



Introduction

In April 2020, the President and Fellows of Harvard College instructed Harvard Management Company, Inc. (HMC) to set the Harvard endowment on a path to achieve net-zero greenhouse gas (GHG) emissions from investments in its portfolio by 2050. This pledge was a first among U.S. higher education endowments and a natural extension of Harvard's ongoing efforts — through its teaching, research, and operations — to prepare for and accelerate the necessary transition to a fossil fuel-free economy. This report provides an update on HMC's early progress towards this commitment and our recent engagement activity.

Executive Summary

As of the end of HMC's most recent fiscal year (June 30, 2020):

- HMC had no direct exposure to companies that explore for or develop further reserves of fossil fuels.
- HMC has reduced its overall exposure to fossil fuels — including both direct commodity investments as well as indirect investments in companies that explore for or develop further reserves of fossil fuels held through dedicated externally managed funds — from approximately 11% of the portfolio at the end of fiscal year 2008 to less than 2% at the end of fiscal year 2020, a decrease of more than 80%. These calculations reflect those exposures we can determine through available data.

HMC is working aggressively towards the much more ambitious 2050 commitment. Our current focus and our priorities for the next few years will be:

- **Improving Data Access** — Since the vast majority of our public market managers do not provide holdings-level data on their portfolios, we are embarking on a significant initiative to gain access or otherwise estimate carbon emissions data from our public managers. While our private managers do provide holdings information, they do not yet provide carbon emissions data for companies in their portfolios. We are working with our private managers to make progress in this arena as well. Furthermore, we have begun efforts to encourage other institutional investors to collaborate with us on improving data access, as a collective approach will yield the highest chance of success and in the timeliest manner. We will continue our vigorous efforts to improve data access and are confident that, over time, we will attain success.
- **Developing a Methodology** — HMC has engaged external data vendors, each of which is experienced in estimating the carbon footprint of portfolios, to assist with these efforts. However, there is not yet an industry consensus on how to best estimate portfolio carbon emissions for many alternative investment strategies. These efforts are also impacted by the data access issues discussed above. While initial analysis has begun, HMC must continue its work to improve its own understanding of the various methodologies employed by vendors.

- **Engagement**—With our increased utilization of external managers, HMC believes that the most significant way to interact with publicly listed companies is through collaborative engagements where HMC can join with other like-minded asset managers and asset owners. In Appendix 1 of this report we provide an update on HMC’s engagement and stewardship activities, including our recent work with Climate Action 100+ and proxy voting, as well as other collaborations with the Task Force on Climate-Related Financial Disclosures (TCFD), Principles for Responsible Investment (PRI), Sustainability Accounting Standards Board (SASB), CDP, and Ceres.

Our Commitment

Recognizing the existential threat of climate change, as well as the urgent need to take immediate action, HMC has committed to:

- Transition the Harvard University endowment to a portfolio of investments with net-zero GHG emissions by 2050 consistent with the stated goals of the Paris Agreement;
- Achieve this goal by taking into account the best available scientific knowledge, using standards set by the United Nations Intergovernmental Panel on Climate Change (IPCC);
- Embed this commitment into HMC’s holistic approach to managing sustainability considerations, consistent with its fiduciary duty to manage risks and achieve target investment returns;
- Work with current and prospective asset managers to emphasize GHG emissions reduction outcomes in the real economy; and
- Work collaboratively with peer institutions who have made (or are interested in making) a similar commitment.

Harvard made this pledge in support of the stated goals of the Paris Agreement with the expectation that governments will follow through on their own commitments to ensure these objectives are met. We are keenly aware that breakthrough technologies, changes in consumer behavior, and structural changes in the economy are also necessary to achieve both a net-zero economy and a net-zero investment portfolio.

Exposure to Fossil Fuel Companies

In his message on climate change announcing the net-zero commitment, President Bacow emphasized that Harvard was choosing a path of decarbonizing “the investment portfolio as a whole, rather than simply targeting the suppliers and producers of fossil fuels.” Nonetheless, members of the Harvard community remain acutely concerned with the endowment’s investments in companies that produce or develop fossil fuels.

As part of our effort to meet the net-zero commitment, we have begun a more granular analysis of the investment portfolio. We can report that, as of the end of HMC’s most recent fiscal year (June 30, 2020):

- HMC had no direct exposure to companies that explore for or develop further reserves of fossil fuels.
- HMC has reduced its overall exposure to fossil fuels—including both direct commodity investments as well as indirect investments in companies that explore for or develop further reserves of fossil fuels held through dedicated externally managed funds—from approximately 11% of the portfolio at the end of fiscal year 2008 to less than 2% at the end of fiscal year 2020, a decrease of more than 80%. These calculations reflect those exposures we can determine through available data.

Progress Towards the Commitment and Next Steps

HMC is working aggressively towards the 2050 net-zero commitment. Our current focus and our priorities for the next few years will be improving data access and developing a tailored methodology for measuring the endowment's carbon footprint.

Improving Data Access

As the first fundamental and major step in this commitment, HMC is pursuing better access to the underlying holdings data of its portfolio. Such access is currently very limited. Since 2016, HMC has shifted away from internal management of the portfolio and has relied much more on investing through external managers. As a limited partner in funds managed by such external managers, Harvard, like all limited partners in such funds, is not involved in the day-to-day operations of the funds and their underlying investments.

HMC's challenge differs significantly from that of asset owners who manage large public equity portfolios, many of whom also support the stated goals of the Paris Agreement. These asset owners often start their climate reporting journey by calculating the emissions of their public equity portfolios before moving on to more challenging asset classes. For the purpose of portfolio emission calculations, public equity offers more readily available and higher quality GHG emissions data than do other asset classes. HMC invests a much smaller percentage of its assets in public equity than large asset owners such as major pension funds. Furthermore, many such owners manage a significant portion of their portfolios internally, resulting in the needed data access. HMC is working closely with our external managers to achieve increased access to holdings data.

To address the challenge of understanding and estimating GHG emissions associated with managed assets for which we have limited information about specific holdings, HMC is assessing new approaches for arriving at such calculations. One such approach is to partner with third-party aggregators to collect the data from external managers on a confidential basis and perform the analysis. Some institutional investors already use a version of this approach for analyzing market risk in externally managed portions of their portfolios. Third-party aggregators and analysts have begun developing such offerings to address GHG emissions and carbon footprinting.

While external managers of private assets (private equity, private real estate, etc.) provide basic portfolio holdings information, most currently do not provide data relating to the carbon footprint of their portfolio companies, and so third-party data providers cannot cover these portfolio companies in their databases. By contrast, many public companies in the U.S. and Europe have been reporting their GHG emissions for years. We are confident that external managers of both public and private markets will evolve their practices in this regard over time. Gaining the collaboration of other major institutional investors will be critical with regards to both public markets and private markets managers. The broader voice of the institutional investment community will ensure the clearest success in the timeliest manner.

Developing an Estimation Methodology

Since April 2020, HMC has spoken with asset owners and asset managers that have made similar net-zero commitments, as well as potential service providers, to assist HMC in developing a process for creating a baseline carbon footprint of the endowment. As a first step, we subscribed to emissions data provided by three of the leading data providers.

While certain protocols for assessing the GHG emissions of investment assets exist (see the discussion in the Metrics section of Appendix 2), the process for calculating portfolio emissions has limitations due to the different methodologies companies use to calculate emissions, incomplete reporting by some companies, and the resulting use of partial company data to extrapolate or estimate historical emissions based on sector emissions performance. This process requires a large number of assumptions and decisions, which can potentially lead to inconsistent results when analyzing the same underlying data. For example, the data providers have different methods of aggregating GHG emissions from disparate sources (i.e., direct reporting versus estimates based on industry averages) and when combining portfolios of debt and equity securities.

Much of HMC's portfolio is invested in hedge funds that seek to pursue strategies uncorrelated to the broader markets. These strategies include long/short equity funds, high-frequency trading, the use of complex derivatives, and shorting of securities. No industry consensus currently exists on the best way to calculate the emissions of investments by these uncorrelated hedge fund strategies and existing protocols are expected to continue to evolve over time. HMC is studying the underlying logic of existing protocols and we will likely adapt these protocols for the purpose of our own unique reporting.

HMC will continue to deepen its understanding of the methodologies used by the key vendors. We will conduct some basic analyses, which will likely improve our perspective significantly. We suspect that through greater familiarity by ourselves and other institutional investors, we may discover further questions worth exploring. We are confident that these types of issues will be addressed in due course as we work towards a net-zero objective.

Our net-zero GHG emissions commitment will take extensive study, thoughtful deliberation, cooperation with and by a wide range of parties. That said, the University's commitment to achieve a fossil-free future, supported by a net-zero endowment by the year 2050, requires immediate action. We are working aggressively to conduct a comprehensive assessment of the GHG emissions of investments in the portfolio. The timeline for when we will be able to do this will depend on how quickly our managers are willing and able to supply the necessary underlying data. We expect this process to take several years.

In that context, we are and will be working actively with our external managers and data providers over the coming years to complete (or make meaningful progress towards) the two initiatives outlined above. The need for progress is imperative and we will be reporting on our progress to the University's leadership on a regular basis and to the Harvard community annually.



Engagement and Stewardship

As a long-term investor and fiduciary, HMC has the obligation to maximize long-term returns in the endowment in order to support the University’s fundamental mission of teaching and research. At the same time, HMC seeks to encourage external managers to be a positive force in meeting society’s long-term needs and pressing imperatives.

With our increased utilization of external managers, HMC believes that the most significant way to interact with publicly listed companies is through collaborative engagements where HMC can join with other like-minded asset managers and asset owners. Thoughtful engagement is an effective means of exchanging information, improving our understanding of a company’s business and practices, and encouraging companies to improve their ESG performance thereby enhancing the value of our investment. Engagement may directly lead to a company’s changing its behavior and is a powerful tool for investors to achieve real world impact. It is the mechanism through which the impact on real world emissions is most likely to materialize.

Below, we provide an update on HMC’s engagement and stewardship activities.



Climate Action 100+

Launched in December 2017, Climate Action 100+ is a five-year initiative to engage with the world’s largest systemically important greenhouse gas emitters to take critical action to align their own operations with the goals of the Paris Agreement. As of December 2020, 545 investors representing more than \$52 trillion in assets under management have committed to engage with the initiative’s 160 focus companies to reduce emissions and improve climate disclosure and governance. The Harvard endowment joined Climate Action 100+ in September 2019.

Since Climate Action 100+ launched in 2017:

- Nearly half (43%) of the focus companies set a net-zero by 2050 target or similar ambition.
- More than half of the companies (51%) set a short-term (to 2025) emissions reduction target.
- At least 59 companies formally supported the TCFD recommendations.

As part of its commitment, HMC has participated in four Climate Action 100+ engagements, which we refer to in this report as Company A, Company B, Company C, and Company D. Below is a brief description of each target company's recent climate-related commitments, following engagements by the Climate Action 100+:

- Company A, a power generation company, announced new goals to reduce carbon dioxide emissions 50% by 2025 on the way to net-zero by 2050, from a 2014 baseline.
- Company B, an electric utility company in the Midwest and Southwest, set carbon dioxide emissions reduction goals, with an aspiration of zero emissions by 2050.
- Company C, an oil exploration company, announced a reduction in their methane emissions by nearly 20% in three years, and set a methane-intensity reduction target for 2050.
- Company D, a diversified oil and gas company, announced an operational net-zero by 2040 target and ambition for net-zero associated with the use of its products by 2050.

Other Collaborative Engagements

In addition to Climate Action 100+, HMC is a signatory to, supporter of, or member of the following organizations:



Task Force on Climate-Related Financial Disclosures (TCFD)

The climate risk management and disclosure guidance developed by the TCFD provides investors with the ability to advocate for a single, meaningful, and material framework through which corporations can manage climate risks and provide climate-related disclosures. Through the consistency provided by the framework, investors can properly evaluate the efforts and progress of the companies they invest in across regions, sectors, or portfolios. HMC publicly supported the TCFD in April 2020. As part of this commitment, we have included TCFD-aligned disclosure in Appendix 2.



Principles for Responsible Investment (PRI)

The United Nations-sponsored Principles for Responsible Investment (PRI) were developed in 2006 by an international group of institutional investors reflecting the increasing relevance of ESG issues to investment practices. The six principles are a voluntary and aspirational set of investment principles that offer possible actions for incorporating ESG issues into investments. In 2014, Harvard University's endowment became the first university endowment to become a signatory to the PRI. Accordingly, we committed to considering ESG factors in the course of our investment underwriting, analysis, and monitoring processes. HMC submits a report to the PRI each year, accounting for its efforts incorporating ESG considerations across its portfolio.



Sustainability Accounting Standards Board

In November 2018, the Sustainability Accounting Standards Board (SASB) published a complete set of 77 industry standards that articulate material ESG issues on a sector-by-sector basis. These globally applicable industry-specific standards identify the minimal set of financially material ESG topics and their associated metrics for the typical company in an industry. SASB standards enable businesses around the world to identify, manage and communicate financially material sustainability information to their investors. HMC has been a member of the SASB Alliance since 2018 and a member of its Investor Advisory Group since 2019.



CDP

CDP, formerly known as the Carbon Disclosure Project, works with investors, companies, and governments to drive industrial-scale environmental disclosure on climate change, water security, and deforestation. The data disclosed through the CDP platform provides the investment community with high quality, consistent, and comparable data at scale, in line with the TCFD recommendations. Last year, more than 50 percent of the largest listed OECD companies by market cap reported to CDP. The Harvard endowment became a signatory to CDP in 2014.



Ceres

The Ceres Investor Network, which includes over 175 institutional investors that manage more than \$29 trillion in assets, was established to advance leading investment practices, corporate engagement strategies, and key policy and regulatory solutions. Ceres is also one of the founding partner organizations of Climate Action 100+. HMC has been a member of the Ceres Investor Network since 2018.

Proxy Voting

Climate change remains a top concern for many shareholders. There were at least 53 shareholder proposals relating to climate change submitted during the 2020 proxy season, up from 37 in 2019.

Harvard is committed to responsibly voting shareholder proxies. Each year, the University publishes a report describing and explaining its votes on proxies. With most of Harvard's holdings in the U.S. public equity markets now held through pooled investments and commingled funds managed by outside management firms, rather than through individual stocks directly owned in the University's name, Harvard currently votes on a much smaller number of shareholder resolutions than in past years. However, Harvard continues to exercise its influence on proxy votes through a series of guidelines on shareholder resolutions, including on issues related to climate change, developed by Harvard University's Advisory Committee on Shareholder Responsibility (or ACSR) and Corporation Committee on Shareholder Responsibility (or CCSR). HMC will provide these proxy voting guidelines to its external managers in the hope that they provide a helpful perspective. The guidelines are not intended to be prescriptive, and HMC recognizes that external managers may not necessarily share Harvard's view on every issue. Nonetheless, HMC expects its external managers to have a robust approach to stewardship and to make informed voting decisions. As one of a number of relevant considerations in assessing overall performance, HMC will evaluate an external manager's stewardship practices in light of these guidelines. The University will also make the guidelines publicly available, so that other interested investors can make use of them as they see fit.



Task Force on Climate-related Financial Disclosures

In April 2020, HMC announced its support of enhanced corporate disclosure in line with the final recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Although the TCFD recommendations were designed for corporate reporting, asset owners were also encouraged to report using the same four-part disclosure framework.

In this Appendix, we provide an assessment of climate-related risk in the HMC portfolio according to the TCFD's recommended climate-related financial disclosure framework.

Governance

Board Oversight

HMC's Directors are elected by the Harvard Corporation. Ex officio members of the HMC Board include Harvard University's President, Treasurer, and Chief Financial Officer, as well as the Chief Executive Officer of HMC. Elected members are selected for their investment, academic, and industry expertise.

The HMC Board has three standing committees and one ad hoc committee, all established to address some facet of risk or governance. These committees are just several of the ways in which HMC's senior management coordinates with appropriate officials at Harvard University to address risk and financial matters relevant to the University.

Each quarter, HMC's Chief Compliance Officer and Managing Director of Sustainable Investing, Kate Murtagh, reports to HMC's Board on climate-related engagement activities.

Role of Management

HMC is led by its Chief Executive Officer, Narv Narvekar, who joined HMC in December 2016. Together with HMC's Chief Investment Officer, Rick Slocum, they manage the Generalist investment team responsible for managing all aspects of HMC's investment portfolio, including climate-related risks.

The responsible investment activities are integrated into the Compliance group at HMC. They are led by Kate Murtagh, who helps set the ESG goals and objectives for the organization, develops ESG policies and procedures, and implements ESG integration plans across the portfolio. Each quarter, in conjunction with HMC Board meetings, she provides an update on HMC's sustainable investment activities. She also meets with the CCSR and other Harvard University stakeholders to discuss their concerns and HMC's efforts around climate. Additionally, she discusses ESG-related trends and HMC's sustainable investing initiatives at investment staff meetings and attends meetings of the ACSR as a non-voting participant. She is assisted by a Managing Director and an Associate Director who each dedicate a portion of their time to responsible investment initiatives at HMC.

Strategy and Risk Management

Climate-Related Risks and Opportunities

Scientific evidence demonstrates that reducing greenhouse gas (GHG) emissions is critical to slowing global warming. Dramatic changes to the global energy economy, particularly as the world recovers from COVID-19, also pose transition risks as companies are challenged to adopt new strategies and investors confront the prospect of holding stranded assets, or in extreme cases, companies facing bankruptcy. In addition, companies are increasingly vulnerable to reputational damage and litigation related to the environmental harm caused by their operations.

The links between climate change, business, and investment are increasingly evident. Climate change presents:

- **Physical risks**—Risks that arise from the physical impacts of a changing climate. Examples include damage to property caused by flooding as a result of rising sea levels, and damage caused by hurricanes and wildfire. Physical climate risk may often present itself as supply-chain risk, such as disruptions to agricultural commodities, workability in certain regions, or destruction of natural capital.
- **Transition risks**—Risks that arise from the transition to a low-carbon economy, such as from changes in government policies, consumer sentiment, liability risks, and technological innovation. The high emitting sectors likely to be subject to these risks include oil & gas, utilities/power generation, transportation, aluminum, steel, and cement.
- **Systemic risks**—Risks to the productive capacity of the economy and the financial system, such as disorderly price adjustments in various asset classes, with possible spillovers into different parts of the financial system, as well as potential disruption of the proper functioning of financial markets.

Although continued warming will make the realization of various climate risks a virtual certainty, the specific drivers—and the magnitude impact of each driver’s impact—vary by geographic location and asset class. Key to estimating the financial risk posed to any company will be an assessment of the probability and magnitude of each physical event at each location where the company has a physical asset. The past decade has seen a proliferation of third-party tools to help companies and investors assess physical climate risks. Many of our external managers have begun using these tools or developing proprietary systems of their own. Improvements in data quality and computational modeling will only increase the value and application of these risk identification tools in the future.

Despite these risks, national and global efforts to mitigate climate change’s impacts could create enormous investment opportunities that translate into economic growth and job creation across industries. Recent research suggests that transitioning to a low-carbon sustainable economy could deliver significant net economic gains compared to business as usual. Generally, climate opportunities may include energy storage, energy efficiency, renewable power, industrial/commercial redesign and retrofit projects, electrification across sectors, and water treatment, distribution and efficiency. While these investments will be a powerful engine for economic development and job creation, the distributional consequences of a just transition will need to be taken into account to fully realize these benefits.

In recent years, HMC has seen an increasing number of investment opportunities from high-quality managers seeking to capitalize on these climate-related opportunities. These include investments in renewable power, biomass energy, materials technology, and water treatment. We will continue to evaluate and invest in such opportunities in the future.

Metrics

The TCFD recommends that GHG emissions be calculated in line with the Greenhouse Gas Protocol methodology to allow for aggregation and comparability across organizations and jurisdictions. The GHG Protocol methodology is the most widely recognized and used international standard for calculating and reporting GHG emissions. It sets out the following principles:

- **Relevance**—Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users—both internal and external to the company.
- **Completeness**—Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.
- **Consistency**—Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- **Transparency**—Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- **Accuracy**—Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

While we generally plan to follow the TCFD framework for calculating the portfolio emissions of HMC's portfolio, for the reasons discussed in the first part of this report, we are approaching the process carefully and expect to ultimately adopt an approach and methodology tailored to HMC's investment program.

We expect to eventually calculate and disclose exposure to carbon emissions using the following indicators:

- **Carbon emissions**—A normalized measure (by \$M invested) of the portfolio's exposure to activities producing GHG emissions.
- **Total carbon emissions**—Measures the carbon footprint of the portfolio (in tons of CO₂). This metric has limited use for comparison to other portfolios because it is not normalized by portfolio size. It is calculated using an ownership methodology.
- **Carbon intensity**—Expresses the carbon efficiency of the portfolio (by \$M sales). Because this measure adjusts for company size, it is a more accurate measurement of efficiency than a portfolio's absolute footprint. It is calculated using an ownership methodology.
- **Weighted-average carbon intensity (WACI)**—Measures a portfolio's exposure to carbon-intensive companies and indicates the potential climate change-related risks relative to other portfolios or a benchmark. It is useful for comparing portfolios across asset classes.