHG emissions estimates can vary widely across data sources, introducing accuracy uncertainty.

CASE STUDY

MORGAN STANLEY SUSTAINABLE INSIGHTS LAB: HARNESSING RELIABLE DATA TO SUPPORT OUR STRATEGY

The TCFD emphasizes the importance of data availability and quality to increase organizations' understanding of climate-related risks and opportunities. The Morgan Stanley Sustainable Insights Lab housed within GSF, specializes in ESG data sourcing, quantitative analysis and vetting and firmwide data integration. These efforts, which continue to evolve, support the firm's overall climate strategy.

The lagged reporting timeframe of GHG data also presents challenges for disclosure. Typically, emissions data is not available until approximately 12-15 months after the fiscal year-end, far exceeding common financial reporting timeframes. The lag can be attributed to company GHG data reporting cycles, vendor sourcing and aggregation of data, vendor analysis and creation of GHG data estimates and vendor data quality checks. Following these steps and receipt of vendor GHG data, Morgan Stanley also performs a data quality review, helping to ensure sufficient coverage to the extent possible and our best effort towards accuracy.

Climate data continues to improve with regard to coverage, granularity and accuracy as disclosure rates increase. We expect this trend to persist and will continue to use best available data and monitor and test the landscape of potential data inputs when there are clear advances that can enhance accuracy. Morgan Stanley is involved in this evolution as we chair the PCAF Climate Data Working Group. We will also continue to work with clients, data vendors and industry organizations to enhance their efforts, improve accuracy and test new data and tools. As we continue to disclose financed emissions and other climate-related metrics and data, we commit to disclosing the limitations and assumptions reflected in our disclosures, consistent with guidance from expert organizations that inform our Measure-Manage-Report framework.

Enhancing the Climate Resilience of Our Global Operations

Morgan Stanley is committed to reducing our carbon footprint and making our global operations climate resilient. These efforts underscore our commitment to sustainability and support the smooth running of our business.

Our Corporate Services Division integrates climate change management across our facilities. The team leads initiatives to reduce our use of energy, water, paper and waste, and partners with GSF to manage progress toward our operational climate change goals.

We are working to meet our 2022 goal of carbon neutrality. The goal to become carbon neutral covers scope 1 and 2 emissions and scope 3 business travel. We intend to achieve this by sourcing 100% of electricity needs from renewable sources and offsetting the remaining GHG emissions.

In September 2020, we entered into a Power Purchase Agreement (PPA) with Akuo Energy to purchase power and renewable energy credits from Akuo's new Bennington Wind Project. The 93-megawatt Illinois-based wind farm achieved operational completion in November 2021 and will account for an estimated 50% of Morgan Stanley's annual global electricity consumption and 30% of our carbon footprint.

Our Corporate Services, Commodities and GSF groups collaborated on the project, and we provided a construction loan facilitated by our Global Capital Markets group. Our Commodities Group helps finance renewable energy deployment across the United States, and in 2021, supported nearly 130 megawatts of capacity for new build projects and nearly 390 megawatts for existing projects.

Morgan Stanley expects our suppliers to follow our environmental policies and we encourage them to reduce the environmental impact of their operations. In 2020, the firm began to send a sustainability questionnaire to our key suppliers and service providers to solicit information about their GHG emission-reduction goals. Their feedback continues to help us understand where their approaches align with ours and if there are any gaps or opportunities to engage them on sustainability issues, including climate change. Where our suppliers are particularly strong on sustainability issues, we explore ways to expand and amplify these strengths through engagement. For more information, see our [Supplier Code of Conduct](#).

Looking Ahead

Morgan Stanley's climate strategy will continue to evolve alongside fast-moving developments in science, technology and regulation. In particular, our net-zero commitment will require continued advances in methodology, measurements and targets to reduce financed emissions across our business activities. In this report, we disclose our GHG footprint for lending activities in the three sectors where we have set 2030 interim targets. We intend to announce additional lending targets for more sectors when we can access appropriate methodologies that accurately reflect our climate risk.

As we continue to enhance our climate-related business activity and risk management, over time we plan to incorporate the following steps:

- Explore additional scenarios and portfolio analysis to identify climate-related risks and opportunities
- Commit to exploring new sectors that increase the scope of financed emissions covered by sector targets
- Consider how target coverage can be expanded to capital markets facilitation activities once methodologies to measure emissions are developed through PCAF
- Enhance our client engagement strategy to help our firm appropriately tailor climate-positive solutions that achieve each client's climate-aligned goals

Risk Management

Climate change poses a significant risk to the global financial system and its ability to sustain a productive and resilient economy. Rising global temperatures threaten many facets of the economy, including property, agriculture and infrastructure, as well as local communities and individual health. These impacts pose risks to the financial system, which over time can trigger disorderly price adjustments, disruption to market liquidity and difficulties for financial institutions in navigating rapidly changing consumer preferences, policies and technologies. Additionally, understanding how these risks can magnify one another adds to the uncertainty. Given this backdrop, over time market prices may not reflect the reality of climate risk.

Defining Climate Risk

Identifying, assessing and managing climate risk is an evolving science and a moving target. The financial industry is investing significant resources in testing methodologies for how to best address climate risks, yet accurate data and relevant tools remain inadequate in the near term. Appropriate corporate disclosure, supported by common definitions and standards, has an important role to play in improving the data necessary for the industry to appropriately quantify and manage climate risk.

Morgan Stanley was an early supporter of the TCFD disclosure framework, which distinguishes two main types of climate risk—transition risk and physical risk—and encourages corporations to consider and report their climate exposure this way.

Transition Risks: Transitioning to a low-carbon economy may entail extensive policy, legal, technology and market initiatives as society adapts to climate change and mitigates its causes. Depending on the nature, speed and focus of these changes, transition risks may pose varying types and levels of financial and reputational risk to businesses and other organizations.

Physical Risks: These include both acute physical events such as flooding and chronic physical risks related to longer-term shifts in climate patterns such as more frequent and prolonged drought. Financial implications for organizations can range from direct damage to assets to indirect impacts from supply chain disruption, driven by factors such as changes in water availability, food security and agricultural productivity. Extreme temperature changes may affect an organization’s physical locations, operations, supply chain, transport needs and employee safety.

TYPES OF TRANSITION RISKS			TYPES OF PHYSICAL RISKS	
				
POLICY AND LEGAL	TECHNOLOGY	REPUTATION	ACUTE	CHRONIC
Carbon taxes	Improved energy efficiency	Shift in consumer sentiment	Windstorms	Drought
Renewable portfolio standards	Greater battery storage	Risks of banking certain sectors	Wildfires	Sea-level rise
Increased disclosure	Cheaper renewables	Greenwashing concerns	River flooding	Extreme heat

Interrelationships: Transition and physical risk impacts can compound and interact with one another under many circumstances. Globally, governments are exploring and enacting policy and regulations to address climate change, with differing impacts on economies and societies. Stronger climate policies adopted today may reduce long-term physical risks but could exacerbate the severity of near-term transition risks to the global economy as industries and societies adjust. Conversely, weaker climate mitigation policies may accelerate the timing and impact of physical risks, driving industries and societies to make near-term outsized investments to guard against extreme events.

Time Horizons: Both transition and physical risks can materialize over different time horizons. For example, episodic extreme hurricanes present near-term physical risks to vulnerable populations, while transition risk measures such as carbon taxes present longer-term challenges as economies adjust to increased costs and market or technological changes stemming from new tax policy. Companies therefore face the challenge not only of identifying material climate risks to their business but also of analyzing the likely duration and trajectory of each physical and transition risk they face.



Managing Our Climate Risk

As an early mover on climate change, Morgan Stanley is well aware of these challenges, and deploys expertise and resources to explore how and where we may face potential and ongoing transition and physical risks. FRM oversees and has primary responsibility for all corporate financial risks, including credit, market, operational and climate risk. As climate risk is interconnected with other risk types, including geopolitical risks, we have developed and continue to enhance processes to embed climate risk considerations into our risk management strategies, as well as governance structures, established for risks such as market, credit and operational risks. Over the past three years, FRM and GSF have partnered closely to integrate climate change considerations into the firm's financing and operational processes for identifying, assessing and managing physical and transitional risks.

As described in detail in our [2020 climate report](#), we focus climate risk management on the following areas:

1. Risk Identification
2. Stress Testing
3. Exposure Calculation
4. Risk Appetite and Rating Integration

RISK IDENTIFICATION

We employ a sector-based risk register, developed in house, for our risk managers to use as a first step in understanding which risks are most material to the industries they cover. For example, carbon taxes present a high risk for oil and gas companies, while rapidly evolving battery technologies could pose a risk to some automakers. The risk register has proved a helpful tool in supporting FRM to prioritize material risks quickly.

Climate risk identification requires an ongoing, dynamic approach. We continually monitor external developments that may impact the firm, our investments and our clients, and use these insights to refresh and reassess our risk register as needed.

Climate science continues to evolve as experts better understand the impacts of rising concentrations of greenhouse gases in the atmosphere on weather systems, dynamic climate feedback loops and how natural ecosystems interact. We track the latest science to understand physical risks to our business in real time as the intensity and probability of such events mount. With the historical record of climatic events such as droughts, storms and sea level rise no longer accurate predictors of future events, we recognize the critical importance of understanding future scenarios for such events. In addition, external climate change experts advise us on the latest scientific developments and help us with the evolution of our sector-based risk register and scenario analysis.

PORTFOLIO STRESS TESTING

While still in the early development phase, scenario-driven stress testing is a tool for helping to manage climate risk. Separate and distinct from regulator-driven capital stress tests, internal climate stress testing is flexible and broad-ranging, using a variety of scenarios and stress-testing approaches to test vulnerabilities in our financing portfolio to both transition and physical risks.

The evolving practice is beginning to help us identify, measure, analyze, report, and control counterparty and lending risks for a range of adverse outcomes, and to make business and risk management decisions based on the results. This year, FRM, led by our Risk Analytics Group, expanded its climate scenario analysis and stress-testing capabilities to help assess our exposure to a broader range of transitional and physical risk events. The results support decision-making by senior management and will inform our risk appetite.

Transition Risk

We select transition risk scenarios based on the firm's risk profile, emerging changes in policies (such as carbon pricing) and the economic impacts of global warming. The scenarios are conducted for time horizons ranging from two to 30 years, and consider exposure concentrations by region, sector or industry.

The firm's Risk Analytics Group leverages existing economic scenario forecast models used for stress-testing exercises as a starting point to develop climate scenario forecasts. This approach has advantages, including an ability to model statistical relationships between variables and an existing global structure that captures key macroeconomic and financial market variables across regions. Climate-specific variables are then added to the forecast, with the latest models better able to meet the particular requirements of climate scenario analysis. FRM has enhanced climate risk transition scenario capabilities over the past two years, in consultation with GSF and our Credit Risk and Market Risk teams. Its approach follows the general scenario generation and model development process shown below:

Scenario Generation Process Overview



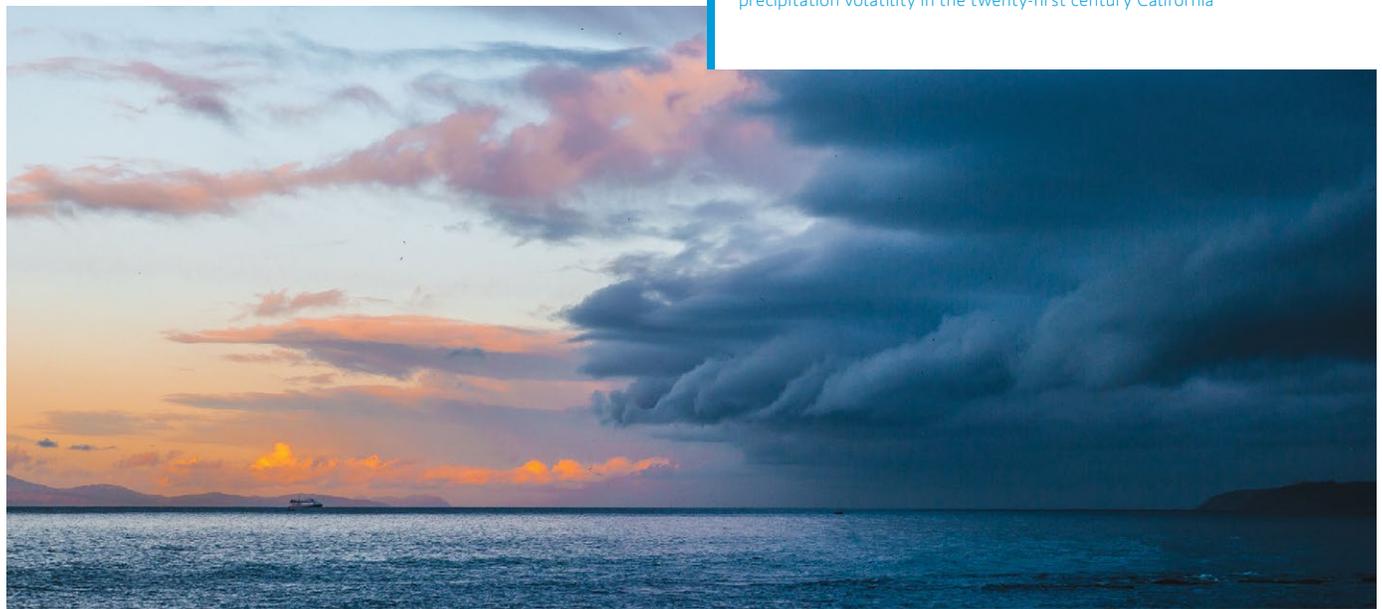
Example Transition Risk Scenario: Global Carbon Tax

FRM adapted our existing stress-testing framework to create a cross-regional "Global Carbon Tax" scenario in close partnership with GSF. This assumes that global governments reach consensus on a market-based strategy to reduce GHG emissions, levying carbon taxes in the current calendar year. In response, we assumed widespread adoption of carbon taxes across advanced and emerging markets with varying taxes levied on a tonnage basis across all emission scopes. Phased increases were applied simultaneously across all regions up to three years after enactment.

The results, applied to Morgan Stanley's corporate lending exposure across all sectors, revealed that such a tax would particularly affect emission-intensive industries (such as upstream energy providers, metals and mining, auto manufacturing and utilities), while secondary economic impacts would be less important. FRM is using this information to help develop our climate-related risk appetite and related metrics to help manage and monitor the firm's future financing activities.

Physical Risk

FRM selects physical risk scenarios based on a combination of the latest science and risk identification, identifying potential near-term events and matching them to portfolio concentrations. We identify and map a range of physical risks, focusing on potential extreme events, such as storms, rather than long-term developments, such as sea level rise. In our first physical stress-testing forecast, we focused on identifying the “tallest tree” that might generate the largest credible loss for the firm from an extreme short-term weather event. This year, we are moving on to “taller trees” by expanding our range of physical scenarios (see example, right).



EVALUATING PHYSICAL RISK TO OUR BUSINESS OPERATIONS

As climate change increases the likelihood of physical risk, companies must assess vulnerabilities and design mitigation plans to improve the resilience of critical business functions. For financial institutions, such critical functions include booking client transactions accurately, managing accounts across multiple business lines, providing support to client-facing functions and monitoring for multiple risks, including fraud and operational vulnerabilities.

Example Physical Risk Scenario: ARkStorm



FRM’s ARkStorm scenario attempts to simulate the effects of a historically low-probability, high-impact atmospheric river event causing catastrophic flooding in California roughly once every 500 years. The latest such event occurred in 1861-1862. In the present-day scenario, large swaths of the state are inundated with heavy rains and winds for 30-45 days, causing severe damage and permanently altering the landscape. The scenario projected the impacts which primarily affect our residential and commercial real estate portfolios. As with the transition risk example, this analysis will help FRM develop risk appetite and metrics around physical risk events.

Sources: [USGS Overview of the ARkStorm Scenario](#) and [Nature’s increasing precipitation volatility in the twenty-first century California](#)

Morgan Stanley’s Operational Risk Group leverages existing data and its growing technical capabilities to estimate potential business impacts from climate-related operational risk. Supported by our Fusion Resilience Center, which researches global threats to operations, the Operational Risk Group focuses on the firm’s most sensitive and concentrated locations and associated physical risk vulnerabilities. The goal is to develop adequate and quick-to-implement resilience and transference plans that protect our operations in the event of low-probability, high-impact physical events.

RATING INTEGRATION AND RISK APPETITE

We are also revising our internal corporate probability-of-default rating templates to incorporate transition and physical climate risk factors. These include issuer sensitivity to shifting regulatory, policy or economic frameworks related to GHG emissions or related physical perils, including flooding, drought and wildfires. While we already incorporate these factors into existing probability of default assessments for some counterparties, the updated templates will significantly broaden their scope and impact, beginning in 2022. Their introduction will affect our appetite to finance, trade with or otherwise incur credit risk to counterparties with meaningful climate risk.

Our businesses approach rating integration by using pre-populated climate risk baseline scores. The scores are based on our analysis of industrywide transition and physical risks. Coverage officers receive detailed guidance and have leeway to adjust baseline climate scores for a counterparty, after reviewing bottom-up analysis and specific climate factors impacting the party. Score adjustments can result in a rating-neutral impact or a rating downgrade.

RISK MANAGEMENT FRAMEWORK FOR FINANCED EMISSIONS

In order to help control risk to our firm, we maintain comprehensive limits frameworks that define risk appetite across our business activity. These frameworks serve as a basis for more granular limits, including categories that define appetite in terms of single name, country, industry and product risk, and tailored types of limit metrics. FRM identifies applicable risks to our businesses and performs risk oversight and monitoring firmwide and for our subsidiaries. This function complements the business's defense in protecting the firm.

Integrating climate risks into these frameworks is important to help manage our business activities in ways that support our 2030 interim financed emissions targets. This process is underway and includes establishing effective governance, rigorous challenge of decisions, data controls, and setting of new limits as we define our risk appetite for the range of climate-related risks affecting our business.

Examples of Transition Risk Factors



- **Emissions Regulations:** Examples include carbon pricing, transportation emission reduction regulations, removal of energy subsidies, reforestation and afforestation, and other land use policies
- **Energy Technology:** Increased competition from low-carbon and energy-efficient technologies
- **Reputation and Liability:** Investor pressure, consumer pressure and liability risk
- **Global Trade:** Global trade policies driven by climate considerations

Examples of Physical Risk Factors



- **Violent Weather:** Windstorms, hailstorms and hurricanes
- **Temperature, Fire and Water Stress:** Temperature and humidity variation, droughts, water regulation and wildfires
- **Flooding and Sea Level Rise:** Flooding, adequacy of flood maps and insurance, land mass movements, coastal erosion and risks to transportation infrastructure
- **Habitat:** Pests and diseases, reduced biodiversity, soil degradation, materials scarcity, risks to oceans, and climate-induced social conflict and migration



GLOBAL PARTNERSHIPS SUPPORTING RISK MANAGEMENT

We believe the development of global standards for measuring financed emissions is critical to achieving climate goals. Such standards are vital to creating transparency on the climate transition. To this end, we take an active role in the PCAF working groups, including on capital markets, green bonds, sovereign bonds and emissions removals.

PCAF also strengthens risk management by creating a unified standard, better enabling business selection and emissions target tracking. As a result, our risk managers are closely engaged in supporting PCAF's work. We are using PCAF's approach and evolving [Standard](#) for various financial activities to develop our internal risk management framework and control functions.

ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

We take a firmwide approach to the management of environmental and social risks that may result in potential franchise risk to the firm. Our dedicated ESRM Group oversees ESRM-related policies, provides internal subject matter expertise on environmental and social risk, conducts due diligence on relevant transactions, monitors emerging risks and developments in partnership with the business units and GSF, and helps train employees.

[Morgan Stanley's Environmental and Social Policy Statement \(ESPS\)](#) outlines the firm's commitment and approach to identify and assess environmental and social risks, including our approach to sectors that may be subject to climate-related risks such as mining, power generation, and oil and gas.

The ESRM Group incorporates climate risk considerations into the reviews of in-scope transactions for specific sectors.

In alignment with the ESPS, the ESRM Group conducts enhanced due diligence, which may include a review of a client's framework and track record for managing greenhouse gases and other emissions.

The ESPS outlines limits for certain activities such as financing transactions globally that directly support the development of new or physical expansion of coal-fired power generation or provide financing for standalone coal-fired power plants, unless there is carbon capture and storage or equivalent carbon emissions reduction technology; financing where the specified use of proceeds would be directed toward new thermal coal mine development or expansion of existing mines; or directly financing new oil and gas exploration and development in the Arctic, including the Arctic National Wildlife Refuge.

The ESPS states that by 2025, Morgan Stanley will not provide lending, capital markets or advisory services to any company with greater than 20% of revenue from thermal coal mining, unless such company has a public diversification strategy or the transaction being provided by our lending, capital markets or advisory areas facilitate diversification, and that by 2030, we will phase out our remaining credit exposure to companies with greater than 20% of revenue from thermal coal mining globally.

The ESPS also includes statements regarding client engagement. For example, we will engage with clients in the power, and oil and gas sectors to understand their greenhouse gas reduction initiatives, diversification strategies and net-zero commitments.

The ESPS is reviewed annually and updated to reflect our strategy and any key developments. The results of the review are presented to the Global Franchise Committee, and material amendments are presented to the Nominating and Governance Committee of the Board of Directors for consideration. For more information, our Environmental and Social Policy Statement can be found [here](#).

BUSINESS CONTINUITY

Both acute and chronic physical risks from climate change have the potential to impact our facilities around the world. Our Corporate Services and Firm Resilience teams lead efforts to evaluate and prepare for the effects of such risks on our direct operations.

Several other firmwide teams also play critical roles. Our Fusion Response and Recovery team combines cyber, crisis management and technology expertise to enable effective collaboration in managing events that significantly disrupt our business. The Global Intelligence Early Warning Cell provides the Fusion Response and Recovery team with critical tactical monitoring, early warning and escalation support to help identify and manage such events. In addition, our Global Intelligence and Crisis Management Operations teams together lead rapid and comprehensive response and recovery efforts

designed to minimize impacts on people, property and infrastructure. In 2021, the team monitored 79 weather and natural hazard events; 24 of these were reacted to and included hurricanes, wildfires, blizzards and earthquakes.

We last implemented recovery strategies in 2021 when a Pennsylvania-based Morgan Stanley facility lost power during Hurricane Ida. Despite the storm’s severe impacts, Morgan Stanley remained open for business due to the resiliency of our international platform. Controls put in place, in line with our business continuity planning, mitigated the disruption by providing remote access capability to recover seamlessly.

The pandemic-driven work-from-home environment provided an additional layer of resiliency by reducing the likelihood of entire teams being impacted to the point of affecting client services.

Climate-Related Risk Stripes

	ACCOUNTABILITY	FRM		ESRM	REGULATORY RELATIONS	CSO/GSF
Risk Type	Credit	Market	Operational	Reputational	Compliance	Strategic
Definition	Risk of loss due to failure of counterparty to repay obligations	Risk of losses due to near-term changes in market conditions leading to impact on asset prices	Risk of losses due to failure of business processes, policy or impacts to key business property, systems or personnel	Risk of negative perception of the firm may harm client relationships and profitability	Risk of fines, sanctions and loss of profitability due to failure to comply with existing and new regulations	Risk resulting from ineffective strategic decisions, misunderstandings of market and client perceptions; inability to respond to changes in regulation, market conditions, client demands
Physical Risk Examples	Wildfire damages residential homes, leading to defaults	Storm event damages key energy infrastructure, leading to price spikes	Storm damages local infrastructure, keeping key personnel from getting to office	Market and client perceptions of mismanagement of physical risks	Office disruptions due to physical impacts interrupt compliance operations	Ineffective identification, assessment and management of physical climate impacts
Transitional Risk Examples	Changes in regulations adversely impact client finances	Changing regulations impact commodity prices	Changes to regulation alter relations with key suppliers	Changes in perception of certain carbon-intensive industries harm firm brand	Financial impacts of climate-related bank regulation	Risk of changes to market regulations that undermine firm strategy

Metrics and Targets

Morgan Stanley's commitment to net-zero is an opportunity to collaborate with both clients and stakeholders as we work toward a low-carbon future. Metrics and targets in our business and risk management processes will be important to the process and monitoring progress. We will continue to refine and update our measurement capabilities, and track progress using relevant climate-related metrics.

Metrics and targets guide our efforts to execute our four-pillar climate strategy and help manage our lending activity toward net-zero financed emissions. These targets are driven by both risks and opportunities related to climate change and will help shape the future of our firm. On the following pages, we report our progress in 2021, in line with TCFD recommendations.

Morgan Stanley's Net-Zero Commitment and 2030 Interim Targets

In November 2021, Morgan Stanley announced 2030 interim financed emissions reduction targets, shown below, for three sectors: auto manufacturing, energy and power.

Our targets are based on a financed emissions lending intensity (FELI) metric that measures the total greenhouse gas emissions related to the firm's lending activity. Our proprietary FELI metric is discussed below.

2030 Interim Financed Emissions Reduction Targets

Percent reduction (tons CO₂e*/\$MM of lending commitment) compared to the 2019 base year

SECTOR	2030 REDUCTION TARGET
Auto Manufacturing	-35% ⁴
Energy	-29% ⁵
Power	-58% ⁶

*CO₂e reflects all seven gases under the Kyoto Protocol that are also mandated under the UNFCCC to be included in national inventories if they are emitted in companies' value chain.

⁴ IEA Net-Zero by 2050 (p. 199). Table A.4: CO₂ Emissions, Passenger Cars & Trucks (sum of rows 27 and 28).

⁵ IEA Net-Zero by 2050 (p. 199). Table A.4: CO₂ Emissions, Oil & Natural Gas (sum of rows 4 and 5).

⁶ IEA Net-Zero by 2050 (p. 55). Figure 2.3: Global net-CO₂ emissions by sector, and gross and net CO₂ emissions in the NZE (Electricity Sector).

The FELI metric uses lending commitments to help attribute Morgan Stanley's portion of a client's emissions. FELI uses lending commitments because it closely aligns with the firm's decision-making process and we believe is a better metric for measuring lending intensity over time. The approach also reflects how we support and collaborate with clients to achieve their low-carbon goals. For an in-depth review of our FELI metric,

targets and other considerations, please see the [Methodology for Morgan Stanley's 2030 Interim Financed Emissions Targets on the Path to Net-Zero](#).

Morgan Stanley also calculates absolute financed emissions consistent with the [PCAF Standard](#), which is presented later in this section.

FINANCED EMISSIONS LENDING INTENSITY

$$\frac{\sum_C \frac{\text{Lending Commitment}_C}{\text{EVIC}_C} \times \text{Annual GHG Emissions}_C}{\text{Total Sector Lending Commitment}_S}$$

C denotes company within sector portfolio | S denotes sector portfolio

FINANCED EMISSIONS LENDING INTENSITY METRIC OVERVIEW

VARIABLE	DEFINITION
Lending Commitment	This is the amount Morgan Stanley has committed to lend a company across all corporate lending facilities, inclusive of drawn and undrawn amounts. This differs from outstanding or drawn amounts, which tend to be unpredictable and represent a subset of our portfolio given that clients can draw their revolving credit facilities at their discretion, if at all, and with short notice.
Total Sector Lending Commitment	This is the amount Morgan Stanley has committed to lend all companies, across all corporate lending facilities, in a sector portfolio. Morgan Stanley uses the total sector lending commitment to normalize financed emissions for the sector portfolio.
Enterprise Value, Including Cash (EVIC) ⁷	The sum of the market capitalization of ordinary shares at fiscal year-end, the market capitalization of preferred shares at fiscal year-end, and the book values of total debt and minorities' interests. No deductions of cash or cash equivalents are made to avoid the possibility of negative enterprise values. As per PCAF, when using EVIC as the denominator to attribute emissions, metrics can change with some volatility as a result of fluctuating market prices. As a result, this market volatility can potentially drive changes to a financial institution's financed emissions, independent of a lender's activities and a borrower's actual emissions performance. For more details on EVIC, see the PCAF Standard ⁸ . To moderate market volatility, FELI utilizes a three-year moving average EVIC. See page 39 for details on this methodological decision.
Annual Greenhouse Gas Emissions (GHG Emissions)	Reflects a client's reported or estimated amount of greenhouse gasses emitted into the atmosphere in a given year.

⁷ PCAF Global GHG Accounting and Reporting Standard for the Financial Industry.

⁸ Consistent with PCAF recommendations, total book equity and debt is used in place of EVIC for private companies.

Three-Year Moving Average EVIC for FELI Calculations

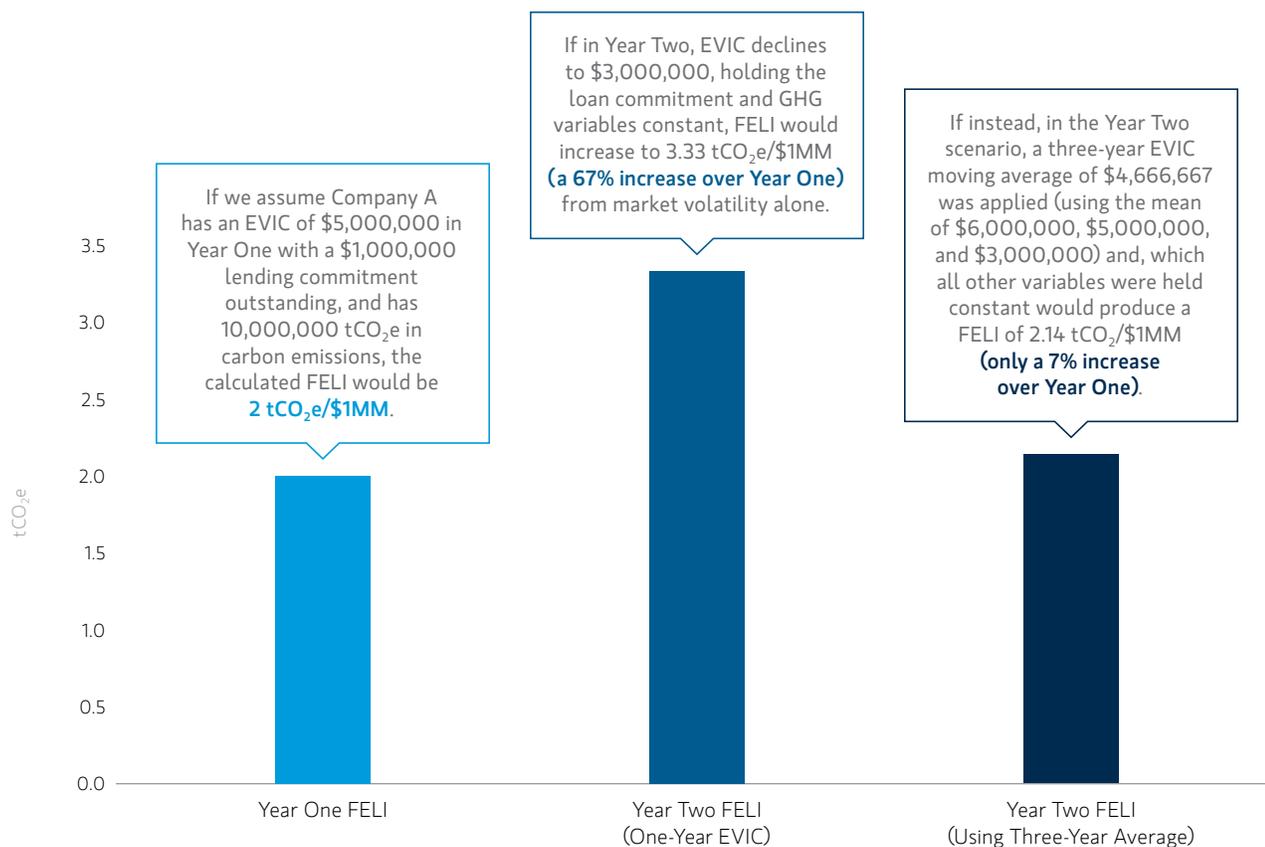
When holding our lending commitment and a client's carbon emissions constant year-over-year, if a company's EVIC declines due to a drop in the market valuation, our share of a company's EVIC will increase, thus increasing our financed emissions.

For this reason, our internally-developed FELI metric, used in connection with our interim targets, utilizes a three-year moving average of EVIC to moderate market fluctuations on

a year-to-year basis and provide a more stable view of financed emissions lending intensity. This approach helps moderate sharp market fluctuations and focus on the more climate-relevant drivers of financed emissions performance.

To help illustrate this, we provide an example of how an unadjusted EVIC can impact a financial institution's financed emissions:

COMPANY A FELI
(One-Year EVIC vs. Three-Year Moving Average EVIC)





Morgan Stanley's 2019 FELI and Absolute Financed Emissions⁹

Morgan Stanley introduced its 2030 interim targets in late-2021 with an emissions baseline of 2019. We have calculated our 2019 target sector lending activities using the FELI metric and emissions data for 2019. The data below represents activities the firm conducted prior to setting our public 2030 financed emissions targets. We share these calculations to show our baseline emissions for 2019, which is the starting point on our journey.

We view our calculations as a useful retrospective analysis that assists our understanding of how our business activities translate to financed emissions based on real-world transactions, and will help us further advance our understanding to meet our ambitious 2030 interim targets.

Morgan Stanley also calculated absolute financed emissions consistent with the [PCAF Standard](#), which we disclose on the following page. Unlike FELI, PCAF prescribes an attribution factor that uses outstanding or drawn amounts reflected in lending facilities provided to clients.

The results in the following tables are not predictions of future events. Actual results may vary significantly due to certain events beyond our control.

⁹ Lending amounts reflect year-end results. Our base year for this information is 2019.

Financed Emissions Tables

The following FELI metric figures represent the amount of GHG emitted by portfolio clients for each \$1 million in corporate lending commitment provided by the firm as of year-end 2019.

FINANCED EMISSIONS LENDING INTENSITY—2019

SCOPE	AUTO MANUFACTURING (tCO ₂ e/\$1MM)	ENERGY (tCO ₂ e/\$1MM)	POWER (tCO ₂ e/\$1MM)
Total	1,418	1,839	1,339

ABSOLUTE FINANCED EMISSIONS—2019

SCOPE	AUTO MANUFACTURING (tCO ₂ e)	ENERGY (tCO ₂ e)	POWER (tCO ₂ e)
Scope 1 & 2	1,591	167,754	485,110
Scope 3	42,378	1,736,352	507,024
Total	43,968	1,904,106	992,134

Please note that data in the foregoing tables:

- Were calculated using third-party information, which includes estimates, and Morgan Stanley does not guarantee the veracity of such information. While the data has been determined by Morgan Stanley based on current practices, methodologies and standards in this area continue to evolve and may change. See also [Data Limitations and Challenges with Climate Disclosures](#) on page 26 to 27 of this Report, [Financed Emissions Data Quality and Scoring](#) below and [Use of Third-Party Estimates](#) at the end of this Report.
- Are not comparable to financed emissions data of other financial institutions, which may have different business models and lending practices and may use different methodologies and data to determine financed emissions.
- May vary from year to year based on a number of factors. Readers are cautioned not to base conclusions on progress toward interim targets on year-over-year results, but should consider trends over a longer period of time.
- Were also not prepared in accordance with, and not meant to comply with, any current, proposed or future regulatory disclosure requirement.



Financed Emissions Data Quality and Scoring

For financial institutions to calculate financed emissions, several pieces of external data are required, including a counterparty's annual GHG emissions. Although company-level GHG emissions disclosure continue to improve, significant challenges remain regarding both the availability and accuracy of GHG emissions data. PCAF explicitly notes that GHG emissions data availability is and will be an ongoing disclosure challenge for many years.

There are several issues that make the data challenging. Companies that disclose GHG emissions may report different scopes and sub-categories, with or without caveats, and may potentially use different underlying methodologies. Further, companies may only disclose GHG emissions for a portion of their business. While it is becoming increasingly common to report scope 1 and 2 emissions for larger companies, reporting scope 3 emissions remains rare. GHG emissions can be disclosed across different reports (CDP reports, TCFD reports or sustainability reports) and are often unaudited or unverified. Also, reported data may not be available until 12-15 months after a company's fiscal year. Delays can be attributed to company GHG reporting cycles and data quality processes undertaken by third-party GHG emission vendors that aggregate reported data. These factors make it challenging to have accurate, timely and comparable information.

Furthermore, many companies may not report their GHG emissions, particularly if they are private. In these instances, financial institutions will have to estimate a counterparty's emissions using emissions factors, underscoring the challenge of getting accurate and representative financed emissions data.

To calculate our 2019 absolute financed emissions and FELI, Morgan Stanley used S&P TruCost emissions data, which is a mix of company self-reported emissions data and modeled estimates (particularly for scope 3). If self-reported GHG emissions data was not available for a certain counterparty, we adopted estimates for that counterparty provided by the S&P TruCost GHG emissions model.¹⁰

If a company was not included in S&P TruCost's emissions data universe, we estimated its annual GHG emissions by multiplying the company's revenue by the relevant Global Industry Classification Standard (GICS) subindustry-level GHG emissions per dollar revenue coefficient, provided to us by S&P Trucost.

Learned Lessons From Morgan Stanley's Review of Third-Party Vendor Data Approaches

During our calculation process, GSF sought to understand third-party vendor data collection/estimation approaches and how they may impact our financed emissions calculations and subsequent disclosure.

Third-party vendors adopt different methodologies to source and estimate GHG emissions data. For example, some companies may report different GHG numbers across CDP reports and sustainability reports. Many companies report market-based and/or location-based scope 2 figures that can vary considerably. Scope 3 emissions data is widely estimated by third-party vendors because it is often unreported and is therefore heavily dependent on a vendor's methodological assumptions. Vendors may not analyze companies within a 12-month calendar year if a corporate action occurred (i.e., merger, acquisition or delisted from a stock exchange), necessitating an emissions estimation for that year. This can lead to significant variances relative to prior or subsequent year company emissions reporting.

When reporting or estimating GHG emissions data, third-party vendors make specific, yet markedly different, methodological decisions that lead to different GHG emissions data results across vendors. These decisions also introduce a level of variability within financed emissions calculations. For example, two financial institutions that provide similar levels of financing to the same company may report different financed emissions figures based on which data vendor they source emissions data from. Financial institutions will need to assess the impact of these nuances as they report financed emissions.

These two methods for retrieving GHG emissions data (reported emissions and various emissions estimates) are options cited in the PCAF Standard. However, each approach reflects different assumptions and data limitations that affect data quality.

To meet the recommendations of PCAF, Morgan Stanley calculated PCAF data quality scores for our absolute emissions reporting. The data quality scores indicate the degree of data quality associated with the emissions data underlying our calculations. The data quality score ranks GHG emissions data based on how it was derived. For example, reported emissions are associated with a score ranging from 1 to 2 (higher quality), whereas economic activity-based GHG emissions estimate scores can range from 4-5 (less strong quality). For more information on the PCAF Data Quality scale, see their [methodology document](#).

¹⁰ Morgan Stanley's Global Sustainable Finance Group also maintains access to a range of third-party greenhouse gas emissions models beyond S&P Global and actively reviews third-party estimates of GHG emissions for discrepancies and outliers.



PCAF guidance recommends calculating a data quality score for scopes 1 and 2 separate from scope 3 scores. Morgan Stanley's data quality score for GHG scopes 1 and 2, in aggregate, was between 3 and 4. For scope 3, the data quality score was between 3 and 4.¹¹

GHG emissions data availability and quality has considerable room for improvement. As PCAF acknowledges, data challenges may impact the ability to calculate and disclose financed emissions for an entire portfolio of loans. It is understood that a financial institution may not initially get to complete coverage, and if that is the case, it should acknowledge this through PCAF's "comply or explain" approach to disclosure. While Morgan Stanley was able to calculate financed emissions for the vast majority of the loans across our three target sectors, data challenges prevented us from calculating financed emissions for a handful of clients.

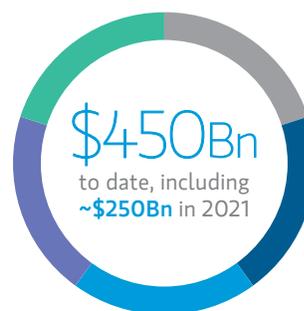
Morgan Stanley is committed to calculating and disclosing our financed emissions using the best available information that will over time give us the ability to increase reporting coverage. Part of this work includes data quality advancements that build on the efforts we utilized to increase 2019 disclosure accuracy and coverage. Our calculation exercise provided constructive insights on how our firm can establish enhanced data governance and internal procedures to improve GHG emissions data quality. As company-level GHG emissions disclosure rates continue to improve, our firm is committed to working with companies, data vendors and other stakeholders to enhance data quality efforts and improve data accuracy.

Supporting the Low-Carbon Transition

In 2021, we tripled our low-carbon financing commitment to \$750 billion, reflecting the increasing urgency of mobilizing capital to address climate change.

Through 2021, we helped channel over \$450 billion into low-carbon financing, including nearly \$250 billion in 2021 alone.

\$750BN BY 2030 LOW-CARBON FINANCING GOAL



clean-tech financing • renewable energy financing
green bonds • low-carbon investments • other

¹¹ Third Party Vendors report or estimate Scope 3 upstream and downstream GHG emissions. In many instances, these figures can vary in derivation. Morgan Stanley took the lower of the Data Quality Scores across the two upstream and downstream data. For example, if a company reported Scope 3 verified upstream emissions (a "1" score), but Morgan Stanley was required to estimate emissions using company revenue (a "4" score), a "4" score was assigned, using the weighted average of outstanding amounts. The weighted average approach using outstanding amounts is recommended by PCAF.

Minimizing Our Environmental Footprint

In 2017, we set an ambitious target to achieve carbon neutrality across our global operations by 2022, and we are well on our way to achieving this goal. Our approach combines sourcing 100% of global operational electricity needs from renewable sources and offsetting any remaining GHG emissions.

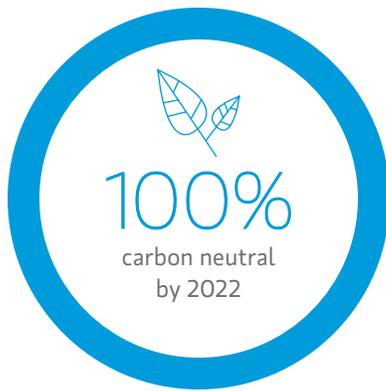
To this end, Corporate Services is exploring on-site power generation, securing power purchase agreements, buying renewable energy credits and pursuing carbon offsets. Details on our recently announced virtual power purchase agreement for North America are on [page 27](#) of this report.

Key strategies to reduce emissions include increasing the efficiency of our infrastructure and using renewable electricity on-site. Through our capital improvement planning, we

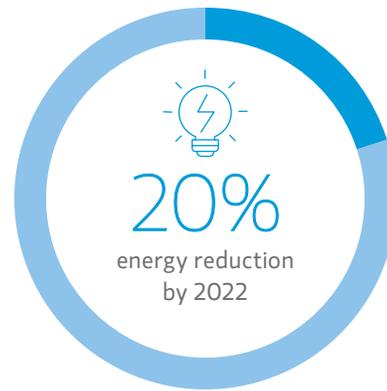
enhance the efficiency of our heating, air-conditioning and ventilation systems (HVAC); strive to reduce the water intensity of our HVAC; focus on plug load management to reduce parasitic losses; and leverage daylighting to improve the employee workplace while reducing lighting loads. Where feasible, we build on-site renewable energy systems and procure certified green energy for local electricity loads.

From 2012 through 2021, Morgan Stanley reduced its overall operational footprint greenhouse gas emissions by over 50%. Our scopes 1 and 2 management initiatives continue to maintain an overall trend of declining emissions, year on year. In 2020 and 2021, the COVID-19 pandemic contributed to reduced scope 2 emissions, via remote working, and reduced scope 3 emissions via travel restrictions. The influence of the COVID-19 pandemic on our emissions reduction is considered temporary.

Sustainability at Work Targets



Achieved operational completion of a wind farm that will account for **50%** of Morgan Stanley's annual global electricity consumption and **30%** of our carbon footprint



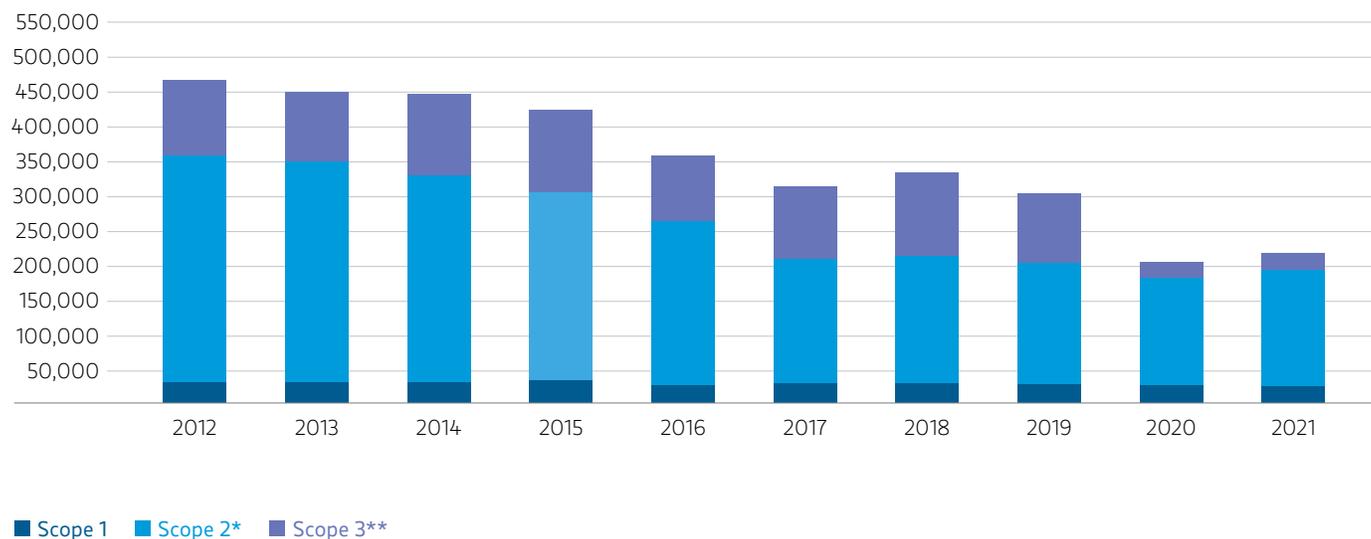
Goal achieved ahead of target, new **25%** reduction by 2025 target set

as of year end 2021

Progress on Emission Reductions¹²

TOTAL EMISSIONS (mtCO₂e)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
SCOPE 1	30,990	30,598	31,257	33,871	27,611	29,459	29,816	28,254	25,422	25,189
SCOPE 2*	326,997	321,436	300,711	272,721	237,082	178,348	183,876	176,164	155,988	166,176
SCOPE 3**	107,967	98,960	117,322	118,903	94,210	106,711	122,004	99,890	21,639	24,127
TOTAL	465,954	450,993	449,290	425,495	358,903	314,518	335,696	304,308	203,049	215,493



*Scope 2 calculated using market-based methodology

**Only includes the following scope 3 categories: business travel and downstream leased assets

Note: The charts above include E*TRADE for 2021 only.

¹² For discussion of emissions data quality, see [Data Limitations and Challenges with Climate Disclosures](#) on page 26 to 27 of this Report, and [Use of Third-Party Information](#) at the end of this Report.

Conclusion



Morgan Stanley continues to make significant strides to address climate risk and pursue new opportunities that assist clients, investors and local communities in the low-carbon transition. Our commitments to achieve net-zero financed emissions, reach carbon neutrality in our operations and mobilize capital toward low-carbon solutions reflect our efforts to drive solutions to transition to a low-carbon economy.

We continue to address climate change, and we continue to make progress in preparing our business activities for a possible new operating environment defined by a warming world. Our path forward will be driven by our four-pillar climate strategy, guided by our commitment to achieve net-zero financed emissions by 2050 and our 2030 interim targets. We will continue to expand our scenario analysis capabilities in order to better inform and integrate climate risk into our business and risk management decisions, and support our clients.

These efforts also require continued engagement with clients, employees, policymakers, climate scientists, data vendors and civil society stakeholders. Through such collaborations, Morgan Stanley will continue to make progress in developing data and modeling solutions that enhance our climate risk assessment activities. For example, our leadership positions in expert industry-led groups like PCAF and NZBA help foster improved measurement and management of our climate risk. Evaluating climate resources and, where appropriate, incorporating them across our business is important to help assure climate risk is considered with respect to transactions, offerings or potential solutions.

We are prepared for the long road ahead to meet our goal and support a low-carbon transition in the coming decades.

FORWARD-LOOKING STATEMENTS

Certain statements herein, including expectations related to financed emissions targets and the achievement thereof, may be “forward-looking statements” within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements are based on management’s current expectations and are subject to uncertainty and changes in circumstances. These statements are not guarantees of future results or occurrences. Actual results and financial conditions may differ materially from those included in these statements due to a variety of factors, including, among others, global sociodemographic and economic trends, energy prices, technological innovations, climate-related conditions and weather events, counterparty and client financial health, insurance applicability, legislative and regulatory changes, and other unforeseen events or

conditions, and the precautionary statements included in this report and those contained in Morgan Stanley’s periodic filings with the Securities and Exchange Commission (SEC) under the Securities Exchange Act of 1934 (Exchange Act). Any forward-looking statements made by or on behalf of Morgan Stanley speak only as to the date they are made, and Morgan Stanley does not undertake to update forward-looking statements to reflect the impact of circumstances or events that arise after the date the forward-looking statements were made. In addition, while the foregoing discussion describes potential future events that may be significant, the significance of those potential events should not be read as equating to materiality as the concept is used in Morgan Stanley’s periodic filings with the SEC under the Exchange Act.

USE OF THIRD-PARTY INFORMATION

In addition, the methodology used to establish financed emission targets and track future progress against such targets utilize emissions information and estimates that have been derived from publicly available information released by third-party sources, which Morgan Stanley believes to be reasonable, although Morgan Stanley has only been able to complete limited validation. Additionally, in the absence of counterparty specific emissions data, some financed emissions will be estimated

using emissions and activity factors provided by third-party sources. Certain third-party information, such as scope 3 emissions and emissions factors, may change over time as methodologies evolve and are refined. These and other factors could cause results to differ materially from those expressed in the estimates and beliefs made by third parties and by Morgan Stanley.

DISCLOSURE

The information and opinions in this report were prepared by Morgan Stanley & Co. LLC, Morgan Stanley Smith Barney LLC and their affiliates (collectively hereafter, “Morgan Stanley”).

This report does not provide individually tailored investment advice. It has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Any securities mentioned are provided for informational purposes only and should not be deemed as a recommendation to buy or sell. Securities discussed in this report may not be suitable for all investors. It should not be assumed that the securities transactions or holdings discussed were or will be profitable. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a Financial Advisor. The appropriateness of a particular investment or strategy will depend on an investor’s individual circumstances and objectives.

Historical data shown represents past performance and does not guarantee comparable future results. Furthermore, this report may contain forward-looking statements and there can be no guarantee that they will come to pass. Indexes are unmanaged and not available for direct investment.

Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no guarantee that it is accurate or complete. We have no obligation to tell you when opinions or information in this report change. The trademarks and service marks contained herein are the property of their respective owners.

This material is not a product of Morgan Stanley’s Research Department or a research report, but it may refer to material from a research analyst or a research report. For copies of reports from Morgan Stanley’s Research Department please go to <https://www.morganstanley.com/institutional/research/MorganStanley>.

Morgan Stanley and its affiliates, Financial Advisors and Private Wealth Advisors do not provide tax or legal advice. Clients should consult their tax advisor for matters involving taxation and tax planning, and their attorney for matters involving trust and estate planning and other legal matters.

Third parties, including charities, mentioned within this material are not affiliated with Morgan Stanley. It is important to note that Morgan Stanley is not guaranteeing the review or diligence of the charities or philanthropic opportunities listed herein. Any mention of the third parties should in no way be considered to be a solicitation or endorsement by Morgan Stanley on behalf of the third parties named. If you choose to support any of the charities or philanthropic endeavors listed or any other charity that you separately identify, we recommend that you evaluate the charity or philanthropic endeavor, and make your own independent decision as to its legitimacy and merits.

Morgan Stanley will not receive referral fees from any of the charities listed herein or for donations from clients. Morgan Stanley is part of a

diversified financial services company with millions of clients in various countries around the world. Morgan Stanley routinely enters into a variety of business relationships for which either Morgan Stanley receives compensation, or pays for services, and such business relationships may include relationships with charities named herein, or with their employees or agents. It is not known whether the listed clients approve or disapprove of Morgan Stanley or the advisory services provided.

By providing a link to a third-party website or online publication or article, Morgan Stanley is not implying an affiliation, sponsorship, endorsement, etc., with the third party or that any monitoring is being done by Morgan Stanley of any information contained within the article or website. Morgan Stanley is not responsible for the information contained on the third-party website or your use of or inability to use such site. Nor do we guarantee their accuracy and completeness. The terms, conditions and privacy policy of any third-party website may be different from those applicable to your use of any Morgan Stanley website. The opinions expressed by the author are solely their own and do not necessarily reflect those of Morgan Stanley. Professional designations mentioned in the articles may or may not be approved for use at Morgan Stanley. Securities, investments, strategies or products mentioned or discussed on the third-party website or online publication are neither an endorsement nor solicitation by Morgan Stanley. The information and data provided by the third-party website or publication is as of the date of the article when it was written and is subject to change without notice. Past performance is not a guarantee of future results.

U.N. Sustainable Development Goals: The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or member states. See <https://www.un.org/sustainabledevelopment/sustainable-development-goals> for more details on the Sustainable Development Goals.

Investing in the market entails risk of market volatility. The value of all types of investments may increase or decrease over varying time periods. Equity securities’ prices may fluctuate in response to specific situations for each company, industry, market condition and general economic environment. Companies paying dividends can reduce or cut payouts at any time.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally, the longer a bond’s maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer.

International investing entails greater risk, as well as greater potential rewards, compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets,

since these countries may have relatively unstable governments and less-established markets and economics. REITs' investing risks are similar to those associated with direct investments in real estate: lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Please note that there is currently no standard definition of "green bond." Without limiting any of the statements contained herein, Morgan Stanley Smith Barney LLC makes no representation or warranty as to whether this bond constitutes a green bond or conforms to investor expectations or objectives for investing in green bonds. For information on characteristics of the bond, use of proceeds, a description of applicable project(s) and/or any other relevant information about the bond, please reference the offering documents for the bond.

Alternative investments are often speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing.

Private Funds (including hedge funds, which are private equity funds) often engage in speculative investment techniques and are only suitable for long-term, qualified investors. Investors could lose all or a substantial amount of their investment. They are generally illiquid and not tax efficient, and have higher fees than many traditional investments.

The investor should note that funds that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

Investment returns will fluctuate so that an investor's shares when redeemed may be worth more or less than original cost. Investors should carefully consider the investment objectives and risks as well as charges and expenses of a mutual fund or exchange traded fund (ETF) before investing. To obtain a prospectus, contact your Financial Advisor or visit the fund company's website. The prospectus contains this and other information about the mutual fund or ETF. Read the prospectus carefully before investing.

The returns on a portfolio consisting primarily of environmental, social and governance (ESG)-aware investments or sustainable investments may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG or sustainability criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria.

ESG strategies that incorporate impact investing and/or ESG factors could result in relative investment performance deviating from other strategies or broad market benchmarks, depending on whether such sectors or investments are in or out of favor in the market. As a result, there is no assurance ESG strategies could result in more favorable investment performance.

The description of Morgan Stanley Impact Quotient® and the reports that it generates are solely for informational purposes. You should not definitively rely upon it or use it to form the definitive basis for any decision, contract, commitment or action whatsoever, with respect to any proposed transaction or otherwise.

The Global Investment Committee is a group of seasoned investment professionals who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks, and recommend model portfolio weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

Morgan Stanley & Co. LLC and Morgan Stanley Smith Barney LLC (collectively "Morgan Stanley") are registered broker-dealers, members SIPC, and not a bank. Where appropriate, Morgan Stanley Smith Barney LLC has entered into arrangements with banks and other third parties to assist in offering certain banking-related products and services.

Eaton Vance and Calvert are part of Morgan Stanley Investment Management. Morgan Stanley Investment Management is the asset management division of Morgan Stanley.

Investment, insurance and annuity products offered through Morgan Stanley are: NOT FDIC INSURED | MAY LOSE VALUE | NOT BANK GUARANTEED | NOT A BANK DEPOSIT | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY





For more information about Morgan Stanley, visit morganstanley.com.

© 2022 Morgan Stanley & Co. LLC and Morgan Stanley Smith Barney LLC. Members SIPC. All rights reserved.