

Considering Climate at BNY Mellon

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About BNY Mellon

BNY Mellon is a global investments company dedicated to helping its clients manage and service their financial assets throughout the investment lifecycle. We power individuals and institutions to succeed across the financial world through a comprehensive suite of investment services and investment management solutions. Whether providing financial services for institutions, corporations or individual investors, BNY Mellon delivers informed investment, wealth management and investment services in 35 countries.

As a significant and trusted global financial institution, BNY Mellon is committed to using our reach, market influence and resources to address pressing global environmental, social and governance (ESG) issues. We must consider the effects our business has on the environment and the people around the world. That's why we strive to uncover new ways of ensuring sustainable economic growth that protects healthy markets and delivers value not only to our clients, but also to communities, businesses, governments and people everywhere.

Wide Reach 48,000 Employing 48,000 people across 35 countries High Market Share

94% Serving 94% of the top 100 banks worldwide

 Solution
 Solution

 30+ years
 years average client relationship length

Longevity

Since 1911 Oldest ongoing relationship commencing in 1911









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Dow Jones Sustainability Indices Powered by the S&P Global CSA The world is increasingly understanding that climate change poses a global challenge. BNY Mellon plays a unique and important role in the functioning of the global capital markets and, given our influence, we have a responsibility to harness our resources to help meet that challenge. Financial institutions in particular, have a dual role – we are both exposed to climate change-related physical and transition risks and possess the ability to impact solutions via our financing activities.

As the vital center of the global capital markets ecosystem, we are committed to deepening our understanding of, managing and monitoring how climate change affects our business and how our business operations effects the sustainability of our planet. This commitment is part of our broader responsibility to manage our environmental, social and governance (ESG) performance – both in how we serve clients with ESG solutions and how we operate and conduct ourselves as a globally significant financial services company.

We committed to support the Task Force on Climate Related Financial Disclosures (TCFD) Guidelines because we believe in the value of corporate disclosure of climate-related risks and opportunities. Across the company, we are formalizing our process to integrate ESG, with a focus on climate change impacts, into the way we do business. This report is our first climate-specific update on that process. We welcome stakeholder feedback as we regularly share our progress.

Momen P. Bostom

Thomas P. (Todd) Gibbons, Chief Executive Officer

Our Approach

"The global community is increasingly learning about the effects climate change can have on human health, wellbeing and productivity. Companies have a responsibility to understand how this in turn affects their stakeholders, particularly employees, and subsequently, manage the associated risks and opportunities. We are committed to taking an enterprise-wide view of ESG, particularly with respect to human capital management, by embedding it in the way we operate."

Jolen Anderson, Global Head of Human Resources

As an integral part of the global ecosystem, the business sector relies on natural resources to operate. As we outlined in the Global Megatrends section of our 2019 Corporate Social Responsibility report, the past ten years were measured as the warmest on record, there has been an increase in the instances of extreme weather events and areas around the globe are experiencing insufficient fresh water supplies.¹ As a global community, we are increasingly recognizing it is imperative for institutions and individuals to make changes in the way we function.

As a key global provider of services to the capital markets, we help channel savings into long-term investments. BNY Mellon is committed to addressing climate-related risks, which often manifest in the long-term, and opportunities throughout our business. In 2019, we signed on to support the Task Force on Climate-related Financial Disclosures (TCFD) guidelines, in part to demonstrate that commitment. Four of the investment firms that are part of our Investment Management business have also signed on as supporters. Additionally, across our business, we maintain numerous affiliations with industry and thought leadership initiatives to support corporate considerations of climate change and climate risk (see the table on the next page).

¹ https://www.noaa.gov/news/2019-was-2nd-hottest-year-on-record-for-earth-say-noaa-nasa

Affiliations with Climate and Environmental Initiatives

	BNY Mellon	Alcentra	Insight Investment	Newton Investment Management	Mellon	Siguler Guff	Walter Scott
Environmental Protection Agency Green Power Partnership ²	-						
CDP ³							
Climate Action 100+							-
Green Bond Principles	4						
Institutional Investors Group on Climate Change (IIGCC)			-	5			
International Corporate Governance Network (ICGN)				6			-
Principles for Responsible Investment (PRI)		-		-	-	-	
Task Force on Climate-related Financial Disclosures (TCFD)		-		-	-		
UK Sustainable Investment and Finance Association (UK SIF)							

We are currently using the TCFD guidelines and other frameworks to formalize the internal integration and communication of risks related to climate change. We used TCFD to establish an initial framework that informed a multi-year project to identify and disclose impacts on our business. Because the four dimensions of the TCFD guidelines (strategy, governance, risk and targets and metrics) often overlap multiple areas of our company,

⁴ Observer status

 $^{^{\}scriptscriptstyle 2}$ National Top 100 as of October 19, 2020

³ Formerly titled the Carbon Disclosure Project, BNY Mellon discloses environmental performance data to CDP while Insight, Newton and Mellon utilize the CDP framework as part of service delivery

 $^{^{\}scriptscriptstyle 5}$ Newton sits on the IIGCC scenario analysis group and resolutions subgroup

⁶ Newton's head of governance is a member of the ICGN Board of Directors

we took the suggested self-assessment questions that were relevant to our business model and aligned them with the areas of the business where climate-related impacts are identified and managed within our company.

We then established an internal TCFD Working Group with ten workstreams based on the areas of climate considerations that impact our company and the business functions that manage them. An executive sponsor, a member of the Executive Committee who oversees the relative area of the business, guides the work conducted in each workstream. In total, some 100 people across our regions, geographies, business lines and functions are involved in the Working Group and our climate-related identification of risks and opportunities and the subsequent disclosure work.

We plan to use TCFD to provide consistent information to investors, lenders, insurers and other stakeholders as we see it as an opportunity for substantive conversations about our analysis, action plans and work to embed climate-related matters into our business strategy. The considerations of climate risks and opportunities is part of our larger body of work to address the integration of ESG into the way we operate and serve our clients.

About This Report and Future Reporting

This report serves to provide an interim update on our project progress. It is not meant to be an exhaustive account of our work but rather, examples of areas where we have initiatives in place related to climate risks and opportunities. The content of this report is categorized by the workstreams in our project plan, which align with the structure of our business.

As we work through the project phases depicted in this section, we plan to incorporate future progress updates in our annual Enterprise ESG Report (formerly titled the Corporate Social Responsibility Report). Given that we are in the process of transitioning the term Corporate Social Responsibility (CSR), "CSR" is used where our work up through the early third quarter of 2020 is referenced and "Enterprise ESG" is used where our work beginning in mid-third quarter of 2020 is referenced. The terms "Corporate Social Responsibility," "CSR" and "Enterprise ESG" all equally refer to the integration of an ESG lens in the way the company operates to identify ESG risks and opportunities. Our CSR annual reports are available on our website in the About Us, Global Impact section.⁷ We plan to issue our first report under the Enterprise ESG moniker in mid-2021.

We welcome your comments about this or any of our reports via the contact form on our website. $\ensuremath{^{8}}$

Management Structure

The work to integrate climate considerations across our business is a part of our larger efforts to embed an ESG lens into the way we operate. The TCFD Working Group is therefore a component of the work driven by the Enterprise ESG team, with guidance from the Enterprise ESG Steering Council.

⁷ https://www.bnymellon.com/us/en/about-us/global-impact.html

⁸ https://www.bnymellon.com/us/en/contact-us/general-inquiries.html

Our Corporate Governance, Nominating and Social Responsibility (GCNSR) Committee of the Board of Directors is the highest level body with purview over climate considerations. The Executive Committee receives reports on the work of the TCFD Working Group and reviews information prior to its presentation to the CGNSR Committee. Our various legal entity boards of directors are consulted for strategic input and presented with updates on a regular basis. The diagram in this section depicts the relationships among the various internal entities.



Internal Workstreams and Reporting Plan

We are developing plans within each Workstream to address the TCFD guidelines based on elements already embedded and additional climate change-focused work that needs to be to be augmented. The initial reporting years listed below are an estimate of the period in which we will be ready to begin reporting the information. As we continue along our journey to embed ESG, and climate considerations across our business, we may adjust our reporting trajectory if necessary. For clarity purposes, we have mapped the TCFD guideline to its TCFD category utilizing a key.

"We are the trusted steward of the global financial markets and our clients' businesses. Given climate change and ESG factors are increasingly affecting business operations, we are committed to ensuring ESG considerations are deeply embedded in our business and product strategy."

Akash Shah, Senior Executive Vice President, Head of Strategy and Global Client Management

Business Function(s)	TCFD Gu G = Governa	ideline nce S = Strategy R = Risk Management M = Metrics and Targets	Initial Reporting Year 2021 2022/23 2023/24		
Enterprise ESG	G	Organizational structure(s) and processes by which management and the Board of Directors are informed about climate-related issues	Pages 6-8		
	S	Process for identification of short, medium and long-term climate-related issues affecting the company with time horizons, broken out by region, line of business and/or legal entity		-	
	М	Metrics and targets used, including key performance indicators (KPIs), timeframes, methodologies, alignment with standards or regulations and year-over-year data where applicable			-
Corporate Governance	G	The process and frequency of reporting to the Board of Directors or a committee(s), how information reaches them and how and by whom it's presented	Pages 11-12		
	G	The type of climate-related information that is presented and how the Board of Directors monitors and oversees progress against goals and targets	Pages 11-12		
	G	Whether climate-related policies, strategies and information are subject to the same governance processes and controls that are used for financial information			
	G	Whether the board and/or committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and business plans		-	
	G	Metrics and targets used to hold management accountable including incentive plans			
Risk Management	R	The integration of climate risk process into enterprise risk management frameworks, emerging risk management and inclusion of actual and/or potential risks	Pages 14-15		
	R	Risk classification definitions, process for defining the scope of risk and identification of transition risks and physical risks and frameworks used			
	R	The significance of climate change in relation to other risks affecting the business			
	R	Management of climate change-related risks including prioritization, materiality decisions, what defines material risk, who is accountable and responsible and internal controls			
	R	Metrics and targets used, including financial loss tolerance			

Business TCFD Guideline			Initial Reporting Year		
Function(s)	G = Governa	ance S = Strategy R = Risk Management M = Metrics and Targets	2021	2022/23	2023/24
Corporate Strategy	S	The process for identification, prioritization and implementation of strategies to leverage opportunities from climate change; list of opportunities			
	М	Metrics and targets used			
Enterprise ESG, Corporate Strategy, Finance,	S	Scenario analysis process, resiliency results and mitigation strategies	Pages 17-18		
Enterprise Resiliency and Risk Management	М	Metrics and targets used	Pages 17-18		
Finance	S	Effects of climate change opportunities and risks on operational costs, capital expenditures and capital allocation, acquisitions or divestments, access to capital, proprietary investment portfolio/general account		-	
	М	Metrics and targets used, including an internal price on carbon, if applicable			
Procurement	S	Integration of climate change factors into supply chain due diligence, policies and procedures			
	М	Metrics and targets used			
Environmental Sustainability	М	Effects of climate change opportunities and risks on facilities management, including environmental sustainability strategy, and financial and efficiency goals	Pages 21-24		
	М	Metrics and targets used for Scope 1, 2 and 3 data (as per environmental sustainability standard definitions), how calculated, timeframes, base year, protocols and methodology used (e.g. Science Based Targets Initiative), include efficiency ratios and year over year data	Pages 21 & 23		
Enterprise Resiliency/	R	Integration of climate change factors into business continuity plans, including strategies, prioritization and mitigation	Pages 19-20		
Business Continuity	М	Metrics and targets used			
Lines of Business/ Product and Service Development	S	Identification, prioritization and implementation of strategies to leverage opportunities related to client product solutions and client service delivery, and mitigate risks such as client due diligence process for each line of business where applicable	Pages 25-33		
	М	Metrics and targets used, including product net revenues, where applicable			

Oversight and Governance

"Because climate change has the potential to impact key business areas, it is imperative that this risk be well-managed and overseen at the highest levels of a company. We are committed to working with our Board of Directors and further enhancing their current role in overseeing our ESG-related efforts, including on climate change."

Kevin McCarthy, Senior Executive Vice President and General Counsel

Our ESG strategy, which addresses, among other matters, environmental-, sustainability-, and climate-related issues, is driven by a clear governance structure throughout our enterprise. This helps to ensure that our operations and activities appropriately align with our overall business goals and cultural values. The highest levels of leadership, including at the Board of Directors level, are actively engaged in considering the integration of ESG across all aspects of our enterprise. As part of these efforts, our ESG governance framework is designed to balance the interests of our varied stakeholders to help inform our policies, practices, reporting and disclosure regarding climate-related issues.

ESG Oversight by the Corporate Governance, Nominating and Social Responsibility Committee

The CGNSR Committee of our Board of Directors, which consists entirely of independent directors, is the primary oversight body of BNY Mellon's Enterprise ESG (formerly, corporate social responsibility or CSR) efforts. The Committee monitors a broad range of activities related to ESG, including climate change and sustainability matters. In particular, the CGNSR Committee Charter⁹ tasks the Committee with the responsibility

"...to oversee [our] operations and programs regarding sustainability and corporate social responsibility, promoting a culture that emphasizes and sets high standards for corporate social responsibility, and review corporate performance against those standards."

To advance this oversight function, the CGNSR Committee regularly reviews, discusses, and provides guidance to management regarding sustainability- and climate-related goals and performance, including as part of its review of ESG matters in general.

ESG Oversight by the Board of Directors

The Chair of the CGNSR Committee reports to the full Board of Directors at every regularly scheduled Board meeting regarding the topics covered by the CGNSR Committee at its previous meeting. In this way, the Board is kept apprised of material developments

⁹ https://www.bnymellon.com/us/en/investor-relations/corporate-governance/corporate-governance-nominatingsocial-responsibility-committee.html

regarding our environmental goals and strategies, can monitor such developments, and can incorporate relevant information into its overall decision-making and strategizing processes as appropriate. The Board is responsible for oversight of BNY Mellon's risk management and compliance framework, which includes consideration for climate change as a risk driver, and exercises this responsibility through two key Board committees: the Risk Committee and the Audit Committee. Risk Appetite Statements and associated key risk metrics to monitor risk appetite are updated and approved by the Board at least annually and monitored on an ongoing basis. For more detail, see the "Risk Management" section of the Management's Discussion and Analysis of Financial Condition and Results of Operations portion of the 2019 Annual Report.

The CGNSR Committee and the full Board are comprised of members that bring a diverse set of skills, background and experience to BNY Mellon, including in the energy and utilities spaces. These outside interests contribute to the directors' exposure to, knowledge of, and engagement with, climate and other ESG matters.¹⁰

Director education courses relating to ESG are included in the regular roster of training opportunities made available to all directors, and the CGNSR Committee expects to implement an ESG-specific director education framework in 2021 to further enhance its understanding of and stay up-to-date regarding ESG matters, including climate change.



2019/2020 Highlights

Members of BNY Mellon's Executive Committee and senior-level Enterprise ESG and ESG Client Solutions team members meet with the CGNSR Committee, on at least a semi-annual basis, to present updates regarding enterprise environmental management, with a focus on environmental and climate-related goal-setting, progress, and strategy regarding our operational footprint, and may also provide other material information such as stakeholder input and peer comparison. In 2019, the CGNSR Committee reviewed

¹⁰ https://www.bnymellon.com/us/en/investor-relations/corporate-governance.html

information relating to environmental sustainability goals set by BNY Mellon, which fell into four categories: energy and greenhouse gas emissions, water, waste, and paper. The CGNSR Committee also discussed progress on these goals, forward-looking goal-setting, and the Company's overall sustainability and environmental management strategy.

Throughout 2020, senior management provided the CGNSR Committee with reports and updates regarding BNY Mellon's environmental sustainability goals and KPIs, including in the context of its review and assessment of the 2020-2025 CSR goal setting process and the development of the Company's 2019 CSR Report. The CGNSR Committee also received reports from senior management regarding the Company's ESG Client Solutions offerings targeted at environmentally responsible investing, including on the basis of climate risk.

In addition, the CGNSR Committee received reports regarding the discussions and outcomes from management's regular engagement efforts with top investors so that feedback regarding climate change and environmental sustainability matters may be used to inform the CGNSR Committee's oversight of the Company's initiatives and impact in this area.

Climate Considerations in Risk Management

"It is important to make intelligent risk-based decisions by identifying, measuring and mitigating risks appropriately to support responsible growth. We recognize climate change as a significant risk driver both now and in the years to come. BNY Mellon is taking proactive action to support sustainable growth and we are committed to evolving our Risk Management Framework to further embed the consideration, impact and management of climate-related risks."

Senthil Kumar, Senior Executive Vice President and Chief Risk Officer

Because BNY Mellon plays a vital role in the global financial markets, effective risk management is critical to our success. Risk management begins with a strong risk culture, our system of values and behaviors that influence the risk decisions made by managers and employees. We reinforce our culture through policies and procedures, along with our Code of Conduct. Our risk culture strategy is grounded in four principles:

- · Leading by Example
- Demonstrating Integrity
- Ensuring Risk Ownership
- Embedding Ethical Behavior

Our business model requires taking on intelligent risk in a responsible and measured manner, and balancing risk relative to return to achieve our strategic objectives and business plans. Because climate-related changes and events can directly impact the company's operations, BNY Mellon is committed to understanding and addressing the risks posed by climate change by employing a comprehensive risk management approach and its existing well-developed risk management framework.

While BNY Mellon's Enterprise Risk Management Framework has always considered the impacts of climate change (i.e. through Operational Risk and Business Continuity/ Operational Resilience; see Enterprise Resiliency section in this report), it continues to evolve to explicitly consider the impacts of climate change-related financial, physical, and transition risks across the corporate-wide portfolio. The impact of climate change risks is increasingly incorporated into business as usual considerations in risk appetite, impact on financial and non-financial risk categories, scenario and stress testing, operational resilience and potential capital and liquidity implications.

Risk Management Framework and Risk Identification

The understanding, identification, measurement and mitigation of risk are essential elements of our risk management framework. The framework is founded upon a strong risk culture that incorporates both effective governance and key risk management elements. A number of risk management activities are prescribed through the Enterprise Risk Management framework. These activities include, but are not limited to:

- Establishing Risk Appetite Statements at corporate, business line and legal entity levels.
- Consideration of all six principal risk categories that form the enterprise risk taxonomy (Strategic, Credit, Market, Liquidity, Operational and Model risks).
- Employing enterprise and business line level risk assessments.
- Utilizing stress testing and scenario analysis.

Our Enterprise Risk Management Framework is evolving to consider the impacts of climate change, for example, through the adjustment of time horizons considered within the framework to account for the extended timelines over which climate-related risks may exhibit impacts. Certain climate change risks can manifest over a multi-decade horizon, and we recognize that these longer timescales are one of the aspects that differentiate climate change risk from other more traditional risk drivers.

BNY Mellon has adopted the "Three Lines of Defense" model in deploying its risk management framework. The first line of defense (1LOD) is the business. The business takes and owns the risk associated with activities, and it manages the risks and the related control processes and procedures on an operational basis. The Risk Management and Compliance functions are the second line of defense (2LOD) and own the enterprise-wide risk management and Compliance frameworks and provide independent oversight of the 1LOD, ensuring that all elements of the frameworks and policies are adhered to and challenged. The third line of defense (3LOD) is Internal Audit, which independently provides The Bank of New York Mellon Board of Directors and senior management with the assurance that the governance structures, risk management and internal controls are effective.

Risk Taxonomy. To ensure risks are consistently identified and categorized across the company, BNY Mellon employs an enterprise wide risk taxonomy that considers risk across the categories of Strategic, Credit, Market, Liquidity, Operational, and Model risks. This enterprise risk management approach enables consistent risk identification across the company. Through this existing framework, climate change-related financial, physical and transition risks are currently being assessed as risk drivers impacting across all risk types.

Risk Appetite. BNY Mellon's Risk Appetite expresses the aggregate level of risk we are willing to assume, within risk capacity constraints, in order to meet strategic and business objectives. We determine risk appetite by balancing risk and return, considering regulatory, capital and liquidity needs and maintaining a balance sheet that remains resilient throughout market cycles.

Our risk appetite guides risk-taking activities and informs key decision-making processes, including the manner by which we pursue our business strategy and the method by which we manage risk. The Risk Appetite Statement and associated key risk metrics to monitor risk appetite are updated and approved by the corporate Board of Directors at least annually and monitored on an ongoing basis. Our Risk Appetite Statement currently allows for the monitoring and measurement of the potential impact of climate change risks as a risk driver across all six enterprise risk categories. As part of the evolving approach to managing climate change-related financial, physical and transition risks, the Risk Appetite Statement is being further developed to include more explicit references to the firm's appetite in relation to climate change and how the associated risks are being measured, managed and mitigated.

Risk Materiality. The BNY Mellon Enterprise Risk Management Framework employs a materiality matrix, which is an enterprise-wide, risk-specific benchmark that provides a consistent measurement mechanism for assessing risk likelihood, significance and impact. The matrix is an integral part of a number of Enterprise Risk Management Framework elements, including the Risk and Control Self-Assessment (RCSA) process, which is one of the primary tools for operational risk identification, assessment and management. The materiality matrix ensures that risk impacts are assessed across a range of financial and non-financial potential impacts, both at an inherent and residual level, combined with the likelihood of their occurrence. Through this mechanism, risk materiality can be consistently measured across the enterprise and subsequent decisions can be made regarding prioritization and mitigation. Risks associated with climate change are assessed using this common benchmark along with all other risk drivers.

Our credit risk management processes illustrates how climate change is embedded as a risk consideration. Specific assessment of credit risk related to climate change is currently focussed on the assessment of country risk. The Country Risk team completes ratings for each sovereign based on a broad range of criteria. Incorporated into this assessment are ESG factors, which encompass climate change. Where ESG factors are particularly pertinent to a sovereign, the rating assigned may be materially impacted.

BNY Mellon is further enhancing its Credit Risk Management Framework to assess the environmental impact of its loan book, adopting a qualitative and quantitative approach. We plan to assign each counterparty in our loan book an environmental score based on data sourced from an industry leading, third party, data provider. This will be used to quantify and monitor BNY Mellon's loan book exposure from an environmental perspective, which will serve as a proxy for climate change.

Stress Testing

Climate change as a risk driver was considered across different BNY Mellon capital stress scenarios in 2020. For example, climate was taken into account through the Comprehensive Capital Analysis and Review (CCAR) war gaming process and through various legal entity Internal Capital Adequacy Assessment Process (ICAAP) processes. The inclusion of climate change as a risk driver in the stress testing scenarios supports BNY Mellon's risk identification, risk assessment, capital and financial planning and informs our business strategic planning processes.

Many of the effects of climate change are expected to manifest over a multi-decade time horizon, including global, regional and local implications of rising temperatures. However, some impacts are expected to have a shorter time horizon, such as natural disasters.

BNY Mellon considered the initial impacts of climate change on the capital profile by assessing financial stresses¹¹ across various industries while maintaining static client and corporate behaviors. Climate change impacts were also considered indirectly through the materialization of operational risks, such as system outages caused by natural disasters in various locations. The full impacts of climate change, however, will require longer timeframe considerations than ones generally used in our current stress tests. Therefore, we are currently in the process of developing more comprehensive stress tests.

The Bank of England's Prudential Regulatory Authority (PRA) issued a report on the impact of climate change, identifying climate as a potential risk arising from parties that have suffered loss or damage from physical or transition risk factors.¹² Therefore, the risks from climate-related liabilities can be of particular importance to firms given these risks can be transferred.

Accordingly, the PRA proposed three scenarios for companies to consider when stressing climate change. While The Bank of New York Mellon (International) Limited, our UK-incorporated bank, does not specifically align to the PRA's publication target audience (i.e. the insurance industry), the scenarios proposed were considered applicable and were leveraged by our UK Bank as a benchmark for an initial climate change assessment. The scenarios include:

- Scenario A: A sudden transition (within five years), ensuing from rapid global action and policies, materializing over the medium-term business planning horizon, results in achieving a temperature increase maintained below two degrees Celsius (2°C) (relative to pre-industrial levels) but only following a disorderly transition.
- Scenario B: A long-term orderly transition (over 30 years) that is broadly in line with the Paris Agreement, which involves a maximum temperature increase maintained well below 2°C (relative to pre-industrial levels) with an economic transition in the next three

¹¹ Industry stresses were sourced from industry research papers

¹² Life Insurance Stress Test 2019 – Scenario Specifications, Guidelines and Instructions, 18 June 2019 https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/letter/2019/life-insurance-stresstest-2019-scenario-specification-guidelines-and-instructions.pdf

decades to achieve carbon neutrality by 2050 and greenhouse-gas neutrality in the decades thereafter.

• Scenario C: Failed future improvements in climate policy, reaching a temperature increase in excess of 4°C (relative to pre-industrial levels) by the year 2100, with the assumption of no transition and a continuation of current policy trends.

The PRA provided an indicative list of references against each sector to derive the shock parameters. The list of references provided was purposely not exhaustive and only indicative to help companies commence their background research. See the table below.

		Scenario A Transition/Physical	Scenario B Transition/Physical	Scenario C Transition/Physical
Extraction	Gas/Coal/Oil	-45%	-40%/-5%	NA/-20%
Generation	Gas/Coal/Oil	-65%	-55%/-5%	NA/-20%
Transport	Automotive/ Marine/ Aviation	-30%/NA	-18%/-5%	NA/-10%
Energy Intensive	First order processing of chemicals, cement, iron etc.	-35%/NA	-25%/-10%	NA/-20%
Agriculture	Agriculture, forestry, fishing etc.	-65%/-5%	-50%/-10%	NA/-20%
Real Estate	Change in property value	-20%/NA	NA/-30%	NA/-60%
Sovereigns & Municipal Bonds	Credit Rating downgrades	-20bp	-30bp	-20bp

Change in equity value for sections of investment portfolio

Using the above guidance provided by the PRA, the UK Bank has performed initial sensitivity analysis exploring the financial impacts on its fee income and additional capital requirement. Given the UK Bank's existing operating model, its dependency on BNY Mellon and its client base, severe shocks to the global equity market were considered. Initial internal assessments, captured in the UK Bank's ICAAP, concluded the subsidiary's capital levels would continue to exceed regulatory and internal requirements given the assumed climate-related stresses.

These initial assessments will now be further enhanced to reflect BNY Mellon's client and business exposure. This future assessment will help BNY Mellon better understand the impacts climate change would have on our business, as well as the impact our business could have on the climate.

The advancement of BNY Mellon's stress testing capabilities is supported by ongoing dialogue with multiple stakeholders including clients, regulators, peers, employees and industry forums to help drive a comprehensive and current approach when conducting climate risk assessments, scenario analysis and subsequent disclosures.

Climate-related Enterprise Resiliency

"The impacts to buildings and infrastructure from climate change are becoming increasingly apparent. As a company with a global footprint, we're committed to managing and monitoring the potential climate-related impacts as part of our resiliency plans, which help prepare us to maintain business continuity in the face of disruptions."

Bridget Engle, Chief Operations and Technology Officer

Enterprise resiliency, which is defined as the firm's ability to prevent, respond to, recover and learn from operational disruptions, is a critical component of BNY Mellon's overall business strategy. BNY Mellon's Enterprise Resiliency Office (ERO) aligns, centralizes and integrates our resiliency disciplines and capabilities to deliver a coordinated approach to Incident and Crisis Management, Business Continuity and Disaster Recovery.

Through the ERO, BNY Mellon maintains a formal Business Continuity Program focused on enabling and building response capabilities necessary for navigating through business disruptions. The Business Continuity Program is implemented through an "all-hazards" planning approach with an objective of reducing inherent risk and maintaining the up-time and continuity of our business services in the event of a disruption, regardless of the cause.

BNY Mellon recognizes that climate change increases inherent risk, requiring additional compensating controls and solutions to counter the increasing frequency and severity of climate-related events that challenge the resiliency of our business. As part of our planning, we take the following climate-related risks and challenges into consideration:

- Rising sea levels in areas where BNY Mellon has a significant number of employees, such as New York City, London, Houston, Chennai, Hong Kong and Singapore.
- Increased frequency and severity of natural disasters, for example, storms, wildfires, and droughts, and the subsequent political, economic and government instability associated with these challenges.
- Increased stress on public utilities which is often exacerbated by growing demands, combined with the impacts from storms and natural disasters.

BNY Mellon mitigates these additional risks and challenges by implementing various solutions that aim to maintain continuity, such as:

- Exercising cross-regional work shift strategies, in the event of wide-area disruptions, as part of our Business Continuity Planning.
- Geographically diversifying our physical locations, including office facilities and data centers.
- Hardening our physical locations to better endure physical damage caused by natural disasters.
- Maintaining appropriate engagement with government agencies in jurisdictions where we have a physical presence to facilitate timely exchange of relevant notifications and other emergency management information.

BNY Mellon's Incident and Crisis Management team, working together with others in ERO and throughout the organization, regularly monitors for incidents that could result in a disruption, including the climate-related natural disasters highlighted above. This monitoring aims to limit potential impact and disruption by supporting a timely response to, and effective management of, these types of incidents.

Environmental Sustainability

"Impacts from climate change can have a financial impact – from infrastructure to human health to financial markets. We're committed to considering the opportunities and risks related to climate change in sustainability initiatives and financial planning, and deepening our capabilities to do so."

Emily Portney, Chief Financial Officer

Approach

We are committed to improving our environmental impact and addressing climate-related risks and opportunities through an approach to sustainability that spans our business, including a focus on the management of global operations and our commercial real estate portfolio across 35 countries. To that end, we set reduction targets for energy and greenhouse gas emissions (GHGs), waste diversion, paper usage and water usage.

In our 2019 CSR Report, we issued new 2025 environmental sustainability targets, which were approved by our Executive Committee and the Board of Directors. Progress is analyzed and regularly reported, driving thoughtful resource efficiency, clean energy and advocacy initiatives. As a result of our actions and disclosures, we have been named to the CDP Climate Change A List for eight consecutive years.¹³

Targets



Performance Data

BNY Mellon measures and reports on environmental data in numerous dimensions, including third-party verified greenhouse gas emissions. We publish our figures annually in the CSR Report. Below is a snapshot of our most recently published data from the 2019 CSR Report.¹⁴

2019 Achievements

58% GHG emissions reduction¹⁵
Achieved carbon neutrality in operations¹⁶
68% of waste diverted from landfills
45% paper usage reduction¹⁷
11% reduction in water use¹⁸
200 tons recycled or properly disposed technology waste

Building Certifications

56% of occupied real estate with third-party green certifications 42 LEED certifications 89% ISO-14001 certified facilities¹⁹

¹⁴ See pages 71-75, 99 and the GRI Index for details https://www.bnymellon.com/us/en/about-us/global-impact/enterprise-esg/csr.html

¹⁵ Since 2008, excluding data centers

¹⁶ For Scope 1 and Scope 2 greenhouse gas emissions, including our data centers, as well as Scope 3 business travel emissions

¹⁷ Since 2014

¹⁸ Since 2015

¹⁹ Europe, the Middle East and Africa (EMEA) region

Scope	2018 (Baseline)	2019	% Reduction
Scope 1: (direct emissions, such as oil and gas combustion)	8,005	8,102	
Scope 2 (Location Based): (indirect emissions, such as electricity)	142,152	130,205	
Scope 1 & 2 Total	150,157	138,307	8%
Scope 3 Business Travel	17,194	14,605	
Scope 1, 2 & 3 Total	167,351	152,912	9%

2019 Greenhouse Gas Emissions (Metric Tons CO₂e)

2019 Operational Energy Use (Gigawatt Hours)

	2018	2019	% Change
Fuel Consumption	38.2	38.1	-0.2%
Steam Consumption	11.0	10.2	-7.1%
Electricity Consumption	311.7	303.6	-2.6%
Total Energy Use	360.9	352.0	-2.5%

Facilities Management Operational Response to Climate Risks

BNY Mellon recognizes that climate change is amplifying operational risk exposure due to disruptive weather patterns and events. Additionally, precipitation and temperature extremes including floods, fires, and storms prompt companies to ensure strong management and that resiliency plans are in place. Responses to these events have implications for operational stability and, more broadly, the reputation of the industry.

Our enterprise resiliency program addresses physical infrastructure risks through investments in emergency power generation, flood planning, geographically-distributed workforce balancing, and backup systems in technology and data centers. Potential climate-related impacts such as chronic sea level rise, stress on public utilities, weather events, shifting government regulations, and social and economic instability are evaluated in locations where BNY Mellon operates. Acute physical dimensions including seismic properties, exposure to storms, and 500-year floodplain evaluations (zones that have a one in 500, or 0.2% chance of experiencing a flood occurrence in a given year) are assessed as potential risks that should be mitigated, and are addressed as necessary. For example, at BNY Mellon's Corporate Headquarters in NYC, a flood resiliency project included hydro barrier installation planning, the elevation and relocation of electrical systems, and the installation of additional pumping equipment. Backup power generation is considered and installed at various locations, and our data centers are sited to minimize climate-related risks and proximity to other potential physical risks.

BNY Mellon incorporates climate risk-management strategies into its operational controls and, because the implications of climate change are evolving, we will continuously evaluate potential emerging impacts and develop corresponding appropriate actions.

As a result, we intend to further explore the landscape of climate impacts on our operations by taking two key steps. First, we will conduct a detailed climate risk and scenario-based resiliency assessment of our real estate portfolio in both its current and future states. This will more fully identify emerging issues, outlining the investments necessary to address potential risks.

Second, based on the results of this assessment and associated recommendations, we will review and update relevant internal policies as necessary to address potential risk assessment findings, for example, those related to the construction of new spaces, specific geographic analysis approaches, backup power generation systems, flood hardening and/or existing equipment maintenance procedures.

Climate-related Solutions to Serve Clients

"Guided by our corporate purpose, we are committed to helping clients manage their ESG-related risks and opportunities, including those related to climate, by continuing to develop and offer ESG solutions that (i) help them invest responsibly, (ii) provide them with global reach and the data and analytics to make better informed responsible investment decisions, and (iii) enable sustainable debt and equity financing."

Hani Kablawi, Chairman of International

Asset Servicing and Digital

Our clients require us to respond to their needs as they relate to ESG factors, including climate. We are increasingly helping them to take advantage of the investment opportunities available that address the mitigation of climate-related and other ESG risks.

Due to the systemic structural impact that climate change presents on the financial markets, our clients are increasingly focused on how to invest or create products that help to mitigate climate-related risk or align to new opportunities associated with green or climate-positive impact investment. For example, divesting in sectors, such as coal mining, where assets may become stranded with a shift to a more sustainable global economy, or investing into renewable energy or green infrastructure, either directly, or indirectly through green bonds.

Our clients also have to meet the demands of regulators and end-investors, who are focused more and more on sustainability and ESG themes. In conversation with asset managers and asset owners alike, we increasingly find ourselves advising clients about how they can demonstrate their investments reflect either the ESG preferences of their end-investors, or that they account for ESG factors as outlined in their investment policies.

There are a number of data industry-related issues associated with meeting these needs, including a lack of transparency, a proliferation of often conflicting data, a lack of standardization and imperfect and incomplete data. This makes determining what data to use and trust, and ultimately understanding the impact of specific factors and investment decisions on outcomes, extremely challenging.

Having identified an industry gap in ESG data analytics capabilities to adequately meet the needs of investors that are seeking transparency and ways to demonstrate the inclusion of ESG in their products and portfolios, BNY Mellon has developed a range of ESG data and analytics solutions. These solutions are designed to aid transparency, helping our clients to achieve a comprehensive understanding of the ESG factors in their products and portfolios.

With regard to climate, our ESG asset servicing solutions offer the ability to drill-down into specific climate-related metrics, to help inform investment decision-making and aid meaningful reporting. In particular, our ESG Data Analytics Application offers the ability to:

- Focus on the sustainability criteria that match their, and their end-clients', own priorities with customizable investment portfolios to match their individual preferences.
 Additionally, rigorous data governance and peer behavior feedback loops can be used to guide the user's selection of environmental factors to construct custom investment portfolios.
- Use crowd sourced insights based on the activity from the community of users anonymized and provided in aggregate to identify the most commonly searched environmental themes, the most commonly used environmental factors and the most commonly accessed environmental data, helping investment teams to effectively interpret investors' preferences. These insights contribute to shaping best practices in the absence of commonly accepted sustainable investing standards.
- Understand whether specific environmental or climate-related metrics are the intended outcomes of deliberate actions within the investment process. The ESG Data Analytics application supports intentionality, enabling managers to review companies that report on certain factors and integrate them into a portfolio while incorporating benchmark data.

Our ESG Analytics service provides exposure and investment return analysis by offering the following:

- Scoring equity and corporate fixed income investments at the portfolio and security level against ESG criteria and norms-based principles, to support portfolio exposure and investment performance analysis.
- Portfolio asset positions that are combined with a rich set of ESG and other sustainability metrics to provide institutional investors with a comprehensive view of portfolio performance against sustainability measures. The sustainability metrics are sourced from Arabesque,²⁰ a premier provider of sustainability metrics that utilizes machine learning and big data capabilities to track over 7,000 of the world's largest corporations.

²⁰ Arabesque and S-Ray are registered trademarks of Arabesque

Depositary Receipts

In 2016, our Depositary Receipts business developed an ESG advisory offering to support our clients, who have roles as issuers of corporate data, in navigating the evolving ESG landscape. At the time, our clients were learning about ESG and attempting to respond to the rapid development of ESG products and the growing capabilities of the investment community, research providers and indices. BNY Mellon was at the forefront in the introduction of these services to corporate issuers. Four years later, we remain the only depositary receipts bank, of which we're aware, providing an ESG offering, one that we continue to enhance every year.

Over the years, we have refined our ESG advisory capabilities, working to identify what is of value in the space, both to issuers who are early in their ESG and sustainability development, and to those with strong ESG and sustainability programs. With clients from more than 50 countries, we support issuers domiciled in both emerging and developed markets with a range of climate impact profiles.

Two key components of our capabilities include education and timely research. We work both directly with individual issuers to deliver dedicated education courses and more broadly through industry-wide events. Throughout 2020, from the outset of the COVID-19 pandemic, we have adapted and delivered education programs and our research virtually, presenting a series of webinars reaching nearly 600 participants globally. We delivered webinars on such topics as "2020 ESG Issues to Watch," "Best Practices in Disclosure on Gender Diversity," "Responding to Covid-19 with Clear Communications," and "ESG and the Earnings Call: Integrating Long-term Thinking into Short-term Discussions." While these topics span the full ESG landscape, corporate issuers that have specific climate concerns related to their operations are also able to take away information relevant to their sector and region.

Beyond education and research, an additional critical area of client support is facilitating engagement between issuers, investors and key ESG intermediaries. Our team engages directly with investors so that we can ascertain how they incorporate ESG and climate

Case Study: Mega-Cap Oil & Gas Company

We have assisted a client in this space since 2016, helping them understand the specific needs of investors for climate and carbon disclosure and how to improve their materials. We reviewed their investor presentations and sustainability disclosures for completeness, messaging effectiveness and clarity, and provided information on specific large investors and their processes for evaluating this information. factors into their investment approach and feed that back to clients. We engage investors on a variety of climate-related issues, depending on our client's exposure to climate change, including carbon emissions, deforestation and water scarcity. Our insights, using the research we have conducted or sponsored, helps clients understand investor expectations. In this way, we play a valuable role in facilitating our client's understanding of their climate impacts.

Looking to the future, we seek to actively support the evolution of ESG in significant new markets such as Saudi Arabia, Brazil and China, among others. In tandem, we are helping issuers in developed markets navigate an increasingly complex environment as regulators and investors increasingly focus on ESG. Our incorporation of environmental disclosure needs, alongside other ESG disclosure topics, not only facilitates our commitment to our clients, but also our own commitment to leveraging climate-related opportunities and mitigating our impact on the environment.

Case Study: Large Cap Pulp and Paper Company

With a robust sustainability program, this client was looking to communicate their achievements to the market. We advised them how to meet investors' needs for specific KPIs for ESG in Investor Relations materials and how to connect their strong sustainability team to their investor relations function.

"BNY Mellon's Global Investor Relations Advisory team has been instrumental in helping us improve our ESG disclosure, which is a great help for our MSCI ESG rating to improve a full grade since last year. We appreciated the team's help with engaging ESG ratings agencies, and guidance on disclosures that demonstrate our strengths. This has allowed us to create a more proactive, cohesive sustainability strategy."

Juan Lin Director, Investor Relations, Baidu

We Support Clients in Four Key Areas:

Education and Benchmarking	Engagement Policy and Strategy	Intermediary Engagement	Investor Engagement
 We help clients identify material themes within their peer group and industry including: Company-specific ESG ratings Peer benchmarking reports Sector trends Regional trends 	 We help clients develop a roadmap to assist in: Understanding investors' specific ESG concerns Reviewing internal ESG practices Enhancing communications efforts with investors and other relevant stakeholders 	 We help clients understand and engage with key players, including: ESG ratings providers Sustainability index providers Specialized firms and associations Proxy advisors 	We help identify investors that have embedded active ESG criteria into their investment processes and facilitate engagement with them. We help clients understand the ESG priorities of top shareholders and facilitate engagement with the right people at these firms

Corporate Trust

BNY Mellon helps support issuers in raising capital through the growing green bond and new blue bond markets. By administering debt securities that fund projects with environmental benefits, we help to advance society's transition to a more sustainable future while creating financial value. In 2019, we administered more than 100 green bond issuances, garnering a market share of 15% in deal value.²¹ We have been appointed by Korean securities broker Mirae Asset Daewoo to service the first-of-its-kind sustainability bond in Korea, the Republic of Seychelles to service the world's first sovereign blue bond and by the New York Metropolitan Transportation Authority, the Massachusetts Clean Water Trust, Mid-American Energy Company, Boston Properties and Northern States Powers Company to underwrite their green bond issuances. We also act as a listing agent for issuers listing securities on the Luxembourg Green Exchange, a platform exclusively for 100% green, social, sustainable or ESG-focused securities. For more information about our involvement in green bonds, see Financing a Sustainable Future in our 2019 CSR Overview Report.²²

 $^{^{\}rm 21}$ Data as of the first half of 2020, Dealogic, Thomson Reuters

²² https://www.bnymellon.com/us/en/about-us/global-impact/enterprise-esg/csr.html



²³ Reflective of BNY Mellon Corporate Trust deal counts as of the first half of 2020, Dealogic, Thomson Reuters

Investment Management

"Climate change can impact markets and financial stability in ways that are not yet fully understood. Better disclosure is vital to asset managers as we assess investment risks and opportunities. We are committed to helping clients better understand the effects of climate change on their portfolios."

Hanneke Smits, Chief Executive Officer, BNY Mellon Investment Management

As a multi-investment firm model, BNY Mellon Investment Management consists of eight investment firms, each with its own style, strategy and investment management teams. As of December 31, 2019, we managed \$130.4 billion in assets that we classify as responsible investments; these assets incorporate values-based ESG screens, ESG themes, impact criteria, and/or are presented as ESG-integrated.²⁴ Six of our firms are Principles for Responsible Investment (PRI) signatories and four have committed to the TCFD Guidelines.

BNY Mellon works to address climate change and other societal challenges through our responsible investment solutions and services. We believe ESG, and the "E" within it, offers unique opportunities to serve clients with the innovative solutions described in this section.

Spotlight on Insight Investment

As a founding signatory to the PRI in 2006, and a long-standing participant in initiatives such as the IIGCC and CDP, Insight has long sought to identify, analyze and engage on all material ESG risks, including climate change.

As part of this commitment, Insight, a BNY Mellon company, encourages compliance with the TCFD Guidelines, to which we signed on to support in 2018. We believe investors must work to identify those corporate issuers that are managing their climate risks optimally and engage through stewardship meetings with those that are not. Companies' improved transparency is a benefit to investors as it facilitates informed decision-making. In particular, the disclosure of climate-risk information, which can be material particularly over the longer term, is of great importance. We welcome recent efforts by governments to introduce formal climate change disclosure requirements.

A key highlight in our efforts to manage climate risks for our clients was introducing the Insight climate risk model in 2017, which we believe to be the investment industry's first comprehensive ranking of fixed income corporate credit issuers. Aligned with the TCFD framework, the model rates over 1,800 issuers based on how they manage climate

²⁴ This number includes assets classified as responsible investment, which includes exclusionary screening, positive ESG screening, ESG thematic, impact and ESG integrated assets under management (AUM).

change-related risks and opportunities, and how they are positioning themselves for the transition to the low-carbon economy. We use our proprietary climate scores to monitor companies' progress on climate action, evaluate issuers more systematically and engage with issuers on their climate-related activity impact.

The model, which was updated in 2021 with physical risk climate data, derives scores by considering over 100 individual metrics across broad categories consistent with the TCFD framework: governance, strategy, risk management, and targets and metrics. Also identified are leading and laggard performance across all industries. As a result of its creation, we found that while credit risk from climate-change can be significant, poor disclosure can make it difficult to discern how a company is performing against this responsibility.

Our quantitative methodology is one way we help to manage climate risks. We also provide our clients with greater transparency on climate risks for portfolio considerations through carbon footprint reporting, and provision of KPIs and scores. Beyond climate risk, we support clients in seizing investment opportunities as we ourselves are significant investors in green bonds. This offers clients related expertise as they seek to allocate their investments in this burgeoning asset class.

Spotlight on Newton Investment Management

Led by then CEO Hanneke Smits, currently the CEO of Investment Management for BNY Mellon, Newton Investment Management, a BNY Mellon company, committed to support the TCFD Guidelines in 2017 and issued the first report in 2018.²⁵ TCFD is aligned with the company's purpose — in short, to improve people's lives through investment that helps foster a healthy and vibrant world. In Newton's second report issued in 2020,²⁶ Smits said the commitment was "to ensure we hold ourselves to the same standards as our investee companies, and specifically to explain how we were considering, and preparing for, the risks and opportunities presented by climate change." Newton is also committed to engaging with heavy carbon emitters to encourage them to plan for the transition to a low-carbon world, and to providing clients with transparent climate-related information. Newton believes TCFD will be incorporated into regional regulations, therefore, our support and reporting efforts now, will be a means of preparing for future client needs.

Newton utilizes TCFD Guidelines across the entire business — both in the way we operate and as part of our investment framework. Because TCFD brings a common language, taxonomy and transparency to a complex issue, Newton believes it adds value to both the investing process and the operations of the company. Newton created a climate-change focus group within its investment team to address the integration of climate-related risks and opportunities into the investment process.

²⁵ Newton Investment Management Taskforce on Climate-related Financial Disclosures Report, October 2018

²⁶ Newton Investment Management Taskforce on Climate-related Financial Disclosures Report, April 2020,

https://www.newtonim.com/uk-institutional/special-document/tcfd-disclosure-report

Portfolio managers and analysts in this group are charged with the interpretation of scenario analysis, tracking and analysing climate-related policies, better understanding physical and technological risks and identifying related opportunities for clients' investments.

Newton utilizes a thematic framework in our approach to investing. Among the nine themes that Newton believes are instrumental in shaping the investment landscape, "Earth Matters" is one, relating to a wide array of environmental concerns such as climate change, pollution and resource depletion. Solutions to these issues require innovation and action from companies, policymakers and individuals. Newton believes companies who understand that, and take action to facilitate the transition to a more sustainable system, are likely to offer attractive investment opportunities.

Newton's commitment to environmental conservation extends to our product line with the launch of a range of sustainable strategies three years ago. A key element of the sustainable range is our "climate change red-line" where we actively avoid investments that are incompatible with achieving the Paris Agreement and limiting global warming to no more than 2°C. Building on our long heritage as thematic investors, we recently launched a range of thematic strategies, with one explicitly focused on companies contributing to the future well-being of the planet.

Newton is a signatory to CDP (formerly, the Carbon Disclosure Project) and the Transition Pathways Initiative, and a member of the Science Based Targets Initiative (SBTi) Expert Advisory Group, the Climate Action 100+, and the Institutional Investors Group on Climate Change. For more information about how Newton is mitigating climate-related risks and leveraging opportunities, see Newton's TCFD Report.²⁷ For more information about how Newton carries out our duties as a trusted steward, read Newton's Purpose Statement.²⁸

²⁷ https://www.newtonim.com/uk-institutional/special-document/tcfd-disclosure-report

²⁸ https://www.newtonim.com/us-institutional/special-document/newton-purpose-statement-us

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