Sustainable Investing Philosophy

We believe appropriate management of environmental, social and corporate governance factors can create long-term shareholder value for Northern Trust as an investment management firm as well as a publicly traded company.

We align our business with the fundamental principle of sustainability, meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. Our definition of sustainable investing acknowledges that the long-term financial success of our clients and shareholders is dependent on a healthy global environment, a stable society and well-functioning, well-governed companies. As such, we view the integration of environmental, social and governance factors in investment analysis as a key part of our responsibility as asset manager. In our daily operations and strategic planning, we strive to mitigate our environmental impact and improve the social and governance procedures involved in managing assets on behalf of investors. Sustainable investing is based on the philosophy that environmental, social and governance analytics can help mitigate risks or capture new opportunities by complementing quantitative or fundamental investment management techniques.

Material environmental, social and governance issues are business issues; when managed well, these factors can position a company for success. When managed poorly, they can lead to negative externalities that can result in reputational and financial risk. With integrity as the cornerstone of our investment thesis, we direct capital towards value creation through innovative products and services, effective diversity and strength in environmental stewardship. By incorporating a range of available tools and approaches to holistic portfolio construction and our stewardship activities, our capabilities encompass a wide spectrum of sustainable approaches, from exclusionary to integration to thematic.

“At Northern Trust, we believe organizations with a demonstrated commitment to corporate social responsibility and sustainable investing create greater value for shareholders and key stakeholders.”

Mike O’Grady
President and Chief Executive Officer

Mamadou-Abou Sarr
Director of Product Development and Sustainable Investing, Northern Trust Asset Management
As a leading investment manager and financial service provider, we recognise our additional influence and responsibility to the broader market. We are committed to expanding our understanding of sustainable investing concepts and their effects on economic value, integrating sustainability into investment decisions and encouraging the companies in which we invest to pursue and disclose sustainable business practices. As part of the investment process, we engage with the management teams of potential portfolio companies in discussions regarding their long-term strategies, corporate governance, the sustainability of their business models, management incentive arrangements and alignment with their plans for maximizing shareholder value.

Our strategy value drivers help create additional value for our shareholders and key stakeholders by integrating a strong corporate social responsibility ethos alongside offering sustainable investing solutions across asset classes. At the corporate level, we have defined a set of objectives with a short-term target of the year 2020 and the long-term objective of continuously improve our standards in line with best market practices.

Our 2020 goals are the following:

- Reducing our scope 1 and scope 2 carbon emissions by 25%
- Increasing partner volunteering hours by 5%
- Following the UK Women in Finance charter with the goal of having at least 35% of women in UK senior management
- Measuring progress of the UK Modern Slavery Act Program
- Increasing the introduction of sustainable investing objectives in our proxy voting policy guidelines

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climate risk distinguishes industry leaders from industry laggards and affects stakeholders broadly. Responsible stewardship is a critical step in ensuring that the capital entrusted to us is working on behalf of our clients to create value and mitigate risks as we work towards financial, environmental and social sustainability. Examples of factors that feature in our sustainability analysis are below:

<table>
<thead>
<tr>
<th>Environment</th>
<th>Social</th>
<th>Governance</th>
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<tr>
<td>Environmental Impact</td>
<td>Diversity</td>
<td>Corporate Sustainability</td>
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<td>GHG Emissions and Fracturing</td>
<td>Equal Employment Opportunity</td>
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<td>Energy Efficiency</td>
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GLOBAL SUSTAINABLE INVESTING TEAM

Within Asset Management, Northern Trust has dedicated resources focusing on the integration of sustainable investing factors across our investment processes.

Northern Trust has developed in-house, specialised expertise through our long-term commitment to social, environmental and financial integrity. The Sustainable Investing team is responsible for environmental, social and governance (ESG) research, innovation, product development and product management across our array of asset class capabilities. It has a key role in proactively developing new ideas to ensure sustainable investing thinking remains central to our business development.

This team works closely with our clients and our portfolio management team to develop and implement sustainable investing strategies ranging from simple negative screens to more complex mandates, including thematic or active quantitative strategies. The team works closely with a variety of groups within Northern Trust Asset Management, including our quantitative research team and specialised portfolio managers. In addition, Northern Trust Asset Management has established a Sustainable Investing Council in charge of affirming strategies to address sustainable investment issues and implementing the initiative at a corporate level. The Sustainable Investing Council is chaired by Northern Trust’s director of product development and sustainable investing and includes a diverse and representative group of members who represent different parts of our business. All members promote sustainable investing and represent various audiences such as CSR, product development and management, equity, fixed income research, portfolio management, business development, proxy voting and engagement. We do believe that this set-up is contributing to a further enhancement of ESG within and throughout our company.
We also strongly believe in the importance of our leadership role and collaborative effort in the industry. Members of the sustainable investing team are taking active roles in industry associations and networks such as:

- The Principles for Responsible Investing (Member of the Listed Equity Advisory Committee, Listed Equity Integration Sub-Committee, and Sustainable Development Goals in Active Ownership Working Group)
- SASB (member of the Investors Advisor Group)
- Council of Institutional Investors (associate member)
- IIGCC (member)
- UNEP FI (member)
- US SIF (member)
- Investor Stewardship Group (signatory)
- UK Women in Finance Charter (signatory)
- CEO Action for Diversity and Inclusion (member)
- UK Stewardship Code (signatory)
- Hong Kong Stewardship Code (signatory)
- Everglades Foundation (George Barley Water Prize - Advisor)
- The Nature Conservancy – Illinois Chapter (Board member)
- Climate Action 100+ (founding signatory)
- Responsible Investment Association Australasia (member)

Northern Trust believes that companies’ long-term financial returns are connected to their strategic, environmental, social and governance performance. By serving as an active owner on behalf of the shareholders, we will help portfolio companies produce sustainable value.

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INTEGRATION OF SUSTAINABLE INVESTING INTO INVESTMENT DECISION MAKING

Sustainable Investing at Northern Trust

Northern Trust believes that, by serving as an active owner on behalf of the shareholders, we will help portfolio companies produce sustainable value, and that companies’ long-term financial returns are connected to their strategic, environmental, social and governance performance. Sustainable investing is an investment solution based on the philosophy that ESG analytics can complement quantitative or fundamental investment techniques so as to mitigate risks or capture new opportunities. Our definition of sustainable investing is based on the acknowledgment that the long-term financial success of our clients and shareholders is dependent upon a healthy global environment, a stable society and well-functioning/well governed companies. As such, we view the integration of environmental, social and governance factors as being part of our fiduciary heritage with a long-term focus.
SUSTAINABLE INVESTING PHILOSOPHY

Sustainable Investing Index

For many index investors, it may be appropriate to reflect a sustainable investing view through the companies that are included and or excluded in their portfolios. Much of this activity involves excluding companies based on ethical/moral or religious beliefs or breach of standard norms and regulations. For example, screening companies breaching labour rights or the United Nations Global Compact Principles are fairly common screens that we apply.

More recently, however, infusing a portfolio with sustainable investing views can also include a positive element whereby companies showing superior management of ESG risks and opportunities may be favoured. ESG indexes are constantly evolving, but Northern Trust has been on the forefront of these activities and spearheaded the development of a range of market-leading, custom ESG indexes. We continue to do pioneering work in developing strategies that meet our clients growing needs in this space.

- Client-directed screens
- Standard ESG/SRI indexes
- Custom ESG indices designed by Northern Trust Asset Management and data providers (Northern Trust custom ESG pooled funds)
- Global Real Estate Sustainability index
- Northern Trust FlexShares ESG ETFs

Traditional Index

Index investors own substantially all of the companies in a given universe and do so for the long term. For these strategies where we are unable to incorporate a view on ESG data into our investment holdings, our role as shareholders and stewards of the corporate ecosystem is of particular importance.

To exercise our rights as shareholders, we rely heavily on our proxy and engagement efforts, which are spearheaded by our dedicated proxy & engagement and sustainable investing teams. We reiterate our guiding principle of maximizing shareholder value given the universal, long-term nature of our investments, and our philosophy and process surrounding these activities are discussed in greater detail in the “Reporting and Communications” section.

Our definition of sustainable investing is based on the acknowledgment that the long-term financial success of our clients and shareholders is dependent upon a healthy global environment, a stable society and well-functioning/well governed companies.
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Quantitative Equity

Our approach to quantitative equity is premised on the long term existence and persistence of risk premia such as value and quality. Regarding ESG integration in these strategies, data limitations have historically created challenges. The development of ESG as a factor that is appropriate for quantitative investing techniques is still a relatively new idea. However, our research shows that we are indeed able to integrate ESG as a factor into certain quantitative equity portfolios. Our objective in doing so is to utilise ESG in a manner that complements our analysis of a company and captures relevant information that financial factors on their own may overlook.

For example, whether a company has good corporate governance is difficult to ascertain through financial statement analysis. To evaluate corporate governance requires data demonstrating desirable features of a well-governed company such as independence of key committees, strong shareholder protections and executive pay aligned with performance.

Fundamental Equity

Our approach to fundamental equity investing is centred on identifying and owning companies whose intrinsic value is materially higher than the current market value. To do so successfully requires a proper understanding about a company’s financial and strategic prospects, but also about the ESG challenges and opportunities it faces. Incorporating ESG information directly into a traditional model where quantification is of high priority is challenging. However, we believe ESG information can help inform the risks to our investment thesis and shine a light on areas not patently obvious from a thorough analysis of the financial statements.

For example, our analysts will conduct due diligence with management to understand the appropriateness of corporate governance structure and its ability to manage principal-agent risks. Alternatively, we look to understand broader environmental trends and how a shift to a low carbon economy may affect the product mix of a certain company or industry.

Fixed Income

Northern Trust Asset Management integrates ESG into its investment process using both optimization and fundamental methodologies.

Fixed income research analysts incorporate ESG criteria into their analysis for a more holistic view of a company’s risk profile. This involves using both financial and non-financial metrics when evaluating an issuer.
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Northern Trust applies screens to exclude companies from equity and fixed income index portfolios that engage in the sale and distribution of tobacco and controversial weapons as well as those issuers who violate UN Global Compact Principles. Municipal issuers can also be assessed along sustainability parameters. Municipal bonds are generally public purpose instruments that allow for community access to products and services such as museums, schools and hospitals. Robust credit analysis and discernment on the quality of the use of the proceeds aligns largely with sustainability objectives, which can be supplemented by a deeper scrutiny on the environmental and social externalities of the issuance.

Northern Trust engages with its clients and implements custom ESG screens and restriction lists.

Northern Trust is further working to implement impact criteria based on the idea of intentionality, or the specific relevance of bonds-based funding for generating intentional incremental positive effects on the society and environment. Such measurements of effects can be applied across various portfolios of bonds. The criteria include increased exposures to sustainable revenues and minimization of negative externalities of companies’ operations such as carbon footprints as well as exposures to future carbon emissions associated with the existing fossil fuel reserves.

Multi-Manager

Northern Trust has a comprehensive set of investment tools to support a sustainability mandate, including a platform of approved proprietary and third party investment capabilities, a wide-ranging data set of corporate performance along ethical, environmental, social and corporate governance parameters, our engagement policy covering both internal and external engagement activities, and custom proxy voting policy encompassing sustainability guidelines.

The defined strategies and funds approved for use for our clients undergo a rigorous due diligence process. Strategies are considered and proposed based on client consensus in interest and demand. They are also analysed on an ongoing basis by a team of dedicated sustainability investing analysts who source and conduct due diligence on strategies in the market. Strategies considered for the platform via both the top down and bottom up identification process are reviewed by these analysts on a number of quantitative and qualitative factors, including a qualitative review regarding the style and use of ESG data and indicators, the discipline, acumen and longevity of the investment team, and quantitative analysis around investment style, investment return and other factors.
All strategies approved to the platform undergo ongoing monitoring. With regard to sustainability investing strategies, this monitoring includes ongoing reviews of firm-level initiatives around sustainability, including commitments to industry initiatives like signing on to the PRI as well as monitoring the consistency and discipline of the investment staff.

A critical step in the process is selecting the right mosaic of strategies for any given investor based on their defined goal for the portfolio. We are of the firm belief that investors can benefit from seeking ESG-focused managers and do not need to forego performance to invest well. However, discernment is critical in the manager selection process. As the outsourced chief investment officer, Northern Trust leverages internal expertise to act as an extension of the client’s team to support the organization in defining portfolio goals from a responsible investing perspective anchored by the portfolio’s performance objectives and time horizon.

Sustainable Portfolio Monitoring

The portfolio monitoring and risk management procedures for our separately managed accounts and funds are integral to our investment process. On the accounts with ESG exclusions, ESG activity will be monitored as part of the compliance team’s independent post-trade oversight. The compliance team reviews completed trades on a daily basis through the Charles River Order Management System for index equity and Aladdin for index fixed income to confirm trades are within clients’ objectives, restrictions and guidelines agreed within the investment management agreement and fund prospectus.

We have a clear process whereby portfolio managers are alerted as soon as a warning level is breached so that the holding can be assessed and reduced if deemed appropriate.

Northern Trust Risk Management regularly reviews tolerance levels and all breaches reported to the Northern Trust Business Risk Committee. Fund breaches are also reported to the fund’s board. Any material breach would be reported to the client.

Watch List Management

We have our own exclusion list in place for our custom ESG index funds and factor-based ESG funds produced according to MSCI ESG research data. This list excludes companies that do not comply with UN Global Compact Principles, companies that manufacture tobacco products or derive more than 5% of revenues from the distribution
or supply of tobacco products (or products for the manufacture of tobacco products) and firms that manufacture controversial weapons such as cluster bombs, land mines, nuclear weapons, biological/chemical weapons, blinding laser weapons, incendiary weapons (white phosphorus) and non-detectable fragments. This currently applies to a range of pooled funds.

REPORTING & COMMUNICATIONS

Proxy Voting

The fundamental precept followed by Northern Trust in voting proxies is to ensure that the manner in which shares are voted is in the best interest of clients/beneficiaries and will aim to maximise shareholder value. Northern Trust’s proxy voting framework, as outlined in our proxy voting policies, procedures and guidelines, provide that the Northern Trust proxy committee will generally vote for or against various proxy proposals, usually based upon certain special criteria.

Where a client delegates responsibility for proxy voting to Northern Trust, we provide reports on all voting activity undertaken on their behalf on a quarterly, semi-annual or annual basis as directed by the client. Information on how Northern Trust voted securities within a reporting period and information regarding our rationale for proxy-voting decisions in a client’s portfolio may also be provided upon request. We generally view our clients’ voting records as their property, rather than as our records to make public. Unless authorized by the client in writing or required by applicable laws and regulations, Northern Trust will not disclose proxy voting records of clients’ accounts to any third party. Records of the proxy voting outcomes for our Northern Institutional Funds and Northern Funds are publicly available on our website, along with links to our Proxy Voting Guidelines and other related materials.

Conflicts of Interest

Northern Trust has policies in place to identify and manage conflicts of interest across its businesses. However, where arrangements are insufficient to ensure, with reasonable certainty, that risk of damage to client interest will be prevented, Northern Trust will endeavour to disclose the nature of such conflicts to clients.

In relation to stewardship, the specific elements of conflicts of interest management are incorporated within the proxy voting guidelines.
SUSTAINABLE INVESTING PHILOSOPHY

Engagement

Engagement with management is a core part of the equity research process. Northern Trust’s equity research analysts engage with hundreds of companies annually. The focus of these engagements is to accumulate and interpret facts to reach sound investment conclusions with the aim of delivering positive long-term investment outcomes for clients. Both quantitative and qualitative approaches are employed in this process. In addition to strategy, risk and sustainability of financials, analysts also monitor corporate governance, environmental and social factors that are of material concern to the long-term sustainability of the investment. The proxy analyst team supplements the analysis performed by Northern Trust’s equity analyst team with additional research on corporate governance and environmental and social matters that contribute to the long-term value of the investment and reflects Northern Trust’s commitment to ESG issues.

Our supplemental analysis allows Northern Trust to build a deeper understanding of how companies manage ESG issues, and helps us to evaluate a company’s overall corporate governance practices and structure. Corporate governance topics covered include executive compensation, risk oversight, board structure (including independence and diversity) and environmental and social risks and opportunities.

In addition to the direct engagement described in the paragraphs above, Northern Trust has also entered into an agreement with Hermes Equity Ownership Services (EOS) to provide monitoring and engagement services for some of our funds. Hermes EOS conducts a structured monitoring and engagement process focused on corporate governance, environmental and social matters, as well as strategy, risk and other stewardship issues.

Sustainable Development Goals

In 2015, after the conclusion of the Millennium Development Goals, the United Nations announced the launch of the Sustainable Development Goals, a set of 17 global goals to be achieved by 2030 that cover a broad range of social, environmental and economic development areas. While these goals were not designed with the investment industry in mind, and some of them do not lend themselves to investment strategies, they can be used to provide a framework for theme-based investing and reporting. No impact metrics have been designed for this framework, but investors are increasingly using this lexicon to discuss investment objectives and impact goals. Northern Trust has begun to leverage this framework for communicating on certain initiatives, including dimensions of our stewardship activities as well as corporate social responsibility initiatives.
SUSTAINABLE INVESTING PHILOSOPHY

Collaborative Initiatives


We believe the UNPRI’s overarching themes of transparency, accountability and continuous improvement align with our own values. We also believe it is important to be part of a community that is working to establish a common language and best practices around these issues. In fact, Northern Trust Asset Management contributed to case studies to promote acceptance and understanding of the UNPRI principles in passive management. Internally we use the UNPRI as a framework to formalise our RI principles and set priorities.

We are participants and signatories to a number of organizations that promote environmental, social and/or governance policies, some of which are detailed below.

UK Stewardship Code

We are signatories to the UK Stewardship Code, in which we aim to enhance the quality of engagement between institutional investors in order to improve long-term returns to shareholders. Our other memberships include the Carbon Disclosure Project (CDP), United States Sustainable Investment Forum (US SIF), Institutional Investors Group on Climate Change (IIGCC), United Nations Environment Program Financial Initiative (UNEP FI), Responsible Investor Australia (RIAA) and the Investor Stewardship Group (IGS). We are also sponsors to the EuroSIF.

CDP (Formerly Known as Carbon Disclosure Project)

Northern Trust is a participant in CDP’s Climate Change Questionnaire. Northern Trust calculates and discloses its greenhouse gas emissions yearly using available data and assumptions in accordance with the Greenhouse Gas Protocol of the World Resources Institute, and the World Business Council for Sustainable Development. Our historic disclosures are available for review at WWW.CDP.NET.

United Nations Environment Programme Finance Initiative

Northern Trust is a member of the United Nations Environment Programme Finance Initiative (UNEP FI). As a member, Northern Trust collaborates with our peers to understand the current and emerging sustainability trends that are relative to the financial industry.
SUSTAINABLE INVESTING PHILOSOPHY

COMMITMENT TO SUSTAINABLE OPERATIONS

Focus on the Environment

Northern Trust recognises that the long-term viability of our business and that of our clients is tied to the health and well-being of our planet. We therefore commit to protecting and preserving the environment and to eliminating or mitigating any negative environmental impacts from our operations.

We align our business with the fundamental principle of sustainability — meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. We believe environmental stewardship, both our own as well as of the capital entrusted to us, is inextricably linked with both environmental and financial sustainability. We do this by integrating environmental considerations into our company-wide decision-making processes, committing to improving continually our business practices and delivering tangible, positive results related to the environment.

We use energy to power our data centres and facilities, the majority of which are located in North America. As a result, the bulk of our greenhouse gas (GHG) emissions stem from our North American operations. We first started tracking our carbon footprint, comprised of the carbon dioxide equivalent of all GHGs produced in our operations, in 2006. Since then, we have improved our data collection processes and calculation methodologies to align with the GHG Protocol.

Working closely with our building managers, Northern Trust follows the best environmentally friendly building strategies and practices outlined by The U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) program. Among our offices in North America and APAC, we have received two LEED platinum certifications, seven gold certifications, one silver certification and one general certification. In addition, we use reliable and sophisticated tracking programs to assist with monitoring and managing our environmental performance and to calculate our annual carbon footprint.

Enterprise Enablement

Northern Trust’s Enterprise Enablement Department works to ensure our infrastructure is used efficiently and contributes to our ongoing efforts in conservation and sustainability. Because powering data centres accounts for a considerable amount of our carbon footprint, we attempt to consolidate servers or downsize them through virtualization. We also optimise power and resource utilization by life-cycling older equipment into more energy-efficient devices, increasing signage encouraging recycling, using teleconferencing to reduce business travel and defaulting to smart printing features.

We therefore commit to protecting and preserving the environment and to eliminating or mitigating any negative environmental impacts from our operations.
The Sustainability Network

The Sustainability Network (TSN) is Northern Trust’s global partner environmental engagement program aimed at increasing awareness of sustainability issues, promoting best practices and unifying environmentally focused business operations under the same umbrella. The Sustainability Network enables close collaboration between our building managers and TSN champions — partner volunteers — in delivering consistent environment-related messages, gauging partner feedback throughout policy implementation and advocating for increased commitment to conservation and protection of environmental resources. TSN organises Earth Day celebrations as well as other environment-related volunteer opportunities and has been a key activator of behaviour change in Northern Trust’s culture around climate change and other environmental issues.

Local Communities

Northern Trust functions as a global citizen whose contribution to building a healthy, sustainable environment involves deep regard for the surrounding communities. Our footprint affects the larger ecology and can make tangible differences in the lives of community members, which is why we are meticulous in forecasting and reducing any environmental risks or harms induced by our business operations.

We also believe in the power of community-based actions in affecting positive change for the good of our planet and future generations. Northern Trust commits its resources in ways not limited to capital support and partner volunteerism to assist with local initiatives and organizations focused on environmental awareness and protection. We are a longstanding sponsor of the Chicago Botanic Garden as well as other land trust organizations and local youth programs that aim to increase appreciation of biodiversity and motivate sustainable actions in everyday life.

Northern Trust has a long-standing “Outstanding” rating from the Board of Governors of the Federal Reserve System through the Community Reinvestment Act under the “Wholesale Bank” designation. Under this program, Northern Trust has undertaken several community investment initiatives, including investment in innovative social impact bonds in certain communities in which we operate. As of December 2016, the community investment portfolio totalled $741.6 million.
Procurement

Northern Trust expects vendors to employ high standards of recycling and waste management governance and to conduct business in an ethical, legal and socially responsible manner. We specify these terms and conditions in our procurement policy and review it during vendor evaluations. Northern Trust’s global procurement department is led by a senior-level manager, the global head of procurement, who drives the strategy and sets policies worldwide.

Northern Trust is committed to integrating ethical, social and environmental factors into our global procurement policy. Each vendor signs a vendor code of conduct and provides a clear view into its CSR policies. We check our vendors against the U.S. Office of Foreign Asset Control to ensure we comply with any economic and trade sanctions.