

GSAM's Statement on ESG & Impact Investing

Executive Summary

Goldman Sachs Asset Management (GSAM), a part of the Goldman Sachs Group, Inc., is committed to helping our clients deploy their capital in a manner that integrates environmental, social, and governance (ESG) considerations and seeks to have positive impact on environmental and social issues, while preserving and growing our clients' financial assets. This work is rooted in our belief that: 1) in certain instances, ESG factors can be material drivers in delivering long-term, risk-adjusted returns for our clients, and 2) some of our clients have more targeted values, priorities or investment objectives concerning ESG and impact issues. This document outlines GSAM's commitment to ESG and impact investing, our investment rationale for ESG integration across asset classes and investment strategies, and our capabilities for those clients who have a more targeted focus on ESG and impact investing.

Goldman Sachs has a long standing commitment to integrating ESG and impact considerations in our work with clients across our business lines. For example, in 2015, Goldman Sachs [expanded the firm's clean energy target](#) to \$150 billion in financings and investments by 2025, increasing our previous goal of \$40 billion originally set in 2012.¹ In addition, since 2001, our [Urban Investment Group](#) has deployed over \$6 billion into underserved American communities and has innovated on many public-private partnership financing models in the impact investing field. As the investment case for the materiality of ESG factors has become more robust for certain investment strategies, and as our clients have become increasingly focused on comprehensive ESG and impact investing solutions, GSAM has expanded these capabilities for our clients. In 2015 GSAM acquired the assets of Imprint Capital ("Imprint"), one of the largest dedicated ESG and impact investing investment advisors in the industry. Since its founding in 2007, Imprint had advised on 120 investments across asset classes on behalf of clients, including 11 of the 25 largest U.S. foundations and several other leading investors in the field. As of January 31, 2018, GSAM supervises over \$13.4B in assets in dedicated ESG and impact investing strategies on behalf of our clients, and an additional \$75.7B in assets that are invested with ESG considerations.²

GSAM's ESG and impact investing capabilities are differentiated by:

- The **depth** of expertise of our 30 dedicated ESG and impact investing professions who are embedded into and leveraged by the broader global division³
- The **breadth** of our internal and external implementation options across an asset allocation
- Our **core thesis** of treating ESG and impact factors as an investment discipline

As outlined on the next page, we partner with our clients to holistically integrate ESG and impact considerations in our core investment process and to offer dedicated strategies for interested clients.

¹ Targets are objectives and do not provide any assurance as to future results. Targets are subject to change and are current as of the date of this presentation. Targets are objectives and do not provide any assurance as to future results.

² Assets Under Supervision (AUS) includes assets under management and other client assets for which Goldman Sachs does not have full discretion.

³ Personnel as of January 2018

Investment Team	Overview of Team	Holistic ESG Integration	Dedicated ESG and Impact Offerings ⁴
Fundamental Equity	The GSAM Fundamental Equity team (FE) manages a range of strategies across market capitalizations, investment styles, and emerging and developed markets. FE invests with a long-term view and seeks to allocate capital to companies with shareholder-oriented management teams and quality characteristics.	FE considers material ESG factors in fundamental investment decisions, leveraging both in-house qualitative research and external ESG data sources. FE is an active owner, engaging with management and other investors on ESG issues and voting our proxies in alignment with how we believe ESG factors can drive long-term value.	<ul style="list-style-type: none"> • US Equity ESG • Global Equity Partners ESG • International Equity ESG
Fixed Income	The GSAM Fixed Income (FI) team manages a range of strategies within global fixed income markets, including specialized single-sector, diversified multi-sector portfolios, and global liquidity solutions.	FI integrates quantitative and qualitative ESG research into its security selection and risk management systems. This integration varies by geography and security type, for example including proprietary corporate governance analysis of emerging market investments.	<ul style="list-style-type: none"> • Customized ESG portfolios (including low-carbon tilts and social/green bonds) across municipal fixed income; investment grade & high-yield fixed income; securitized strategies; and liquidity solutions
Quantitative Investment Strategies	The GSAM Quantitative Investment Strategies (QIS) team uses advanced quantitative methods to systematically uncover and exploit sources of alpha. Our proprietary risk models seek to ensure that risk is actively managed and allocated according to our investment criteria.	QIS uses its full set of analytical capabilities to research a variety of types of ESG data (e.g. structured data, natural language analysis, etc.) from a range of proprietary and external sources to identify potential alpha signals. ESG signals that add sufficient incremental financial value are integrated into strategies managed by the team.	<ul style="list-style-type: none"> • S&P Environmental & Socially Responsible Strategies • Risk Aware, Low Emissions (RALE) Strategy
GSAM Private Real Estate	GSAM Private Real Estate (PRE) is responsible for managing all of GSAM's private real estate investments and focuses on three main private real estate strategies including: (1) Core; (2) Core-plus; and (3) Value-add. The group employs an active management approach, seeking to drive returns for investors through asset management initiatives including renovating and rebranding assets and implementing energy and operating efficiency programs to realize cost savings.	GSAM PRE aims to integrate environmental and social considerations to create value for our investors, tenants and the community. We also aim to monitor and manage environmental and social risks alongside the economic risks of our investments. We will seek to leverage our resources, relationships, and knowledge to implement these ESG goals in the most effective and efficient manner from sourcing to eventual disposition of our investments.	<ul style="list-style-type: none"> • ESG integrated commingled and customized portfolios of real estate assets
GSAM Credit Alternatives	The Credit Alternatives team utilizes a bottom-up, fundamentally based investment approach with a focus on capital preservation to provide clients with differentiated sources of return, or yield, over the long-term. The Renewable Power Group sits within the GSAM Credit Alternatives platform.	The GSAM Renewable Power Group within the GSAM Credit Alternatives team manages investment strategies that focus primarily on renewable energy projects. The team is comprised of seasoned professionals, including individuals with experience in the solar industry.	<ul style="list-style-type: none"> • Renewable energy strategy
Alternative Investments & Manager Selection	The GSAM Alternative Investments & Manager Selection ("AIMS") Group provides investors with investment and advisory solutions, across leading external hedge fund managers, private equity funds, real estate managers, and traditional long-only managers.	AIMS integrates a full quantitative and qualitative ESG analysis of external managers and their underlying holdings into the team's investment due diligence, operational due diligence, and monitoring of investments.	<ul style="list-style-type: none"> • Customized public and private market ESG and impact portfolios across asset classes and impact themes • Commingled private market impact investing vehicles

⁴ There is no guarantee that these objectives will be met. The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk. This information is shown for illustrative purposes to demonstrate our ESG & Impact investing capabilities. Please note that not all investments are available for all investors.

ESG and Impact at Goldman Sachs

Goldman Sachs has a long standing focus on ESG and impact issues, from our commitments to increasing sustainability across our operations to financing activities devoted to sustainability to our pioneering work in impact investing. We annually report on our Firmwide progress through our [Environmental, Social and Governance Report](#) which highlights areas in which we have demonstrated our commitment to finding effective and innovative ways to tackle economic, social, and environmental challenges across our business.

Goldman's commitment to ESG and impact investing spans several main areas of focus, including: our business, our operations, our capital, and our clients' capital:

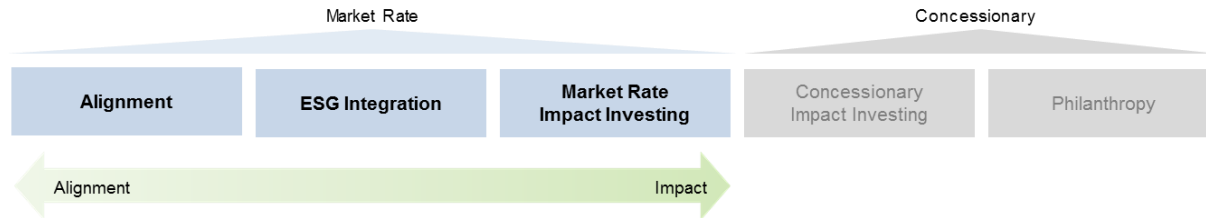
- **Our business** – Goldman Sachs was one of the first financial institutions to acknowledge the scale and urgency of the challenges posed by climate change. In 2015, we updated our [Environmental Policy Framework](#) (EPF) to build on our progress and establish a roadmap for continued environmental leadership across the breadth of our businesses. The updated EPF includes business commitments, including the expansion of our clean energy target to \$150B in financings and investments by 2025 to facilitate the transition to a low-carbon economy, as well as operational commitments, including achieving carbon neutrality across our operations as of 2015 and a target of 100 percent renewable power to meet our global electricity needs by 2020.⁵ In 2017, we surpassed \$67B deployed to clean energy towards our \$150B target, and also signed a Power Purchase Agreement with NextEra Energy Resources that will enable the development of a new 68 MW wind farm, in which we will be the sole off-taker of the project's energy capacity.
- We furthermore believe that our people are a vital part of our business and we go to great lengths to support, promote and develop them. We are committed to creating and sustaining a diverse work environment for our people and believe we can only serve our clients with excellence by having a workforce that pulls from a wide range of experience and backgrounds. The firm's commitment to diversity includes raising awareness, developing targeted initiatives to drive the advancement of diverse professionals, and embedding manager and senior leadership accountability for developing a diverse talent pipeline. For example, in 2017, 1,883 managing directors and vice presidents participated in a training led by Harvard professor Mahzarin Banaji that explored unconscious thinking and its impact on decision-making for our people and businesses. Since launching the program, almost 12,000 professionals currently employed with Goldman Sachs have participated in the training.
- **Our operations** – Through our Corporate Services and Real Estate (CSRE) team, we oversee our citizenship commitments; which include helping to manage our direct impact on the environment, supplier diversity and community relations across the firm's facilities and operations worldwide. We focus on (1) managing regulatory and reputational risk; (2) adding commercial value through innovation and creative collaboration; and (3) educating, inspiring and engaging our people in support of our ESG commitments. Our 2020 public environmental commitments span across a number of realms including green buildings, sourcing, waste, water and carbon/energy - fields in which we have been internationally recognized as leaders in the industry. Our social sustainability efforts (which focus on diversity and inclusion, health and safety, human rights and ethics, and local community) allow us to promote the presence of diverse businesses in our supply chain, establish global health and safety standards for our capital projects, as well as create and maintain signature local community engagement programs in major real estate locations in which we live and work. Lastly, we ensure proper governance by focusing on the development of a sustainable procurement framework and a vendor code of conduct as well as managing regulatory and reputational risk through transparency in public reporting. In 2017, we published a new [Vendor Code of Conduct](#) for all vendors firmwide, and we launched a Sustainable Procurement Toolkit for all sourcing activity.
- **Our capital** – Goldman Sachs has a long history of implementing innovative impact investments through our [Urban Investment Group \(UIG\)](#), which has committed more than \$6 billion to underserved American communities since 2001. Goldman Sachs has also committed in excess of \$1.6 billion to philanthropic initiatives since 2008, including through our 10,000 Women and 10,000 Small Businesses initiatives. In 2014, Goldman Sachs and The World Bank Group's International Finance Corporation (IFC) created the first-ever loan facility for women-owned small-and-medium enterprises to enable 100,000 women around the world to access capital.
- **Our clients' capital** – with growing interest and activity in the field, our clients are increasingly seeking ways to use ESG integration to drive value in their investment portfolios and achieve positive impacts alongside financial returns. At GSAM, we seek to provide comprehensive solutions for our clients, combining a focus on ESG and impact investing with the rigor and risk-return standards of investment management. This document outlines GSAM's commitment to ESG and impact investing and our capabilities for our clients in this regard.

⁵ Targets are subject to change and are current as of the date of this presentation. Targets are objectives and do not provide any assurance as to future results.

The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

Spectrum of ESG and Impact Investing⁶

We view ESG and impact investing along a spectrum of objectives and corresponding market opportunities, which are helpful to articulate before describing how these strategies are implemented across GSAM:



- **Alignment** refers to predominantly passive, public market strategies that seek to avoid potentially objectionable exposures (such as tobacco companies) and optimize for other ESG variables (such as carbon efficiency or gender diversity) in a risk-managed manner, in order to better align the portfolio with the client's ESG objectives while tracking closely to a conventional benchmark.⁷
- **ESG integration** is the purview of active managers – across public and private markets – which incorporate ESG factors into fundamental, bottom-up investment processes as a way to potentially drive value from a risk/return perspective.
- **Impact investments** are typically in private markets and aim to deliver sustained alpha, seeking market rates of return, while achieving targeted, direct impact on environmental and social issues.

At GSAM, we focus on alignment, ESG integration, and impact investing. For some clients, concessionary impact investments – investments which may have a below-market rate return– and/or philanthropy are an important part of their full spectrum of capital deployment. While we do not focus on these activities, we can help clients think through how they may fit into a comprehensive program.

ESG and Impact Investing at GSAM

GSAM has made a commitment to building a comprehensive ESG and impact investing platform both because we believe that in certain instances these factors are material to investment performance, and because ESG and impact investing are increasingly important to our clients.

There are two core drivers of our work in this area that correspond to two related, but distinct, investment approaches:

- **Fiduciary driver:** ESG factors are among the variables that can, in some instances, drive risk and return across a wide variety of investment approaches. These factors can impact investments in idiosyncratic ways, depending on the investment strategy, asset class, geography, and investment style. As such, integrating ESG factors into the investment process varies commensurately, depending on whether and where they may add material value. We refer to this work as holistic ESG integration.
- **Investor driver:** Increasingly, a wide variety of our clients - insurance companies, pension plans, sovereign wealth funds, non-profits, foundations, endowments, family offices, private clients and more - have a desire to integrate more specialized ESG and impact values, objectives, or views into their investment portfolios. We have built dedicated ESG and impact investing strategies and capabilities in order to address these investment objectives.

Based on these two core drivers, we have integrated ESG and impact capabilities throughout our investing processes in two corresponding approaches:

- **Holistic ESG integration and engagement across our traditional investment approaches** – we believe sustainable, long-term investing extends beyond the evaluation of quantitative factors and traditional fundamental analysis of conventional financial metrics. Where material, it should include the analysis of an entity's impact on its stakeholders, the environment and society. We recognize that these ESG factors can affect investment performance, expose potential investment risks, and provide an indication of management excellence and leadership. To this end, GSAM continues to improve the process of integrating the analysis of these factors into our investment and company engagement processes, where appropriate and consistent with our fiduciary duty,

⁶ Source: GSAM. For illustrative purposes only.

⁷ The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

as well as communicate on our progress in this regard and contribute to the development of best practices within the investment community. An additional important component to our comprehensive focus on ESG integration across GSAM is our commitment to stewardship through our proxy voting and company engagement activities. We describe how each of our investing teams integrates ESG in the “Implementation” section of this document.

- **Dedicated platform for ESG and impact investing focused portfolios** – for our clients with a more proactive focus on ESG and impact investing, we have a breadth of targeted ESG and impact investment solutions ranging from low-carbon passive equity strategies to impact private equity programs. We can implement ESG and impact investments across asset classes and impact areas, through a combination of open architecture solutions and in-house products and capabilities in both public and private markets. We take a holistic implementation approach, and our ESG and impact investing client strategy team can advise across a portfolio, implementing solutions with a highly curated investment approach and fiduciary mindset.

We believe this combined approach has resulted in ESG and impact investing capabilities that enable us to help our clients achieve their ESG and investment objectives, while staying grounded in our core philosophy of serving our clients’ investment goals and strictly adhering to our fiduciary duty as an asset manager.

GSAM’s Commitment to Stewardship

We believe that stewardship is an integral part of our fiduciary duty across the full spectrum of our investment activities. At GSAM, stewardship consists of the prudent management of all of a company’s resources for the benefit of shareholders and other stakeholders, including employees, consumers, clients and other members of society. We fulfill our stewardship responsibilities by continually evaluating companies’ corporate strategy, investment and financing activities, management incentives, regulatory policies and environmental and social impacts.

GSAM monitors existing, and in many cases, potential investee companies using a combination of quantitative and qualitative metrics that are designed to enhance shareholder value. In broad terms, these metrics, which are integral to the investment process of each portfolio management team, are related to financial performance, capital usage and governance structure. Our evaluation of corporate governance is multi-dimensional. GSAM views the analysis of corporate governance practices as an integral part of the investment research and stock valuation process. As active managers, engagement with company boards and management teams gives us insights into management quality, business model, financial strategy and future business prospects. The investment team works closely with ESG specialists to engage with companies on various ESG topics. ESG topics include, but are not limited to, executive compensation, board diversity, succession planning, sustainability programs and employee outreach. The investment team bases their determinations of whether to invest in a particular company on a variety of factors, including information from company engagements.

In order to carry out its voting responsibilities where its clients have delegated responsibility to it, GSAM has developed its own customized global guidelines on proxy voting. The GSAM guidelines, which are updated annually to incorporate current issues and our latest views about key governance topics, embody the positions and factors GSAM generally considers important in casting proxy votes. They address a wide variety of individual topics, including, among other matters, shareholder voting rights, anti-takeover defenses, board structures, the election of directors, executive and director compensation, reorganizations, mergers, issues of corporate social responsibility and various shareholder proposals. Recognizing the complexity and fact-specific nature of many corporate governance issues, the GSAM guidelines identify factors that GSAM considers in determining how votes should be cast.

Please see the [GSAM Global Proxy Voting Policy & Procedures](#) for more information as well as GSAM’s UK Stewardship Code Statement.

Implementation

The following sections outline both how our investment teams integrate ESG factors as part of our traditional investment approaches, as well as our dedicated ESG and impact investing strategies:

- A. Fundamental Equity
- B. Fixed Income
- C. Quantitative Investment Strategies
- D. Private Real Estate
- D. Alternative Investments & Manager Selection

A. Fundamental Equity

The GSAM Fundamental Equity team (FE) manages a range of strategies across market capitalizations, investment styles, and emerging and developed markets. FE invests with a long-term view and seeks to allocate capital to companies with shareholder-oriented management teams and quality characteristics. These characteristics may include sustainable or competitive operating advantages, strong balance sheets and cash flow generation, management teams who are excellent stewards of capital, and the potential ability to earn in excess of the cost of capital.

Holistic ESG Integration

We believe that ESG analysis and integration is a natural extension to quality-oriented fundamental research and risk management.⁸ We seek to evaluate a company management team on many factors, including its focus on creating a sustainable business model and its attention to ESG factors. Our view on Governance forms the foundation for our analysis; we then consider material environmental and social factors by sector. For some companies and/or sectors, these can be important drivers in evaluating their long-term earnings sustainability and in turn, valuation. We conduct both quantitative and qualitative analysis, which is built upon more than 10,000 meetings with company management each year. These meetings provide a forum to evaluate a company's commitment to shareholders and consider how it compares against its industry and regional peers.

Proxy voting and company engagement, or stewardship, are an important part of our holistic focus on ESG integration and responsible, active ownership within the investment process. At GSAM, stewardship is accomplished in a number of ways across portfolio teams. GSAM has adopted a global proxy voting policy, which is updated at least annually to incorporate current beliefs on key corporate governance and ESG topics. Additionally, every proxy vote is reviewed by the investment analyst responsible for that stock. Through a constructive, direct and private dialogue with companies, FE is able to raise awareness of ESG factors and risks, seek enhanced disclosure and discussion, and ultimately influence company behavior. Please see "GSAM's Commitment to Stewardship" above for more information.

Targeted ESG Solutions

While ESG is an integral part of our approach to active management and active ownership across our global business, FE also manages dedicated ESG portfolios for clients who seek an even more targeted approach. In order to quantify ESG quality in these portfolios, we analyze a number of external data sources and utilize our own internal evaluation. Our view on governance forms the foundation of our analysis and we believe is a good indicator of a company's ability to effectively implement responsible business practices. Our evaluation then includes a rigorous analysis of material environmental and social factors, which vary by sector. This is not a box-ticking exercise; rather, it is conducted at a company and sector level in line with our fundamental, active approach and it is informed by ongoing meetings with company management. We also seek to avoid companies that have material exposure to human rights, environmental or product responsibility violations.

Two key examples of our targeted ESG offerings are as follows:

- **Global Equity Partners (GEP) ESG** is a long-term, concentrated, high conviction, high active share strategy. Within the global context, this strategy builds upon what we began in the US and shapes ESG analysis around various regional nuances, regulatory considerations, and investment opportunities across markets and sectors. Here, we look for quality companies with business longevity and the potential to be long-term winners across global markets, and we engage regularly with company management teams.

⁸ The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk. There is no guarantee that these objectives will be met.

- **US Equity ESG** is GSAM's first targeted ESG portfolio, which was inspired by our clients and formed the foundation of our pioneering approach to ESG analysis within FE. With over a decade of history, this strategy has continually informed our thinking and evolved over time while maintaining a proactive focus on ESG factors in both stock selection and company engagement.

While there are nuances in our approaches in different markets, the mission is consistent across both portfolios and aligns with our objective to seek to drive sustainable long term returns for our clients as an active manager. As our clients' ESG objectives continue to evolve and expand, FE continues to build on our experience and seeks to innovate a broader set of solutions across the global equity complex.

B. Fixed Income

The GSAM Fixed Income team manages a range of strategies within global fixed income markets, including specialized single-sector portfolios, diversified multi-sector portfolios, and global liquidity solutions.⁹

Holistic ESG Integration

Our approach to ESG integration varies by strategy, as ESG factors can impact credit quality in different ways. Still, we believe that analysis of ESG factors can inform our analysis of a given investment's risk and reward profile.

An analysis of ESG factors is integrated into our bottoms-up investment process. We believe it is our analysts and economists who are best positioned to opine on the relevance of these themes for credit quality and valuation -- they have a deep understanding of the sovereigns, sectors and companies for which they are responsible, and are the ones who are meeting with management teams and other issuer representatives. To drive the analysis of ESG, we rely on our own bottoms-up work, as well as various third-party analyses. If we deem an ESG related issue to be a Key Driver, then we seek to further understand and analyze this as part of our research process.

More specifically, ESG topics can be a natural input into our credit "Key Drivers" process - the three to five key factors that we believe determine credit quality and spreads. For instance, we believe the systemic analysis of governance factors is a critical component of our analysis of corporates, both financials and non-financials. This includes evaluating board structures, risk management, transparency and disclosure. Moreover, environmental factors can be an important source of risk (and opportunity) for many industries and corporates given integrated value chains. Finally, the team takes a risk-based approach to assessing materiality of social topics. This might include the risk of product litigation, reputational risks, as well as a company's relationships with various stakeholders, which can determine its "right to operate" in a given jurisdiction.

We believe ESG factors are particularly important to consider when investing in emerging market corporate and sovereign debt due to the added potential for significant variations in environmental, social and governance approaches in developing economies. Within our research process we evaluate numerous ESG factors and their potential impact on sovereign or corporate credit. For instance we believe analysis of governance is particularly relevant given ownership structures and potential difficulties of enforcing creditor claims in bankruptcy. To monitor this, our EM corporate team has developed a formal checklist of factors that we investigate and discuss with corporate management teams. We believe this can help us make better, more informed investment decisions for our clients, as well as help us to manage and mitigate risks for client portfolios.¹⁰

Our securitized strategy team seeks to deliver market-rate returns while focusing on ESG aspects by leveraging a rich landscape for ESG investments, in both the agency and private-label markets. The agency mortgage-backed securities and agency commercial mortgage-backed securities market support home ownership among low- and middle- income borrowers, and the construction and renovation of affordable multifamily housing options. Specific asset-backed securities support expanding access to capital for small business owners, providing affordable financing for higher education, financing renewable energy efforts, etc.

Finally, our US municipals team considers an issuer's potential environmental and/or social impact, with issuers including school districts, community colleges, hospitals and arts & cultural institutions. The team might target issuance by a hospital to fund a new cancer center in a rural area with limited access to alternative treatment options, or the construction of a new elementary school in a challenged socio-economic area. On the other hand, the investment professionals may also consider exclusions based on the revenue source, such as bonds funded by lottery revenue. Historically, non-US investors, along with pensions, foundations and endowments, have tended to be less involved in the muni market, as they can't benefit from the key advantage of tax-exemption. Taxable municipal

⁹ Diversification does not protect an investor from market risk and does not ensure a profit.

¹⁰ The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk. There is no guarantee that these objectives will be met. Targets are subject to change and are current as of the date of this presentation. Targets are objectives and do not provide any assurance as to future results.

issuance existed in only a limited capacity until the Build American Bond (BAB) program launched in 2009 as part of the American Recovery and Reinvestment Act, which alone brought \$170 billion of taxable debt into the market. The team now offers ESG portfolios across the tax-exempt and taxable municipal market.¹¹

As part of our investment process, we regularly communicate with company management teams and government representatives on many topics that impact credit risk, which can include ESG-related factors. We engage in order to improve our understanding of ESG-related risks as it relates to an individual issuer or sector and to signal to management teams that we are focused on these themes. We believe that the act of raising these topics, where relevant to credit quality, risk management or spreads, serves as an important signal to management teams about ESG's relevance to our investment approach. Frequently, the manner in which management teams acknowledge, manage and mitigate these factors provides important insights into how they view (and the importance to which they place) these issues. By meeting with management teams, we are able to judge their preparedness and understand how they are adapting to various risks. Given GSAM's size, we are frequently able to leverage our Fundamental Equity team's access to management, but we also directly interact with management teams as a large Fixed Income asset manager.

Finally, we seek to understand how ESG risks and opportunities are reflected in overall valuation. This may lead us to underweight a company that bears material risks, which the market has not acknowledged; at other times, we may feel that the risks are well understood by the market. We also ask analysts to explicitly flag those companies that have a material and outsized ESG footprint relative to their respective peer groups; this allows us to quickly identify underperforming companies across our investment universe. Importantly, we view research as an ongoing process, and we are constantly reviewing both market valuations and our own bottoms-up fundamental views.

Targeted ESG Solutions

Our fixed income teams manage a variety of custom portfolios for clients that have a more targeted focus on ESG factors. Please see below for examples of custom client solutions:

- **Enhanced ESG Custom Municipal Bond Portfolio:** For dedicated ESG portfolios our US Municipal Fixed Income Team begins by targeting a higher allocation of a client's municipal portfolio to sectors they expect to have a higher positive impact, such as school districts, community colleges, hospitals, and arts and cultural institutions. They also might target, for instance, an issuance by a hospital to fund a new cancer center in a rural area with limited access to alternative treatment options, or the construction of a new elementary school in a challenged socio-economic area. They may also consider exclusions based on the revenue source, such as bonds funded by lottery revenue or a municipal utility issuance in a state that does not currently have a renewable energy requirement. Please see the following [publication](#) from the GSAM Municipal Fixed Income Team for more information on their customized ESG approach.
- **Custom ESG portfolios:** We are committed to working with our clients to ensure that their individual portfolios reflect their values and investment priorities, and can provide client-directed screens on their behalf. As such, we can exclude certain sectors and issuers from individual client portfolios on an as-directed basis. We have also worked with clients to help manage and reduce their portfolio's exposure to fossil fuels and carbon emissions, for example, while adding in bonds with a more thematic ESG focus, such as green bonds.

¹¹ The Build America Bond program has expired.

Goldman Sachs does not provide accounting, tax or legal advice. Please see additional disclosures at the end of this presentation. The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk. Targets are subject to change and are current as of the date of this presentation. Targets are objectives and do not provide any assurance as to future results.

C. Quantitative Investment Strategies

Our Quantitative Investment Strategies (QIS) team uses advanced quantitative methods to systematically uncover and exploit sources of alpha. Our proprietary risk models seek to ensure that risk is actively managed and allocated according to our investment criteria. We offer a range of strategies across market capitalizations, regions and investment styles that can be tailored to meet specific client demands.

Holistic ESG Integration

With regard to our quantitative equity alpha process, our stock selection models attempt to capture the effects of corporate governance indirectly via indicators of a company's return potential which include a company's growth opportunities, competitive positioning, regulatory environment, capital structure, quality of management, etc. In this respect, we believe that the investment themes of our quantitative equity process thereby capture indirectly the quality of companies' corporate governance. Furthermore, our quantitative equity alpha team has been engaged in research on the relationship between various ESG factors and their impact on portfolio risks and returns. That research identified several ESG factors that are positively correlated with alpha; these signals have been included in our alpha/return models. This research also identified a more nuanced metric that helps tilt portfolios towards or away from certain ESG related themes that are trending (either positive or negatively) in the market.¹²

Our quantitative equity beta strategies aim either to track the performance of third-party equity indices or to capture rewarded equity factors using a set of simple and transparent rules. As such, our quantitative equity beta process does not explicitly assess the quality of companies' ESG performance.

Targeted ESG Solutions

Our quantitative investment teams have worked with clients to create a range of customized ESG solutions, drawing on our deep experience with data and sophisticated risk management techniques. Two examples of custom client solutions include:

- GSAM collaborated with the S&P Dow Jones Indices to create and launch the S&P Environmental & Socially Responsible strategies, designed to offer investors enhanced exposure to securities meeting sustainability investing criteria while maintaining a risk and performance profile similar to their respective underlying indices – the S&P 500 and the S&P Developed BMI Ex-U.S. & Korea LargeMidcap. The constituents are selected using a transparent, rules-based methodology where stocks engaging in fossil fuel heavy industries or in the production and sale of tobacco, cluster bombs, landmines, nuclear and other military armaments are excluded. 75% of the stocks with the highest ranking E&S Scores in each sector are selected for index membership. Hence we are able to both exclude objectionable exposures, including fossil-fuel intensive companies, while proactively re-optimizing a portfolio towards more sustainable companies, while using sophisticated risk management.
- Additionally, GSAM worked with New York State Common Retirement Fund (NYS) in 2015 to develop a Risk Aware, Low Emissions Equity Investment program. NYS committed an initial \$2 billion to this strategy within its U.S. equity portfolio to invest in companies that in aggregate seek to have greenhouse gas emissions that are up to 70 percent lower than that of the client's US large cap equity benchmark. The low emission strategy seeks to eliminate or underweight stock ownership in some of the worst greenhouse gas emitters based on independent emissions data while staying within a defined risk tolerance. In 2018, NYS doubled its commitment to the Risk Aware, Low Emissions Equity Strategy to \$4 billion.¹³

Our teams welcome the opportunity to work with clients to design and implement customized strategies to meet their objectives.

¹² There is no guarantee that these objectives will be met.

¹³ Source: *The Wall Street Journal*, "New York State Doubles Bet on Low-Carbon Companies," Jan. 30 2018. There is no guarantee that these objectives will be met.

D. GSAM Private Real Estate

GSAM Private Real Estate (PRE) is responsible for managing all of GSAM's private real estate investments and focuses on three main private real estate strategies including: (1) Core; (2) Core-plus; and (3) Value-add. The group employs an active management approach, seeking to drive returns for investors through asset management initiatives including renovating and rebranding assets and implementing energy and operating efficiency programs to realize cost savings. The team manages over \$2.1 billion of real estate assets across commingled and customized portfolios of real estate assets.

Defining GSAM PRE Approach to ESG

In the context of private real estate we define holistic ESG considerations as the following:

- **Environmental:** Increased energy efficiency at properties through the use of clean technology, building optimization techniques, and sustainable materials, which ultimately reduce costs and carbon footprint
- **Social:** Heightened focus on social considerations that ultimately improve a property's brand and amenities, such as responsible vendor contracting, local community engagement, and the addition of quality of life oriented amenities
- **Governance:** Increased transparency into the amount and type of ESG projects within the portfolio and tailored energy cost and usage tracking techniques

Holistic ESG Integration

GSAM PRE aims to integrate environmental and social considerations to create value for our investors, tenants and the community. We also aim to monitor and manage environmental and social risks alongside the economic risks of our investments. We will seek to leverage our resources, relationships, and knowledge to implement these ESG goals in the most effective and efficient manner from sourcing to eventual disposition of our investments.

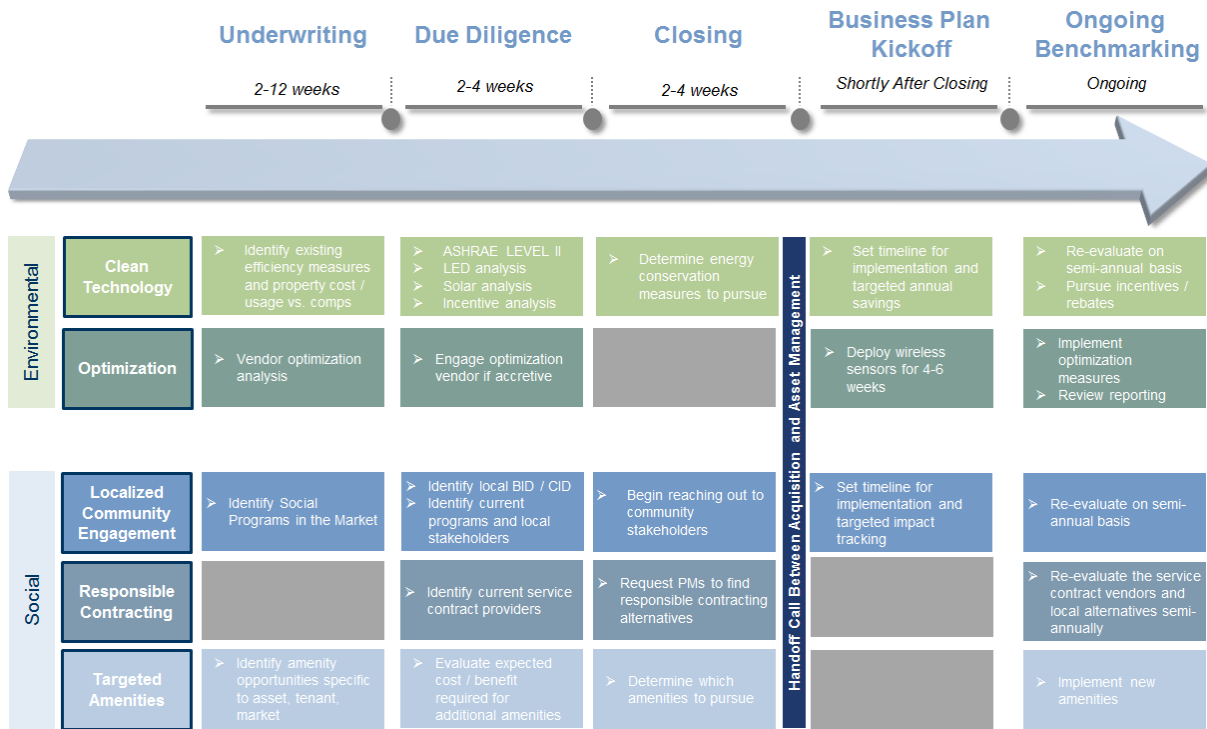
Our implementation of sustainable or social measures begins at the sourcing stage and continues throughout the lifecycle of an investment until disposition. Our first step is to match GSAM Private Real Estate's core ESG competencies with opportunities in the pipeline. An initial review for sustainable or social investment opportunities is completed simultaneously while evaluating an investment's fundamental merits. This review is intended to provide opportunities that are aligned with both ESG considerations and value creation. Certain opportunities, such as energy conservation measures, may also involve the commissioning of a third party engineering team to conduct additional diligence at a property. We then begin to quantify the cost / return of each potential measure, make go / no-go decisions based on this analysis, and then incorporate the cost and return of any approved measures into underwriting, as well as our property manager's budget going forward.

Once an investment is made, and sustainable or social measures have begun, GSAM Private Real Estate tracks the implementation as part of its asset management procedures in partnership with the Realty Management Division (RMD). This includes ongoing review during an investment's hold on a periodic basis, whether through our internal working groups or with our external property managers. Specifically with respect to our energy related investments, we aim to track the impact on energy cost and usage pre and post implementation, as well as benchmark cost and usage the property's peer set, and compare it to data for periods pre-acquisition if available. We utilize third party technology as often as possible to monitor and improve the impact of these projects.

In addition to tracking the implementation of identified opportunities, GSAM Private Real Estate requests its property managers to consider and propose additional ESG opportunities at each property. This way we are able to pursue granular asset, tenant, or geographically specific opportunities that may be impactful for a given investment.

Please refer to the graphic on the following page that highlights GSAM Private Real Estate's integration of ESG through the underwriting, acquisition and asset management phases.¹⁴

¹⁴ For illustrative purposes only.



Ultimately, the programs that are selected for integration and implementation seek to be targeted, high impact programs; however, they may also be scalable across the portfolio. We will continue to evolve our approach to ESG to achieve environmental and social impact where possible with the primary focus of maximizing consistent and persistent long-term performance for our investors.¹⁵

E. Alternative Investments & Manager Selection (“AIMS”) Group

The Goldman Sachs Alternative Investments & Manager Selection (“AIMS”) Group provides investors with investment and advisory solutions, across leading hedge fund managers, private equity funds, real estate managers, and traditional long-only managers. The AIMS Group manages globally diversified programs, targeted sector-specific strategies, customized portfolios, and a range of advisory services. Our investors access opportunities through new fund commitments, fund-of-fund investments, strategic partnerships, secondary-market investments, co-investments, and seed-capital investments. The AIMS Group provides manager diligence, portfolio construction, risk management, and liquidity solutions to investors, drawing on Goldman Sachs’ market insights and risk management expertise. Assessment of potential risks as well as potential rewards is integral to our investment process. We seek to analyze ESG issues as one of many factors in our due diligence process. Within the AIMS Group, there is a discrete vertical dedicated to sourcing, vetting, and making investments in managers that focus explicitly on ESG and impact investing (“AIMS Imprint”), the core of which is the investment team from Imprint Capital.

Holistic ESG Integration

During our due diligence process, the AIMS Group evaluates select managers’ ESG awareness and integration as an embedded part of traditional financial and operational due diligence. We believe ESG factors represent both material risks and potential opportunities for the managers we invest in and look to ensure that our partners have the right teams, processes, and resources in place to adequately manage risks and capitalize on opportunities. The ESG analysis focuses on the following:

- Firm ethos: The extent to which the firm incorporates ESG into the conduct of its business and engages its employees, customers / clients, suppliers and the communities in which it works; this can be exemplified by a diverse management team and workforce, the pursuit of resource efficiency and environmental stewardship and the promotion of ethical principles and practices

¹⁵ There is no guarantee that these objectives will be met. The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk. GSAM PRE leverages the resources of RMD and Goldman Sachs & Co. LLC subject to legal, internal, and regulatory restrictions. RMD, located in Texas, is a separate entity from GSAM PRE.

- ESG philosophy: The degree to which ESG is a core part of the firm's investment philosophy and is incorporated into its strategies
- Team & resources: The depth, breadth, and organization of the team implementing the ESG strategy; the level of ongoing training and use of other / external resources
- Process & management: The degree to which the firm integrates ESG considerations into the investment process and assesses ESG contribution to financial performance; level of commitment to refining process
- Advocacy & engagement: Level and type of engagement with investees on ESG issues; resources and processes employed to implement engagement strategy
- ESG profile: Quantitative and qualitative review of the characteristics of portfolio holdings evaluated on an absolute and relative basis (relative to a stated benchmark, when applicable), taking into consideration prohibited holdings and the efficacy of screens, and the extent to which the desired ESG characteristics are represented in portfolio holdings

In addition to a quantitative and qualitative ESG analysis as part of our due diligence, we spend significant time with our managers discussing how they approach ESG integration, and surfacing specific ESG concerns or opportunities. In certain instances these discussions will be grounded in a quantitative ESG analysis of the manager's underlying holdings, which helps inform our dialogue. We furthermore look to share best practices in ESG integration across industries and investment styles with our managers.

Targeted ESG and Impact Investing Solutions

As part of the AIMS Group, AIMS Imprint is committed to working with clients to develop and manage custom ESG and impact investment programs and portfolios across impact themes and asset classes, focusing on investments made with the intention to potentially generate measurable social and environmental impact alongside a financial return. Selectively, AIMS Imprint works with external managers to design and/or seed new dedicated ESG and impact investing strategies to address market gaps. We have more than 11 full-time investment professionals dedicated solely to ESG and impact investments as of January 2018.

We do not treat impact investing as a category in and of itself, but rather view it as a set of underlying investment themes across private markets such as clean energy, healthcare, agriculture, and water. We employ a research-driven process to ascertain the characteristics of each theme to help us avoid crowded sectors and find potential value in less efficient markets that often benefit from secular growth trends. We complete market scans on each theme and supplement with a quarterly views process to help us determine relative attractiveness on an ongoing basis. We are focused on understanding the current valuation (entry environment), deal activity (exit environment) and market environment (core growth drivers, regulatory risks, etc.) as well as the strength of the manager pipeline across themes.

For impact investment managers, we also evaluate impact factors alongside the ESG factors, mentioned above. Impact factors assess the manager on its ability to have direct social and/or environmental impacts, alongside potential financial return. The impact analysis is focused on the following areas:¹⁶

- Advocacy & engagement: Level and type of engagement with investees on ESG issues; resources and processes employed to implement engagement strategy
- ESG profile: Quantitative and qualitative review of the characteristics of portfolio holdings evaluated on an absolute and relative basis (relative to a stated benchmark, when applicable), taking into consideration prohibited holdings and the efficacy of screens, and the extent to which the desired ESG characteristics are represented in portfolio holdings
- Impact thesis: Clarity of impact thesis and degree to which it aligns with the financial thesis
- Impact potential: The depth and breadth of potential impact
- Process & management: The degree to which the firm integrates impact into the investment process and assesses and reports on impact on a post investment basis; level of commitment to refining process
- Field building & thought leadership: The degree to which the firm engages industry stakeholders and works to be a thought leader
- Impact profile: Quantitative and qualitative review of the impact characteristics of the underlying portfolio including makeup of holdings and quality of impact metrics

¹⁶ This is not intended to be a complete description of due diligence conducted by the AIMS Group nor does it imply that all due diligence described has been or will be completed for every investment. The due diligence process is continuously updated and changes may be implemented as required.

Our AIMS Imprint team has worked with clients to create a range of customized ESG and impact investing solutions, drawing particularly on our deep experience and resources devoted to private market impact investing. For example:

- A \$2 billion Minnesota-based family foundation. The client's mission is to improve the quality of life for present and future generations by dedicating its resources to support, unite, and empower those it serves. In 2013, the board embarked on a process to discover how the endowment could be restructured to further its mission. After committing in 2014 to investing 10% of its endowment to mission-aligned strategies, the client sought specific investments that may generate financial return, meet its fiduciary duty and drive program learning. We worked with the client to source, diligence, recommend and manage mission-aligned investments across public and private markets. The client has committed more than \$150 million of capital and we have a dedicated annual review of the portfolio to identify opportunities to further refine impact alignment.¹⁷

For custom ESG and impact portfolios, we produce an annual ESG and impact report that contains qualitative and quantitative information on ESG and impact across asset classes. In public markets, we assess managers holistically based on: ESG characteristics of their holdings; proxy voting and shareholder engagement activity; and ESG capabilities, approach and process. In private markets, we track the focused list of metrics agreed upon during diligence and evaluate impact qualitatively based on an assessment by our investment team as well as illustrative impact stories.

¹⁷ This material makes no implied or express recommendations concerning the manner in which any client's account should or would be handled, as appropriate investment strategies depend upon the client's investment objectives.

Enhancing the Learning Return, Collaboration and Field Building

As part of our commitment to ESG and impact investing, GSAM has proactively focused on working with our clients on communication, education, information sharing, and knowledge building as vital components of this work. We spend time with trustees, investment committees, boards, and other stakeholders to discuss different ESG and impact investment approaches and their implications, provide portfolio analytics and proposals, and to share learnings and best practices from peers. Some of our clients specifically focus on how learning from their impact investments can inform and improve their philanthropic work.

GSAM recognizes that our own holdings in investee companies, like those of many other investors, is a small fraction of the total outstanding, and that shareholders can be more effective owners if our views are part of a broader consensus within the investor community. To this end, we actively monitor emerging issues, regulatory developments, concerns of key stakeholders, as well as best practices relating to environmental and social risk management. As part of this undertaking, we engage with non-governmental organizations and periodically review and update our guidelines for emerging issues and evolving environmental and social concerns.

GSAM became a signatory to the United Nations Principles for Responsible Investing (UNPRI) in December 2011. The Principles set forth by the UNPRI are a set of best practices for incorporating ESG issues into investment decision-making where consistent with fiduciary responsibilities. As a signatory, GSAM has committed to considering the investment implications of ESG issues within our portfolio management and investment decision-making processes where appropriate and consistent with our fiduciary duty. We report annually to the UN PRI on our ESG and impact investing commitment and activities, and publically disclose that report on our [website](#).

GSAM is also a CDP investor signatory, and a signatory to the UK and Japan Stewardship Codes. In addition, we support the Singapore Stewardship Principles.

GSAM staff have furthermore served as advisors or board members to a diverse set of organizations in the ESG and impact space including groups such as Sustainability Accounting Standards Board (SASB) Investor Advisory Group, the U.S. National Advisory Board (NAB) of the G8 Social Impact Investing Task Force, the U.S. Alliance on Impact Investing, the Global Impact Investing Network's (GIIN) ImpactBase initiative, the Global Social Venture Competition (GSVC), McKinsey's working group on Social Impact Bonds, Global Giving, the Sustainable Food Lab, the UN Capital Development Fund, the International Interfaith Investment Group, and a range of others.

We also look to share case studies of our work with clients, research pieces, podcasts and video interviews, and more information on the ESG and impact investing field on our [website](#).

Conclusion

As GSAM we believe that ESG and impact investing factors can be material to investment performance, and we also believe that ESG and impact investing are increasingly important to our clients, who are seeking to build portfolios that integrate ESG and impact considerations while maintaining the rigor and risk-return standards of investment management. We have worked to build the team, structure, process, and philosophy that we believe can best help our clients achieve their ESG and impact investing goals, and are committed to continuing to build a market-leading ESG and impact investing platform and strengthen the overall field.

Case Study: New York State Common Retirement Fund Risk Aware Low Emissions (RALE) Strategy¹⁸

Client Background:

New York State Common Retirement Fund is the third largest public pension plan in the US. The Fund was interested in understanding the risks that climate change posed to its approximately \$180 billion portfolio. At the 2015 United Nations Climate Change Conference in Paris, New York State Comptroller, Thomas P. DiNapoli, committed \$5 billion to sustainable strategies.

Key Considerations:

Given the fund's fiduciary obligation and extensive use of index strategies, the pension sought a risk-managed solution that would not introduce significant tracking error relative to its policy benchmark.

Custom Solution:

Goldman Sachs partnered with the retirement fund to develop a Risk Aware Low Emissions (RALE) strategy. The RALE strategy sought to underweight stock ownership in some of the highest emitting companies in each industry while seeking to stay within defined risk tolerances.

Goldman Sachs worked with New York State Common to understand the benefits of focusing on carbon emissions instead of reserves. The emphasis on emissions was favored because it places responsibility with the consumers of fossil fuels, addresses climate risks in all sectors of the economy, and permits the Fund to engage companies as active shareholders in order to improve efficiency.

In 2015, the pension committed \$2 billion to this strategy within its U.S. passive equity portfolio, with the goal of reducing the RALE portfolio's carbon dioxide emissions intensity by up to 70% relative to the Russell 1000 policy benchmark.

To manage risk and adhere to the Fund's fiduciary duty, the low emissions strategy has an explicit target tracking error range relative to the Russell 1000 policy benchmark. Moreover, there are industry and sector weight caps, designed to prevent large deviations from the benchmark.

In January 2018, New York State Common doubled its commitment to the RALE strategy to \$4 billion, as part of its continued commitment to sustainable investment strategies.

Industry Contribution:

GSAM continues to work with New York State Common to highlight the Risk Aware Low Emission (RALE) Strategy to the industry in order to promote ESG and impact investing. For example, Hugh Lawson, GSAM's Global Head of ESG and Impact Investing, moderated a panel at the 2015 GSAM Symposium in NYC entitled, "Stewardship: Building a Culture and Investing for Future Generations" with Thomas DiNapoli, State Comptroller, State of New York and Vicki Fuller, Chief Investment Officer, New York State Common Retirement Fund (NYS CRF). Lawson and DiNapoli also discussed this work on a panel at the Shared Value Leadership Summit in NYC in March 2016.

"As a long-term investor we are very interested in strategies that manage risk, and there is no question that climate change is one of the biggest risks facing global investors across multiple sectors...By shifting our capital to companies with lower emissions in a portfolio with similar characteristics to our benchmark, we are sending the message that our investment dollars will follow businesses with strong environmental practices."

- **Vicki Fuller, New York State Common Retirement Fund's Chief Investment Officer**

¹⁸ Source: *Bloomberg*, "New York Pension, Goldman Form \$2 Billion Low-Carbon Fund" (Dec. 4, 2015). The cited case studies represent examples of how we have partnered with various institutional clients on a broad range of services and offerings. The case studies have not been selected based on portfolio performance. The case study is for illustrative purposes only. Performance results vary depending on the client's investment goals, objectives, and constraints. There can be no assurance that the same or similar results to those presented above can or will be achieved. Targets are subject to change and are current as of the date of this presentation. Targets are objectives and do not provide any assurance as to future results. Please see additional disclosures. The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

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Although certain information has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness. We have relied upon and assumed without independent verification, the accuracy and completeness of all information available from public sources.

Environmental, Social, and Governance (“ESG”) strategies may take risks or eliminate exposures found in other strategies or broad market benchmarks that may cause performance to diverge from the performance of these other strategies or market benchmarks. ESG strategies will be subject to the risks associated with their underlying investments’ asset classes. Fixed Income securities are subject to interest rate, price and credit risks. Prices tend to be inversely affected by changes in interest rates. Equity securities are more volatile than bonds and subject to greater risks. Small and mid-sized company stocks involve greater risks than those customarily associated with larger companies. Private equity investments, are speculative and illiquid, involve a high degree of risk and have high fees and expenses that could reduce returns; they are, therefore, intended for long-term investors who can accept such risks. Real estate investments involve a high degree of risk including, but not limited to, changes in the real estate markets, the financial conditions of tenants, zoning and other laws, tax rates, terms of debt financing, and unforecastable factors, such as substantial national or international events.

Hedge funds and other private investment funds (collectively, “Alternative Investments”) are subject to less regulation than other types of pooled investment vehicles such as mutual funds. Alternative Investments may impose significant fees, including incentive fees that are based upon a percentage of the realized and unrealized gains and an individual’s net returns may differ significantly from actual returns. Such fees may offset all or a significant portion of such Alternative Investment’s trading profits. Alternative Investments are not required to provide periodic pricing or valuation information. Investors may have limited rights with respect to their investments, including limited voting rights and participation in the management of such Alternative Investments.

Alternative Investments often engage in leverage and other investment practices that are extremely speculative and involve a high degree of risk. Such practices may increase the volatility of performance and the risk of investment loss, including the loss of the entire amount that is invested. There may be conflicts of interest relating to the Alternative Investment and its service providers, including Goldman Sachs and its affiliates. Similarly, interests in an Alternative Investment are highly illiquid and generally are not transferable without the consent of the sponsor, and applicable securities and tax laws will limit transfers.

Conflicts of Interest

There may be conflicts of interest relating to the Alternative Investment and its service providers, including Goldman Sachs and its affiliates. These activities and interests include potential multiple advisory, transactional and other interests in securities and instruments that may be purchased or sold by the Alternative Investment. These are considerations of which investors should be aware and additional information relating to these conflicts is set forth in the offering materials for the Alternative Investment.

Real estate investments are speculative and illiquid, involve a high degree of risk and have high fees and expenses that could reduce returns. These risks include, but are not limited to, fluctuations in the real estate markets, the financial conditions of tenants, changes in building, environmental, zoning and other laws, changes in real property tax rates or the assessed values of Partnership Investments, changes in interest rates and the availability or terms of debt financing, changes in operating costs, risks due to dependence on cash flow, environmental liabilities, uninsured casualties, unavailability of or increased cost of certain types of insurance coverage, fluctuations in energy prices, and other factors not within the control of the General Partner, such as an outbreak or escalation of major hostilities, declarations of war, terrorist actions or other substantial national or international calamities or emergencies. The possibility of partial or total loss of an investment vehicle’s capital exists, and prospective investors should not invest unless they can readily bear the consequences of such loss.

Further, some real estate investments may require development or redevelopment, which carries additional risks relating to the availability and timely receipt of zoning and other regulatory approvals, the cost and timely completion of construction, and the availability of permanent financing on favorable terms.

Real estate investments will be highly illiquid and will not have market quotations. As a result, the valuation of real estate investments involves uncertainty and may be based on assumptions. Accordingly, there can be no assurance that the appraised value of a real estate investment will be accurate or further, that the appraised value would in fact be realized on the eventual disposition of such investment.

In addition, real estate assets may be highly leveraged, which leverage could have significant adverse consequences to the assets and therefore an investment vehicle. In particular, an investment vehicle will lose its investment in a leveraged asset more quickly than a non-leveraged asset if the asset declines in value. You should understand fully the risks associated with the use of leverage before making an investment in a real estate investment vehicle.

Emerging markets securities may be less liquid and more volatile and are subject to a number of additional risks, including but not limited to currency fluctuations and political instability.

The S&P 500 Index is the Standard & Poor’s 500 Composite Stock Prices Index of 500 stocks, an unmanaged index of common stock prices. The index figures do not reflect any deduction for fees, expenses or taxes. It is not possible to invest directly in an unmanaged index.

The Russell 2000 Index is an unmanaged index of common stock prices that measures the performance of the small cap segment of the US equity universe.

The US Dollar Index measures the US unit against a basket of six other currencies.

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References to indices, benchmarks or other measures of relative market performance over a specified period of time are provided for your information only and do not imply that the portfolio will achieve similar results. The index composition may not reflect the manner in which a portfolio is constructed.

Hedge funds and other private investment funds (collectively, "Alternative Investments") are subject to less regulation than other types of pooled investment vehicles such as mutual funds. Alternative Investments may impose significant fees, including incentive fees that are based upon a percentage of the realized and unrealized gains and an individual's net returns may differ significantly from actual returns. Such fees may offset all or a significant portion of such Alternative Investment's trading profits. Alternative Investments are not required to provide periodic pricing or valuation information. Investors may have limited rights with respect to their investments, including limited voting rights and participation in the management of such Alternative Investments.

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High-yield, lower-rated securities involve greater price volatility and present greater credit risks than higher-rated fixed income securities.

An investment in real estate securities is subject to greater price volatility and the special risks associated with direct ownership of real estate.

Alternative Investments often engage in leverage and other investment practices that are extremely speculative and involve a high degree of risk. Such practices may increase the volatility of performance and the risk of investment loss, including the loss of the entire amount that is invested. There may be conflicts of interest relating to the Alternative Investment and its service providers, including Goldman Sachs and its affiliates. Similarly, interests in an Alternative Investment are highly illiquid and generally are not transferable without the consent of the sponsor, and applicable securities and tax laws will limit transfers.

Tracking Error (TE) is one possible measurement of the dispersion of a portfolio's returns from its stated benchmark. More specifically, it is the standard deviation of such excess returns. TE figures are representations of statistical expectations falling within "normal" distributions of return patterns. Normal statistical distributions of returns suggests that approximately two thirds of the time the annual gross returns of the accounts will lie in a range equal to the benchmark return plus or minus the TE if the market behaves in a manner suggested by historical returns. Targeted TE therefore applies statistical probabilities (and the language of uncertainty) and so cannot be predictive of actual results. In addition, past tracking error is not indicative of future TE and there can be no assurance that the TE actually reflected in your accounts will be at levels either specified in the investment objectives or suggested by our forecasts.

Case studies and examples are for illustrative purposes only.

The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

Past performance does not guarantee future results, which may vary. The value of investments and the income derived from investments will fluctuate and can go down as well as up. A loss of principal may occur.

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