

Environmental, Social Sewardship and Covernance Report Nance







OFFICE OF THE NEW YORK STATE COMPTROLLER

Thomas P. DiNapoli, State Comptroller

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A MESSAGE FROM NEW YORK STATE COMPTROLLER THOMAS P. DINAPOLI AND CHIEF INVESTMENT OFFICER VICKI FULLER

We are pleased to share our first *Environmental, Social, and Governance* (*ESG*) *Report.* This report articulates the evolution of the New York State Common Retirement Fund's (Fund) approach to sustainable investment practices.

As of March 31, 2016, the Fund was valued at \$178.6 billion. On behalf of public sector employees and retirees of New York State, the Fund's management and staff strive to manage these assets responsibly in order to deliver a secure retirement future for over one million members, retirees, and beneficiaries of the New York State and Local Retirement System. As one of the largest asset owners in the world, we advocate for the stability and sustainability of the market as a whole in order to safeguard the assets of our beneficiaries. Our approach to the investment process supports these goals by incorporating ESG factors in our decisions to invest both in individual companies and securities, and in markets generally.

For more than a decade, the Fund has been on the cutting edge of sustainability efforts within the institutional investment community. As markets have evolved and more ESG information has become available, the Fund has incorporated ESG analysis more formally into all aspects of its investment process.

Beginning in July 2015, the Fund's management and asset class heads undertook a six-month process to evaluate our core investment philosophy. An articulated ESG investment philosophy that emerged from this work is that we consider ESG factors in our investment process because they can influence both risk and return. This philosophy recognizes that ESG factors can affect financial performance and should factor into investment decisions when they are material.

This report reviews the Fund's ESG milestones and details the process we are following to implement its ESG investment philosophy and strategies.

Investing for both the present and the future in our rapidly changing world requires us to establish processes and

protocols to account for ESG opportunities and risks. Some of these, like climate change, are unprecedented; many are not identified in financial statements; and almost all are increasingly recognized as affecting investment returns. We believe our efforts to integrate ESG into our thinking and decision-making will prepare us to adapt and meet the needs of the System's members, retirees and beneficiaries.



Thomas P. DiNapoli New York State Comptroller and Trustee of the New York State Common Retirement Fund



Vicki L. Fuller
Chief Investment
Officer of the New
York State Common
Retirement Fund

ESG factors can affect financial performance and should factor into investment decisions when they are material.

EXECUTIVE SUMMARY

The New York State Common Retirement Fund (Fund) is committed to long-term, sustainable investment. In keeping with its recognition of the salience of environmental, social, and governance issues as material factors that can affect investment performance, the Fund recently undertook a review of its past sustainability work and ESG strategy. This document presents the conclusions of that review and outlines our forward-looking approach.

I. Background and History

The highlights of the Fund's previous ESG work include:

- Founding membership in the Principles for Responsible Investment project supported by the United Nations.
- Successes in engaging our portfolio companies.
- Public policy efforts in conjunction with organizations such as Ceres, a nonprofit group of investors and business leaders focused on sustainability issues, CDP, a global environmental disclosure platform, and the Council of Institutional Investors.

II. ESG Strategy Summary

Results of the ESG Strategy review include:

- The establishment of an ESG investment philosophy to guide the integration of ESG factors into the investment process.
- The development of a method to assess the materiality of ESG factors for each investment.
- The creation of an ESG Risk Assessment to evaluate the ESG policies and performance of the Fund's external managers.
- Other initiatives, including the creation of a Risk-Aware Low Emission equities index and the formulation of guidance for the Fund's Sustainable Investment Program (SIP).

III. Implementing our ESG Strategy

The ESG Strategy review involved the design of new tools and approaches to implement the strategy, including: a clear, codified philosophy on materiality at both the investment and the market levels; a rigorous assessment of ESG materiality for the Fund's investments, drawing on external research and tools; and an ESG Risk Assessment to measure the ESG performance of our external managers. This section also summarizes the Fund's past sustainable investments, which are consistent with the new ESG Strategy and offer guidance for future sustainable investments.

IV. Recent Innovation and Future Plans

Future plans include making additional sustainable investments, measuring climate risk exposure, and adding tools and investments to mitigate the impact of climate risk to the Fund.

V. Conclusion

The Fund intends to continue its work as an ESG leader in shaping a sustainable future for the Fund and the broader investor community.

I. BACKGROUND AND HISTORY

Why ESG Matters for Investing

"Integrating ESG issues into investment research and processes will enable investors to make better investment decisions and improve investment performance consistent with their fiduciary duties. This will result in capital being allocated towards wellgoverned companies, putting investors in a better position to contribute to the goals of a greener economy and a more sustainable society."

from "Fiduciary Duty in the 21st Century" by the United Nations Environmental Program's Finance Initiative For many years, the Fund has recognized the importance of incorporating ESG considerations into investment decisions and public policy advocacy. In 2004, recognizing that what is not measured is not managed, the Fund was one of the first signatories to the annual request by CDP (formerly Carbon Disclosure Project) to the world's largest public companies that they disclose climate change information. This view gained wide recognition after the United Nations Environment Programme (UNEP) Finance Initiative commissioned the 2005 Freshfields Report with the goal of developing a position on the role of ESG in investment. The report concluded that integrating ESG considerations into investment analysis is "clearly permissible and is arguably required."

In early 2005, subsequent to the Freshfields Report, UN Secretary-General Kofi Annan invited a group of the world's largest institutional investors to help develop the UN's Principles for Responsible Investment (UNPRI or Principles) and launched them in April 2006 at the New York Stock Exchange.

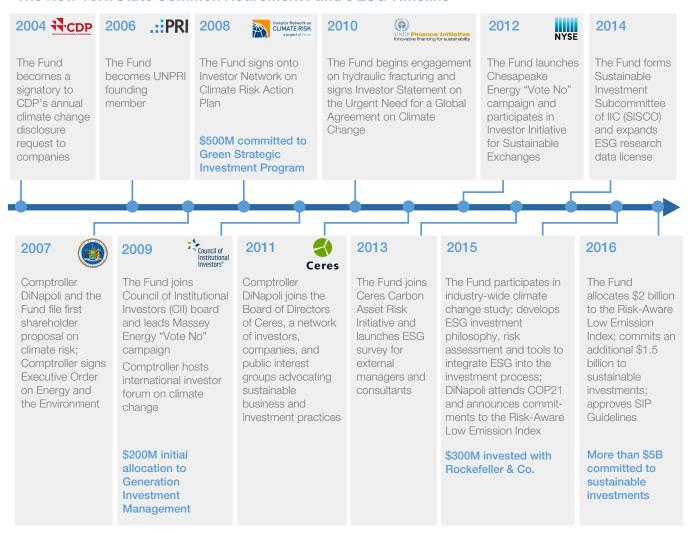
The Fund was a founding signatory of the UNPRI, when the effort represented just \$4 trillion in assets under management. Since then, the number of UNPRI signatories has grown to over 1,500, representing over \$62 trillion in assets. In September 2015, nearly a decade after the Freshfields Report, the UN's Fiduciary Duty in the 21st Century report updated the original report's conclusion, finding that fiduciary duty is not only compatible with the integration of ESG concerns into the investment process, but that failing to integrate these concerns would be a violation of this duty. III

On September 13, 2007, just over a year after the Fund joined the UNPRI, Comptroller DiNapoli issued an Executive Order on Energy and the Environment. This order established the goals and structure of a Green Initiative for the Office of the State Comptroller (OSC). In addition to directing the OSC to operate in an environmentally sustainable manner, the initiative articulated the Fund's goal of improving the environmental performance of its portfolio companies on critical issues like climate change.

The order also laid the groundwork for the Fund's 2008 launch of a Green Strategic Investment Program through which the Comptroller committed \$500 million over three years to environmentally focused investment strategies.

In February 2008, the Fund also signed onto the Investor Network on Climate Risk (INCR) Action Plan to help manage investments, support policy actions, and engage with companies and investors on questions surrounding the financial ramifications of climate change. Vii On the regulatory front, the Fund also joined 191 other investment institutions in signing the 2009 Investor Statement on the Urgent Need for a Global Agreement on Climate Change, seeking more concrete steps from policy makers to address climate change.

The New York State Common Retirement Fund's ESG Timeline



Portfolio Company Engagements

We believe that efforts to engage companies on ESG issues protect the Fund's underlying investments by improving governance practices, mitigating reputational risks, and avoiding potential lawsuits. The Fund's work in this area has helped establish new standards of corporate governance that might benefit investors of all types across a wide variety of industries. The standards highlight appropriate corporate disclosure so that investors can assess whether a company is taking reasonable steps to measure and manage issues that threaten its ability to operate, or could have a material impact on financial performance that is not captured by traditional financial reporting.

Consistent with the principles of active ownership espoused by the UNPRI, the Fund began actively engaging its portfolio companies on ESG risks in 2007. One of our first actions was to co-sponsor shareholder resolutions in 2007 and 2008 requesting that Consol Energy and Massey Energy disclose their financial risks from climate change. The Fund has also engaged companies to address the risks of hydraulic fracturing. The Fund sponsored shareholder resolutions in 2009 requesting that four companies: review the environmental impact of their operations; examine policies to reduce or eliminate hazards to air, water and soil quality; and summarize potential risks to their finances and operations associated with hydraulic fracturing.

With respect to climate change, the Fund has sponsored 54 resolutions in the past six years that call on portfolio companies to assess their climate change risk and develop mitigation strategies. Most recently, the Fund reached agreements in 2016 to improve climate risk management practices with five portfolio companies. The Fund filed a shareholder resolution in 2016 with ExxonMobil – filed with the Church Commissioners for England – asking the company to assess and report on how its business model will be affected by global efforts to limit the average rise in temperatures to less than 2 degrees Celsius. The resulting vote of 38.2 percent of shareholders in favor of the resolution, despite the board's recommendation against it, was a record level of support for a climate change resolution at the company.

Recognizing the benefit to its portfolio companies of engaged and productive workforces, the Fund has also been successfully engaged in promoting fair labor standards and diversity in the operations of portfolio companies domestically and abroad. Between 2010 and 2015, the Fund filed 16 shareholder proposals and reached agreements with 12 portfolio companies on the adoption of fair labor codes of conduct – based on the UN's International Labor Organization (ILO) Core Labor Standards – for their operations and those of their suppliers. Following the Rana Plaza factory collapse in 2013, Comptroller DiNapoli joined with labor and religious leaders in Bangladesh to meet with workers and community leaders to discuss working conditions at factories in that country. In addition, the Fund has encouraged regulators to require disclosure of, and encouraged companies to consider, disparity between employee and CEO pay. There have also been nearly 50 shareholder proposals followed by agreements intended to help create inclusive and discrimination free working environments with respect to gender, race, ethnicity, sexual orientation and gender identity.

In the past six years, the Fund has reached substantive agreements with more than 100 of the Fund's portfolio companies to improve their ESG policies.^x Our corporate governance achievements include agreements involving non-discrimination, board diversity, executive compensation, and disclosure of political spending, as detailed in the next figure.

Improving Portfolio Company ESG Policies

36

Persuaded 36
portfolio companies
to expand their
Equal Employment
Opportunity (EEO)
policies to include
non-discrimination
on the basis of sexual
orientation and/or
gender identity.

16

Filed board diversity proposals at 16 portfolio companies since 2012 and reached agreements with 12 companies. 19

Initiated 19 portfolio company engagements on executive compensation since 2010, yielding nine agreements.

34

Persuaded 34 portfolio companies to improve their disclosure of both direct and indirect corporate political spending.

Marketplace Initiatives and Public Policy Advocacy

Seeking to make a greater impact in the governance arena, the Fund served on the Board of Directors of the Council of Institutional Investors (CII) from 2009 to 2016. CII's mission is to be the leading voice for effective corporate governance practices and to advocate for strong shareholder rights and protections. With a representative on the board, the Fund was able to exercise influence commensurate with its size and role as an ESG leader among institutional investors.

In 2011, Comptroller DiNapoli joined Ceres' Board of Directors. Ceres promotes a more sustainable economy by encouraging investors and companies to identify and manage material ESG issues. Ceres works with companies and investors to promote policies to mitigate risks of climate change and other critical sustainability issues. The Fund has been an active participant in this work since 2003.xi In 2013, the Fund and other investors working with the INCR wrote to 45 of the world's largest energy companies asking them to report the effect of their climate-related risks on shareholder value and share their plans for addressing them.xii

2016 Portfolio Engagements

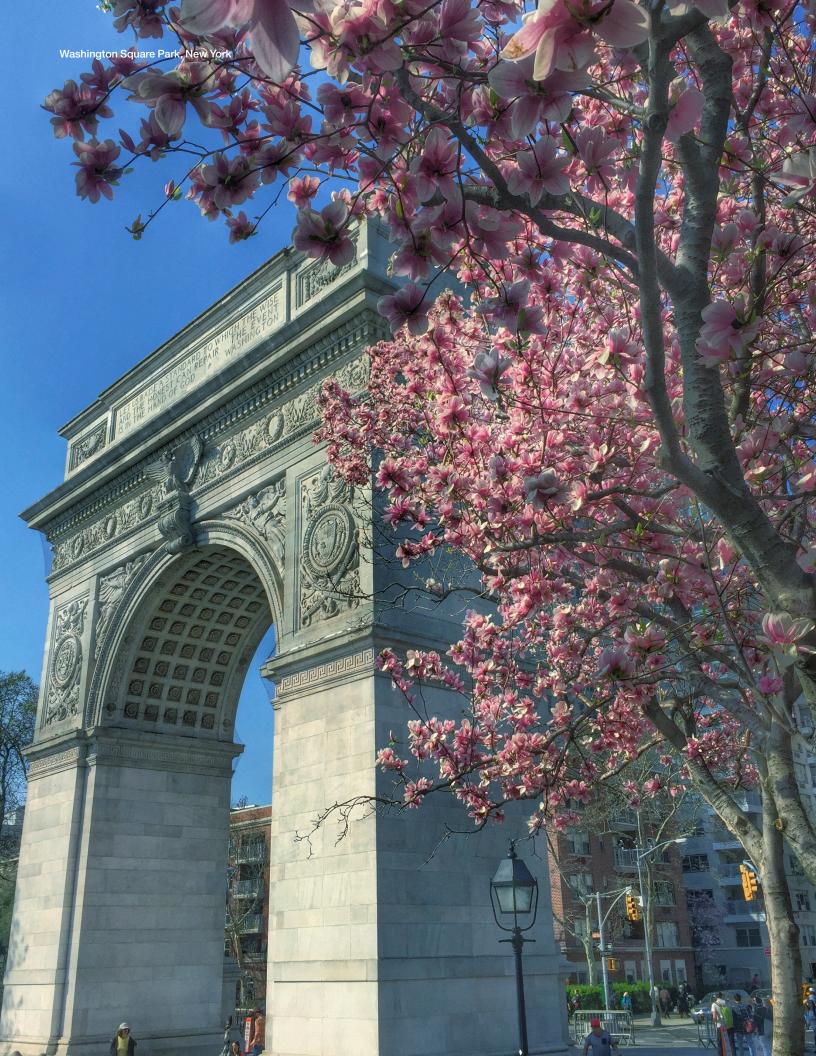
2016 was a banner year for the Fund's Corporate Governance Program. The Fund filed shareholder resolutions with 46 companies with a combined portfolio value in excess of \$7.2 billion.

In April 2015, Comptroller DiNapoli joined with New York City Comptroller Scott Stringer, in a letter to the U.S. Securities and Exchange Commission Chair Mary Jo White, calling on the SEC to enforce prior guidance it had issued to fossil fuel companies to enhance their disclosures of material risks from climate change. The letter requested both regulatory and enforcement actions to compel companies to analyze and share the risks they face from the regulation of fossil fuels, the possible effects of climate change on their assets, and market shifts that might be catalyzed by climate change mitigation efforts.^{XIII}

Since 2012, the Fund has been working in collaboration with Ceres on efforts to encourage global stock exchanges to set sustainability standards. This initiative encourages exchanges to develop meaningful, comparable, and consistent protocols to disclose ESG risks, and accountability mechanisms that can be compared across markets without imposing undue compliance challenges or liability risks on listed companies.xiv The Fund continues to actively pursue this work today.

As a result of these activities, the Fund has been recognized as having one of the most effective corporate governance programs with a clear focus on ESG in the United States. Recently, the Asset Owners Disclosure Project (AODP), an organization established to protect retirement savings and other long-term investments from the risks posed by climate change, identified the Fund as the top North American fund in its Global Climate 500 Index 2016. The Fund was one of only 12 funds to earn the highest possible grade of AAA.*

To further embed these practices into the investment process, in May 2014 the Fund's Corporate Governance Program established a Sustainable Investment Subcommittee of the Fund's Internal Investment Committee (IIC). Convening staff from across all asset classes, the Committee began a process of comprehensively integrating material ESG concerns into all aspects of its investment process and decision-making.



II. ESG STRATEGY SUMMARY

In July 2015, the Fund's management and asset class heads completed a sixmonth review of the Fund's investment philosophy. The philosophy comprises the Fund's core beliefs on markets and investing and guides the Fund's investment decisions. Together these components represent the Fund's approach to investing on behalf of the System's participants and reflects the Fund's mandate (including its mission, vision, and values).

Another important result of the Fund's review process is the ESG Strategy, a set of beliefs, values, and near-term goals that outline our broad approach to ESG investing. At the heart of this strategy is a formal ESG investment philosophy, a high-level approach for integrating ESG into the investment process.

ESG Investment Philosophy:

We consider environmental, social, and governance factors in our investment process because they can influence both risk and return. The Fund's ESG investment philosophy is supported by academic literature. Relevant findings include: Khan, Serafeim, and Yoon's conclusion that companies that perform well on material ESG issues but do not invest resources in immaterial issues show significant financial outperformance; and Eccles, loannou, and Serafeim's judgment that the stocks of companies with high ESG performance outperform the stocks of companies with low ESG performance over time. The stocks of companies with low ESG performance over time. The show a broad consensus that ESG matters for financial performance. Taken together, the research provides a strong empirical case for integrating ESG concerns more fully into the Fund's investment process.

The Fund's ESG Strategy identified the following goals for the integration of ESG factors into decisions about its directly managed portfolio and the practices of its investment managers:

- Create an ESG Risk Assessment to evaluate external managers' ESG policies and performance.
- Develop a method to assess ESG materiality for each investment.
- Pursue ESG investment initiatives, such as building a customized, Risk-Aware, Low Emission index for the Fund's public equities portfolio.

The following section details the current and planned approaches for achieving these goals.

III. IMPLEMENTING THE FUND'S ESG STRATEGY

In the public equities asset class, the integration of ESG concerns into management and investing practices is notably more mature in the marketplace than elsewhere. However, for a sustainable investment policy to be most effective, robust, and meaningful, it must apply to all asset classes. To that end, the Fund engaged in a process to define its ESG Strategy, including refining its ESG investment philosophy and developing tools to incorporate it in the Fund's investment process. The implementation of this ESG investment philosophy and its related implementation mechanisms – such as the ESG Risk Assessment to evaluate external managers' ESG policies – will expand the Fund's efforts beyond its public equity positions into other asset classes including private equity, real estate, and beyond.



To implement the ESG investment philosophy, the ESG Strategy relies on a two-pronged "materiality approach." ESG materiality derives from the regulatory concept of materiality – the idea that certain information is relevant to the economic decisions of interested parties and therefore must be disclosed so the parties can make informed decisions. The Fund believes that different ESG factors are relevant to the financial performance of different investments and must be considered in the decision-making process. The Fund's ESG Strategy includes two types of ESG materiality: market level materiality and investment level materiality.

The Market Level Approach

The Fund employs a market level approach to ESG issues that are material to the market as a whole.

As a perpetual owner of a range of assets, the Fund intends to continue pursuing engagements on ESG issues with systemic implications across sectors such as climate change, environmental risk management, board accountability, diversity, workers' and human rights, and political spending. As a "universal owner," the Fund is focused on ESG issues that affect the market as a whole because it cannot avoid exposure to them.

Practical implementation of such active ownership requires that the Fund's staff continue to collaborate with other investors, regulators, advocates and portfolio companies. The Fund has found that working with groups such as the UNPRI, Ceres, the CII, and CDP has served it well on these fronts.

The Fund has also found that sponsoring research has helped deepen the Fund's intellectual and professional analyses on key issues. These research investments build intellectual capital that facilitates the implementation of new programs and adds momentum to efforts by other investors and organizations.

The most recent example of this approach is the Fund's work on an industrywide study detailing market level risks posed by climate change. A summary of this study is discussed in the "Climate Risk" section of the Future Plans segment of this report.

This market level approach is consistent with and builds on the engagement work previously detailed in this Report under "Portfolio Company Engagements". Although investment level approaches like low emission indexing allow the Fund to minimize its direct exposure to these risks, the Fund's large size and broad holdings mean that indirect and direct exposure to marketwide risks is inevitable. The Fund is also mindful that when market level efforts create a rising tide that lifts all boats, the Fund is among those that will benefit most. For this reason, the Fund focuses its shareholder engagement efforts on companies that underperform their peers on disclosure and other ESG-related issues, especially carbon emissions. The Fund's Corporate Governance staff uses shareholder engagement to encourage companies to set clear goals for ESG improvement, while leveraging relevant information, such as data on companies' carbon footprints, to push companies to improve their ESG performance. This effort benefits the Fund, its portfolio companies, and the broader market.

The Investment Level Approach

The second component of the Fund's two-pronged approach to materiality, the investment level approach, includes shareholder engagement at specific companies, as well as two additional elements: (1) assessing the Fund's direct investments against material ESG factors; and (2) assessing its indirect investments by evaluating its external managers' ESG policies. The Fund's evaluation of the ESG performance of its securities holdings and external managers will ensure that such material ESG issues are appropriately addressed, either by avoiding at-risk investments or by working with companies and managers to mitigate the risks they face.

Determining materiality at the investment level

The Fund intends to use a variety of tools and metrics to evaluate which ESG factors are material to the its investments. These tools, including academic research, the Sustainability Accounting Standards Board (SASB) materiality map, MSCI ESG data and ratings, company data disclosed to CDP and other sources, combined with our experience as engaged owners and active ESG investors, will help ensure that ESG factors are addressed where necessary to protect the Fund's investments. Each of these sources relies on empirical data to demonstrate the role of various ESG factors as drivers of risk and return in the context of investments across markets, geographies, and asset

classes. This approach reflects the Fund's ESG investment philosophy and directs Fund time and resources to those factors most material to investment performance.

Assessing external managers using the Fund's ESG Risk Assessment

The Fund will also begin using a newly designed ESG Risk Assessment to evaluate external managers' ESG policies and performance. The Fund will work to ensure that the Risk Assessment guides its consultants' due diligence on potential managers' ESG policies, and builds the Fund's internal perspective on what policies drive ESG performance. It will also facilitate the Fund's efforts to standardize ESG information and reporting across managers and asset classes. This information will help guide ESG discussions and questions within the Fund's Internal Investment Committee meetings and foster dialogue across the Fund. This Risk Assessment will provide a standard for external managers to understand the Fund's expectations of how they should integrate ESG into their investment processes and will set a benchmark for ongoing improvement.

Although the ESG Risk Assessment will be a vital component of the Fund's investment process, its results may not be decisive for any single investment. A manager with a high score may lack a compelling value proposition and a manager with a lower score may nonetheless create value without a robust ESG policy if it employs a strategy for which few ESG factors are material. The purpose of the Risk Assessment is to guide investment decisions by ensuring uniformity of information and a common language for the Fund's investment team to discuss ESG issues. As with any other factor, the results of the ESG Risk Assessment will be considered in the investment process alongside other factors material to financial performance, consistent with our fiduciary duty.

The ESG Risk Assessment will grade external managers on defined criteria to gauge the rigor of their ESG policies and compliance. These criteria reflect the Fund's expectations for the external managers in which we invest, even from managers who already perform well. The ESG Risk Assessment consists of four primary areas within which the Fund will evaluate external managers:

1. Transparency

- Does the manager have an established ESG policy that it will share?
- What level of detail will the manager provide (e.g., listing factors vs. sharing methodology)?
- Does the manager publicly disclose its ESG performance?
- If the manager has signed onto public campaigns, will it share its compliance record with campaign requirements?

2. Information

- Does the manager purchase third-party data or use proprietary information to evaluate ESG for potential investments?
- Does the manager use a single source of information, a few sources, or a comprehensive set of sources?
- Does the manager measure ESG in-house or outsource monitoring of ESG information?

3. Process

- How are ESG evaluations integrated into investment decisions (negative screening, positive screening, targeted ESG investments, etc.)?
- Are there defined thresholds and metrics, or is ESG integrated qualitatively?

4. Engagement

- Does the manager take advantage of ownership rights (e.g., shareholder votes or board seats)?
- How does the manager decide when and how to engage?

Implementing this framework means that the Fund will define thresholds for evaluating external managers in each area. While the integration of ESG across asset classes is valued, the Fund also recognizes that different ESG policies and factors are relevant for different asset classes and will evaluate each manager accordingly.

This strategy is expected to foster a culture of ESG awareness and proactive assessment throughout the Fund's investment team and its organization. For the broader market, we look to the adoption of this Risk Assessment to establish a standard of rigorous ESG consideration for external managers.

The Fund aspires to be an industry leader in addressing ESG concerns and practicing sustainable investing. The hope is that by laying out the Fund's expectations for managers and clearly indicating its commitment to this issue, we can enhance the value of the Fund's investments and help build robust industry standards that will give ESG issues the consideration they are due.



Over \$5 billion committed to Sustainable Investments

Global Equity

- Risk-Aware Low Emission Index
- Generation
 Sustainability Fund
- FTSE Environmental Technology 50 Index
- Rockefeller Global Sustainability and Impact

Private Equity

- Hudson Clean Energy Partners
- Vantage Point Cleantech Partners

In-State Private Equity Program

- Invenergy: Wind energy developer for a wind farm in western New York
- Crystal IS: Maker of devices to reduce energy use in lighting and data storage applications

World Bank Green Bonds

IV. RECENT INNOVATION AND FUTURE PLANS

Building on the Fund's Green Strategic Investment Program

It is increasingly clear that companies that have developed and adhere to sustainable business practices strengthen their competitive position in the market, which enhances the potential for increased returns for the Fund. For nearly a decade, the Fund has incorporated this belief into its investment decisions.

Starting with a \$500 million commitment to the Fund's 2008 Green Strategic Investment Program, the Fund concentrated on environmentally-focused investment strategies across all asset classes. Since then, the Fund has increased its investments in clean energy, clean technology, energy efficiency, and sustainable businesses, including the creation of a new \$2 billion Risk-Aware Low Emissions Index. The Fund has committed an additional \$1.5 billion to sustainable investment strategies that will be allocated over the next few years, bringing the Fund's total commitment to sustainable investments to over \$5 billion.

Moving forward, we expect to use the ESG Strategy to source additional investments aligned to the objectives of the Green Strategic Investment Program. As part of the Fund's ESG Strategy, the Fund is transitioning from an environmentally focused "green" investment approach to a broader "sustainable" investment approach. This broader lens focuses on issues across the ESG spectrum and incorporates forward-looking perspectives on large-scale trends affecting the Fund's investments, such as the transition to a low carbon economy and evolving regulatory regimes for corporate governance. Sustainable investing remains a critical goal for the Fund, and our efforts to embed ESG into the broader investment process will only enhance the Fund's ability to deliver strong, risk-adjusted returns on investments affected by ESG concerns.

Selection Criteria for Inclusion in the Sustainable Investment Program

We have set a target of allocating \$1.5 billion to the Fund's Sustainable Investment Program (SIP) over the next several years. To qualify for SIP inclusion an investment must be attractive on a risk-return basis. In addition, a qualifying investment must be both implemented by a manager with a high standard of ESG integration in its investment process and must clearly address a sustainability theme. The themes set out in the following sidebar are a collection of specific sustainability goals and philosophies that seek to inform the types of investment that advance the Fund's mission with respect to ESG concerns. For example, an investment must clearly demonstrate a commitment to improving

conditions that support human health, nutrition and quality of life – especially for those underserved by current healthcare systems – to qualify under the theme of health and wellbeing. Though each of these themes will be measured, SIP inclusion decisions will be applied in a contextually appropriate manner and reflect differences in sustainability best practices in developed and emerging market investments. As such, standards will accord with both the development level of the market and the geography of the potential investment.

SIP investments must also score well on the ESG Risk Assessment. In recognition of differences between asset classes and investment vehicles, no absolute score or rating will determine inclusion or exclusion. Rather, an investment must outperform investments and managers within its own asset class on the ESG assessment to be considered for inclusion.

Climate Risk

The Fund's highly diversified, global portfolio operates in market environments that are sometimes inefficient. Thus, to capture and manage risk, an active approach is sometimes required.

The landmark 2006 Stern Review on the Economics of Climate Change categorized climate change as a "market failure" and asserted that "taking strong action to reduce emissions must be viewed as an investment, a cost incurred now and in the coming decades." The Fund is already taking steps to avert the consequences of a fragmented environmental regulatory landscape, uneven corporate reporting on climate risk, and the lack of comprehensive greenhouse gas emissions disclosures by companies. The Fund is also becoming more proactive in managing climate change risk and opportunity within our portfolio.

This endeavor gained greater traction when, in the fall of 2014, the Fund partnered with an advisor and 15 other institutional investors, collectively responsible for more than \$1.5 trillion in assets, to produce the "Investing in a Time of Climate Change" report.** Published on June 4, 2015, the report built upon a 2011 study and extended its original scope with more recent data, new contributions on physical impacts, and greater granularity at the sector level. Importantly, the report adapted a dynamic asset allocation model to include four climate risk factors under four climate change scenarios, illustrating expected movements and their relative magnitude for equities and other asset classes during the 2015-2050 time frame. The report assesses the risk/return impact that climate change could have, examines key downside risks and upside opportunities, and offers a plan of action investors can use to improve the resiliency of their portfolios.

The Fund's Sustainability Investment Themes

Resources and Environment

Climate and environment – Reducing the effects of climate change through low carbon initiatives

Resource efficiency – Making the most of available natural

of available natural resources

Pollution and waste

management –

Minimizing pollution and improving conditions for local communities

Human Rights and Social Inclusion

Education -

Improving the quality of and access to education, particularly for underserved groups

Demographic empowerment -

Ensuring access for diverse groups among critical decision-making bodies

Health and wellbeing – Improving conditions to support human health, nutrition, and quality of life

Economic Development

Financial inclusion – Expanding access to banking, credit, and other vital financial services

Sustainable infrastructure –

Funding infrastructure that expands economic opportunity and meets standards for environmental management

Report: Investing in a Time of Climate Change

"Climate change forces investors in the 21st Century to reconsider our understanding of economic and investment risk. This study provides the New York State Common Retirement Fund with valuable insights that will inform our efforts to manage climate risk and build out our portfolio in ways that protect and enhance investment returns."

- Comptroller Thomas P. DiNapoli on the Fund's participation in the Investing in a Time of Climate Change report. In conjunction with this report, the Fund received a tailored climate risk assessment report that highlighted the need for the Fund to formulate its own ESG investment beliefs and develop a formal policy document which delineates its approach to ESG risks and opportunities, including those related to climate change. The combination of recommendations from these reports represents a significant step for the Fund toward a best-practice assessment of climate risk and, more broadly, toward fully embedding ESG within our investment processes. These recommendations factored heavily into our ESG Strategy work, especially the formation of the ESG investment philosophy, materiality views and assessment tools.

Measuring the Fund's Carbon Footprint and Establishing the Low Emission Index

Based on the recommendations of the Fund's climate risk report, the Fund reviewed near-term options to improve its ESG performance and identified several climate risk priorities. These included conducting a carbon risk assessment, adjusting the Fund's holdings to reduce the downside risk of climate change, and incorporating climate risk into the Fund's engagement strategy. In addition, the Fund has continued its market leadership by making a \$2 billion allocation to a Risk-Aware Low Emission equity strategy (a passive index that underweights large emitters). This strategy will underscore to the market the value of moving to a less carbon-intensive economy while operating in a manner consistent with fiduciary best practices in portfolio construction and risk management. In the process, it will create synergies with the Fund's globally recognized corporate engagement program, which will continue to demand that those lagging behind the market disclose and ultimately minimize their carbon emissions.

Measuring the Fund's Carbon Footprint

Recently, the Fund engaged a strategic partner to measure the carbon foot-print of its Global Equity portfolio. The results of the measurement indicated that the Fund's Global Equity portfolio has a 15 percent lower emissions profile than its benchmark (75 percent Russell 3000/25 percent MSCI ACWI). This baseline measure of carbon emissions allows the Fund's staff to measure our progress in lowering the carbon emissions of the portfolio. It is our intent to measure this footprint semiannually, and to evaluate additional asset classes in the future.

Establishment of a New Low Emission Index

At the 21st Conference of the Parties (COP21) to the U.N. Framework Convention on Climate Change in Paris in December 2015, Comptroller DiNapoli announced the Fund's newly created Risk-Aware Low Emission Index developed with our strategic partners, as previously noted.xxi This new index satisfies our fiduciary duty, while significantly reducing the Fund's exposure to carbon emissions. Among its features, the low emission index:

- Uses CDP data to measure carbon emissions.
- Utilizes a robust system for measuring and then minimizing portfolio carbon emissions per unit of tracking error.
- Applies best-in-class risk management and consistent portfolio construction techniques in a transparent manner.
- Seeks meaningful emissions reductions (approximately 70 percent reductions vs. Russell 1000) with minimal risk (0.25 basis points [bps] of tracking error).
- Uses engagement to convince companies to improve their disclosure and management of carbon emissions.

This strategy places the Fund at the vanguard of U.S. pension funds in measuring their carbon footprints and provides a model that we hope will become a standard feature of the institutional investing landscape. Going forward, we hope to allocate additional capital to this index.

V. CONCLUSION

The Fund plans to build on its history of sustainable investment and responsible asset management. ESG has been and remains a fundamental part of our DNA – it informs our investments, public advocacy and our shareholder engagement. The ESG investment philosophy and ESG Strategy reflect the central role of these concerns in our decision-making. These efforts will help move the Fund and the market toward sustainable practices.

Advancing the ESG investment philosophy and ESG Strategy are significant milestones for the Fund and its beneficiaries. Our goal in this effort is clear: to reaffirm our commitment to protecting the Fund's assets through sustainable investment approaches and to promoting safe, socially conscious decisions. By continuing down this path as ESG market leaders, we hope to demonstrate to other institutional investors the feasibility of embedding these practices into standard investment processes.

This is just the beginning – our understanding of the risks posed by climate change and other ESG factors is relatively recent in the history of investment. The Fund's ESG integration efforts will continue to evolve over time as we and our partners learn more about these issues and the role of investments in promoting a sustainable future. Successfully managing these risks will require not just bold thinking, but a willingness to adapt our approaches as new information and additional risks are discovered.

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