



FCLTGLOBAL
FOCUSING CAPITAL
ON THE LONG TERM



REPORT

Decarbonizing Long-Term Portfolios

An Adaptable, Top-Down Approach to
Addressing Climate Change in Investment Portfolios

Focusing capital on the long term to support a sustainable and prosperous economy.

Millions of people around the world are saving money to meet personal goals—funding a comfortable retirement, saving for someone’s education, or buying a home, to name a few.

The funds to support these goals are safeguarded by institutional investors—pension funds, sovereign wealth funds, insurers, and asset managers—who invest in companies for the prospect of growth and security. These savers, their communities, and the institutions that support them make up the global investment value chain, and each benefit from long-term decisions in different ways.

Data shows that long-term-oriented investors deliver superior performance, and long-term-oriented companies outperform in terms of revenue, earnings, and job creation. But despite overwhelming evidence

of the superiority of long-term investments, short-term pressures are hard to avoid. A majority of corporate executives agree that longer time horizons for business decisions would improve performance, and yet half say they would delay value-creating projects if it would mean missing quarterly earnings targets.

Today, the balance remains skewed toward short-term financial targets at the expense of long-term value creation.

FCLTGlobal’s mission is to focus capital on the long term to support a sustainable and prosperous economy. We are a non-profit organization whose members are leading companies and investors worldwide that develops actionable research and tools to drive long-term value creation for savers and communities.

MEMBERS



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Executive summary

An adaptable, top-down approach to decarbonization provides long-term investors with multiple levers for addressing climate risk inside their investment portfolios while fulfilling their mandates and capitalizing on new opportunities.

Climate risk: An investment imperative fraught with challenges

Climate change is altering the dynamics of investing by posing meaningful risk while also offering substantial new opportunities for growth and investment. Institutional investors of all types increasingly recognize climate change as the primary driver of the greatest shift in asset allocation over the past 50 years, and investors are thinking critically about how to address this megatrend in their portfolios.

Put simply, inaction on climate change is increasingly an untenable position for institutional investors.

Unfortunately, many barriers remain that may prevent investors from taking meaningful action to decarbonize their portfolios. The nonlinear, asymmetric, and non-mean-reverting nature of climate risk makes incorporating climate considerations particularly challenging for investors.

The most commonly used portfolio-construction techniques for addressing climate risk aren't suitable given the constraints facing many investors. Short-term approaches such as divestment and exclusion as well as cumbersome bottom-up decarbonization strategies can leave meaningful risks unaccounted for and cause investors to miss out on powerful return opportunities. In particular, the data-intensive nature of bottom-up

decarbonization approaches may cause many investors—particularly smaller ones with less internal resources—to become paralyzed by the complexities of attempting to account for climate risk at the individual investment level.

The dynamic and non-mean-reverting nature of climate change calls for a multi-faceted top-down approach to decarbonizing long-term portfolios.

Effective decarbonization starts at the top

How can institutional investors facilitate the innovation and solutions needed to meet the global climate challenge while building more resilient and durable portfolios? A top-down approach allows long-term investors to efficiently and systematically achieve their decarbonization goals while positioning their funds to capitalize on the opportunities related to the shift to a low-carbon economy.

An efficient top-down process comprises the following six primary elements:

- 1. Align investment beliefs with a decarbonization commitment.** Investors can start by documenting how their investment beliefs will change to accommodate a decarbonization commitment. Then, investors can adjust their strategy and objectives from the top down to accommodate those changed beliefs. This process involves establishing exactly why a decarbonization strategy is necessary for fulfilling a fund's purpose.
- 2. Determine the optimal decarbonization approach for each segment of the portfolio.** A top-down approach doesn't require investors to make one-size-fits-all decisions that apply across the entire portfolio. Rather, investors

have an array of top-down approaches at their disposal—and different approaches can be used for various segments of the overall portfolio. Top-down decarbonization approaches include principles-based investing, analytic and catalytic investing, and even employing carbon-silent strategies for very short-term investments. Investors can determine which approach is best aligned with a specific segment of the portfolio and use multiple levers to make progress along the path toward decarbonizing.

3. Assess the role of externally managed assets.

Considering how externally managed assets will contribute to the investor's decarbonization commitments and adjusting investment mandates accordingly play key roles in achieving climate-related goals. In some cases, this may involve attaching a side letter to document responsibilities and expectations that have changed. These efforts help to ensure that a consistent approach is used across the portfolio, whether those assets are managed internally or externally.

4. Focus on companies' trajectories. Simply excluding companies because of their current carbon footprint—with no view toward those companies' plans to decarbonize—could prevent companies from accessing the capital they need to transform their businesses and reduce their emissions. Furthermore, this exclusionary approach could cause a portfolio to be drastically under-allocated to meaningful portions of the global economy, such as energy, industrials, and materials. It is more appropriate for long-term investors to remain invested in so-called “transitioning assets,” which are companies or assets that cannot yet be considered climate friendly but are on the path to decarbonization.

5. Prepare for non-linear progress. The reduction in a portfolio's net carbon emissions won't occur at a constant rate. At times, the decarbonization path may appear to stagnate or even move in the wrong direction. Investors can acknowledge and account for the non-linear nature of decarbonization progress in their risk-appetite statements.

6. Analyze progress and reassess. Implementing a top-down decarbonization strategy isn't a set-it-and-forget-it proposition. The dynamic nature of the technological and regulatory landscape, along with constantly shifting market fundamentals, necessitate a flexible approach to addressing climate risk. Investors need to constantly evaluate emerging climate-related threats and opportunities while assessing whether the decarbonization approach used for each portfolio segment remains aligned with the fund's overall mission.

In this report, we explore the realities and opportunities facing long-term investors as they develop top-down strategies for addressing climate risk. We also provide resources to guide investors in applying the appropriate combination of top-down decarbonization strategies across their portfolios while integrating decarbonization objectives into investment beliefs, risk appetite statements, and investment mandates. Above all, these tools can be utilized by investors with explicit decarbonization goals as well as organizations for whom a formal commitment to decarbonization may be inappropriate.

Why decarbonization matters

Anticipating multi-horizon trends and incorporating them into portfolios is the essence of long-term investing. Climate change and the need to decarbonize the economy together constitute one of the most significant megatrends in modern times.

These changes are already having a material impact on global economies. The Organisation for Economic Co-operation and Development (OECD) estimated that climate change impairs global gross domestic product (GDP) by 1.5 percent annually; other estimates forecast \$26 trillion in economic benefits that could result from bold climate investments made

NET ZERO: JUST ONE ARROW IN THE DECARBONIZATION QUIVER

Many investment organizations have made “net zero” commitments. These commitments vary in terms of scope and time horizon, but at their core they represent the same goal: to decarbonize the organization’s activities to reach net zero greenhouse gas emissions within a specified period of time. Often, investors will choose to align with global net zero commitments or international agreements, such as the Paris Climate Agreement.

While publicly committing to a net zero goal can certainly be an effective way to galvanize action, it is far from the only way that investors can make meaningful decarbonization progress. In many cases, a net zero commitment isn’t feasible given an investor’s specific mandate or constraints. Fortunately, there are a host of other decarbonization strategies that can be used in lieu of or in conjunction with net zero commitments.

The tools and suggestions in this report are designed to support long-term investors on their decarbonization journeys, regardless of the specifics of the pathways they intend to pursue.

between 2020 and 2030.¹ Investors that choose to ignore these meaningful risks and returns are missing the opportunity to remake their investment portfolios to both build resilience and capitalize on these powerful trends.

For pension funds, sovereign funds, insurance companies, and other institutional asset owners, the need to address the long-term megatrend of climate change is paramount. These asset owners’ liabilities extend decades into the future, so their portfolios must generate returns—while maintaining adaptability and resilience—throughout the transition to a decarbonized economy. At the same time, long-term asset owners increasingly realize that they can generate sustainable alpha by investing at the leading edge of the low-carbon transition.

Assessing paths to decarbonization

Regardless of one’s views about the opportunities to generate returns from the low-carbon transition, ignoring climate change is not an option for the world’s largest asset managers and asset owners. These institutions are so large and their outcomes are so intertwined in all aspects of the economy that they cannot hedge against system-level risks.²

As a result, owners of large pools of capital must find other ways to mitigate those risks. Implementing strategies that result in decarbonization of the real economy—rather than playing a shell game of passing carbon-intense assets to other players—is the only path available.

Investors are already putting significant amounts of capital to work toward decarbonization and other climate-related goals. Netzero commitments now represent 68 percent of global GDP and cover 61 percent of greenhouse gas emissions, including the more than 450 firms representing over \$130 trillion in assets in the Glasgow Financial Alliance for Net Zero.³ The investors behind these initiatives view this action as both a responsibility and an opportunity.

Canadian asset owner CDPQ articulated this sentiment in 2019 when announcing its commitment to decarbonization by joining the United Nations-Convened Net-Zero Asset Owner Alliance: “Institutional investors collectively have an important role to play in fostering the energy transition the world needs. For investors like CDPQ, there are so many opportunities to earn commercial returns by investing in low-carbon solutions and to work with portfolio companies to decarbonize.”⁴

*Decarbonizing the real economy—
not passing carbon-intense assets to
other players—is the only path to true
sustainability for long-term asset owners.*

Bottom-up complexities can stymie decarbonization progress

Climate change and decarbonization goals present institutional investors a rare chance to rethink their overall portfolio construction and risk-management practices.⁵ But despite the material risks and return potential that climate change poses to long-term portfolios, many investors have yet to develop practical ways to incorporate climate change into their investment processes or implement climate-based investment strategies in a uniform way.⁶

Our research and engagement with leading practitioners uncovered a wide variety of barriers to taking a more active approach to decarbonizing investment portfolios. One of the most prominent barriers is the cumbersome and complex nature of the bottom-up process, which involves tallying up the emissions of every asset in a portfolio.

A bottom-up approach focuses on evaluating the companies or individual securities in the portfolio to determine its overall climate footprint. This process involves a painstaking level of detail and often requires relying on data that are incomplete or inconsistent across portfolio holdings.

Another drawback of a bottom-up approach to decarbonization is that it focuses investors’ attention and decision-making on an asset’s or company’s current emissions profile. Long-term investors are better served by focusing on a company’s trajectory and how it will evolve: Does the company have a robust transition plan in place? What progress has it made in implementing that plan? What roadblocks will it face in further decarbonizing its operations?

Bottom-up portfolio construction tends to evaluate companies and assets in isolation rather than considering how those assets interact with one another. To overcome this limitation, investors must apply highly robust and complex portfolio-construction techniques to assess how themes, sectors, or economic factors intersect.

Finally—and perhaps most importantly—a bottom-up approach to decarbonization doesn’t provide investors with clear levers for aligning the investor’s assets and influence with the targeted outcomes.

LIMITATIONS OF BOTTOM-UP DECARBONIZATION APPROACHES

- Cumbersome and labor-intensive
- Rely on complex data analysis and often incomplete or inconsistent data
- Focuses on a company’s current carbon emissions rather than its trajectory
- Tend to look at companies in isolation and overlook how they interact
- Doesn’t provide investors with clever levers for directing change

“Portfolios are most efficiently managed as a whole, rather than a collection of sub-portfolios.”
Australia’s Future Fund “Investment Beliefs”⁷

Top-down construction fosters efficiency and clarity

Compared with the limitations of bottom-up decarbonization approaches, top-down strategies can be more efficient and more empowering for asset owners. Investors can build portfolios from the top down by focusing on themes, sectors, or macroeconomic trends and then selecting particular companies or securities accordingly.

This approach puts investors in the driver’s seat, rather than forcing them to wait for their portfolio companies to deliver decarbonization progress. Addressing decarbonization from the top down also gives investors clear levers to pull to drive progress toward meeting longer-term climate commitments.

In addition to these advantages, a top-down approach to decarbonization provides a host of other benefits for long-term investors:

- **Aligns with fiduciary duties.** A top-down approach can help alleviate concern that a decarbonization

commitment would limit the investable universe and therefore conflict with an investor’s fiduciary duty by connecting it to the purpose of the fund and its investment beliefs.

- **Facilitates more efficient portfolio construction.** Top-down portfolio construction allows investors to identify which specific strategies will be employed at the asset-class level; this approach gives investors more flexibility to efficiently optimize the portfolio.
- **Sets the tone for stakeholders and portfolio companies.** Setting the tone at the top lets portfolio companies and various stakeholders know that the investor is taking climate ambitions seriously. This approach makes it clear that decarbonization goals are influencing the entire portfolio, rather than being a siloed effort.
- **Fosters realism and accountability.** A top-down approach brings a level of realism and accountability to a portfolio. By taking a multi-time-horizon decarbonization approach as it relates to the near-, medium-, and long-term climate ambitions, investors can clearly identify which segments of the portfolio can be decarbonized over which time horizon and demonstrate a clear purpose for holding assets that might be out of line with broader portfolio sustainability goals in the near term.

LEVERAGING LONG INVESTMENT HORIZONS





In some cases, capital allocation to decarbonization initiatives demands patience. Investing in climate opportunities can reap huge financial upsides—yet that reward can come in the form of J-curve- or S-curve-type returns. This can involve deferring shorter-term payoffs in favor of longer-term rewards—a decision available only to investors that have the advantage of a longer investment horizon. This is why pension funds, insurance companies, sovereign wealth funds, endowments, foundations, and other institutional investors with long-term mandates are ideally positioned to play a leading role in addressing climate change.

Top-down portfolio decarbonization strategies

Given the benefits of decarbonizing portfolios by starting at the top, it is important to understand the various top-down approaches that can be used. We see four distinct top-down approaches to climate-aware investing:

1. **Silent approach:** climate considerations are not incorporated into investment decision-making and mandates for external managers are silent on the issue
2. **Principles-based approach:** investors apply their climate values to investing in a rules-based way
3. **Analytical approach:** investors incorporate future climate scenarios into their investment decision-making
4. **Catalytic approach:** investors proactively try to change the climate and make new markets through their investments

4 top-down decarbonization approaches; multiple portfolio-construction levers

Investment approach	Examples of how this approach is applied to portfolios
 Silent approach	<p>Extrapolation: assume the future will mirror the past</p> <p>Discount: discount the potential for future investment losses from climate change</p>
 Principles-based approach	<p>Impact: employ a combination of investing and philanthropy</p> <p>Divestment and exclusion: remove and/or exclude specified companies or industries (may be combined with carbon offsets)</p>
 Analytical approach	<p>Reweighting: overweight underpriced assets and underweight overpriced assets based on different views of future carbon pricing or the value of stranded assets</p> <p>Innovation: employ an options pricing or a venture capital mindset for investing in long-shot technologies that could have a significant return and an effect on the climate</p>
 Catalyst approach	<p>Solutions: invest in known solutions to drive scale—e.g., green infrastructure, regenerative agriculture, electrification of transportation, carbon sequestration, emissions reduction technologies</p> <p>Engagement: influence companies to transition from high-carbon to low-carbon intensity through active ownership</p>

Silent approach

The silent, or “discount,” approach assumes that the future will mirror the past, thus negating the need to adjust allocations to account for a changing climate or to invest proactively in climate or decarbonization themes. The silent approach ignores the likely impact of climate change and the potential opportunity presented by climate-aware investment. By discounting the potential for future climate-related losses or by assuming that such risks are so far in the future as to be irrelevant for current investment decisions, the silent approach prioritizes near-term outcomes rather than longer-term trends.

Although a silent approach misses the opportunities inherent in investing in longer-term decarbonization trends, it may be appropriate for truly short-term investors (e.g., high-frequency trading strategies) or for portions of the portfolio with distinct, shorter-term purposes (e.g., provision of near-term liquidity). It is important to note that the silent approach may actually be investing in the securities of issuers committed to decarbonizing. The silent approach simply exposes portfolios to whatever approach the underlying investments are taking on climate change—whether they are aligned with the asset owner’s perspective or not—and takes no active perspective on that transition.

Principles-based approach

A principles-based approach focuses on limiting investment in carbon-intensive assets or industries as well as investing in assets or projects that have a positive impact on the climate but may not yet be commercially viable. Principles-based investing involves both exclusionary and inclusionary approaches.

The divestment and exclusionary forms of principles-based investing emphasize the importance of rapid decarbonization of the investor’s portfolio—but this portfolio-level change may not necessarily translate to a reduction in the total amount of greenhouse gas emissions in the real economy. As a result,

these approaches may be widely supported by many stakeholders who advocate for selling carbon-intensive assets currently in the portfolio and barring them from consideration for future investment. These stakeholders often argue that divestment and exclusion raise the cost of capital for carbon-heavy activities, send a market signal to companies engaged in those activities meant to inspire more rapid change, and ensure that the investor feels comfortable with the sources of its returns.

Despite these benefits, we find six primary limitations to a divestment- or exclusion-based approach:

1. By excluding assets from the investable universe based on their current carbon-footprint, principles-based investors cannot invest in companies or industries that are transitioning to a more sustainable business model and thus miss out on potential returns.⁸
2. The practice of exclusion often means that large segments of the economy are not represented in the portfolio, resulting in potential portfolio construction challenges that may introduce more risk into the remaining portfolio from sector concentration.⁹
3. Exclusion leaves the investor with no seat at the table and little means of influencing change with transitioning assets.¹⁰
4. Divestment may simply transfer carbon-intensive assets from one owner to another; the carbon may have been removed from the portfolio, but nothing has changed in the real economy.¹¹
5. Divestment and exclusion may raise a company’s cost of capital, but that results in a higher return to the remaining investors, perversely rewarding investors who are happy to hold more carbon-intensive assets.¹²
6. Transferring assets out of the portfolio also commonly removes them from the public markets sphere and puts them into private hands, reducing transparency and monitoring efforts.¹³

Many asset owners following a principles-based approach limit their divestment and exclusion policies to direct holdings. To ensure a consistent application of principles, care must be taken to apply the same exclusion criteria to indirect investments, such as pooled vehicles. Otherwise, investors could both divest from listed energy companies and invest in those same assets through private partnerships or index funds.

Impact investing is the *inclusionary* side of a principles-based approach. Impact investing involves investing with the intent to generate positive, measurable social and/or environmental impact alongside a financial return. Advocates of impact investing refer to this as the “double bottom line.”¹⁴ While impact investors may achieve similar or better returns than financial-only investors, the term “impact” historically has implied a trade-off mindset that could be seen as creating a fiduciary duty conflict in some jurisdictions, limiting the ability of many institutional investors to adopt the approach.

Impact investing can play a critical role in getting projects off the ground, often providing the first-loss or seed capital for new initiatives. Historically, early-stage impact investing has been challenging to scale, but this may be changing as the impact investing sector matures.

Analytical approach

An analytical approach maintains broad industry exposure but reweights portfolio holdings and invests in future technologies based on climate outlook and decarbonization expectations. Unlike a principles-based approach, an analytical approach considers the trajectory of change as well as the current state of play.

Investors employing the analytical approach overweight adaptable companies or assets that are transitioning faster and underweight those transitioning more slowly. This approach also may develop relative asset weightings based on different views of future carbon pricing or the perceived value of stranded assets.¹⁵

The analytical approach assumes that there will be changes in policy, technology, and relative asset pricing that create investment opportunities; the analytical approach then constructs a portfolio that aims to anticipate and capitalize on these changes. This approach is consistent with the United Nations-Convened Net-Zero Asset Owner Alliance’s capital allocation approach: “The primary focus of capital allocation strategies is to re-allocate capital between companies, sectors, and asset classes based on certain restrictions and parameters linked to investment goals aligned with climate targets.”¹⁶

Investors using analytical strategies also invest in climate innovation. By adopting a nonlinear option-pricing or venture capital mindset to evaluate attractive long-shot climate technologies, the analytical approach uses scenario analysis to better evaluate the potential future value of the opportunity. When climate risk is fully incorporated into a portfolio’s strategy, over longer horizons those technologies start to look less risky and more appropriate for inclusion in a portfolio.

Catalyst-based approach

A catalyst-based approach takes a proactive role in deploying capital to climate solutions and engaging with companies as they execute their long-term climate strategy. By investing in known climate solutions, asset owners can drive scale and broad adoption of technologies that make a meaningful difference for the climate. These advancements include green infrastructure, regenerative agriculture, electrification of transportation, permanent carbon capture and sequestration, and emissions-reduction technologies. By catalyzing growth of new asset classes and scaling technologies, this approach recognizes climate change as an attractive investment opportunity and participates on the leading edge of climate innovation.

Furthermore, a catalyst-based approach recognizes that engagement between investors and companies can drive change. Long-term, climate-aware investors can combat the “tragedy of the horizon”

by influencing companies to transition from high to low carbon intensity through active ownership. At its core, a catalyst-based approach focuses on developing climate-friendly assets and funding the companies of the future while vigorously advocating for, and investing behind, change at transitioning companies.

Not all investors can employ catalyst-based strategies. Investing to drive scale in new asset classes or sectors requires long-term capital and

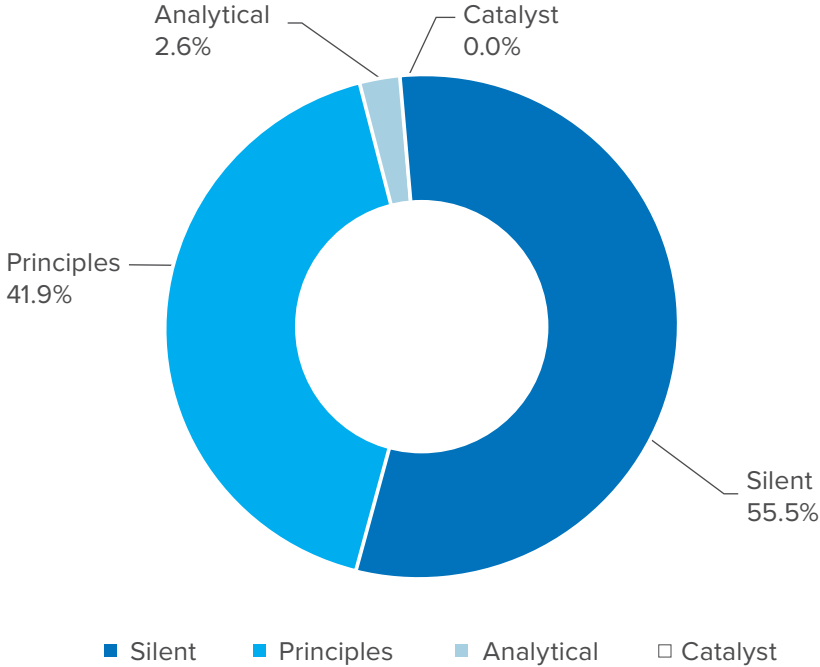
the appropriate level of patience for returns to materialize. Similarly, productive engagement with portfolio companies requires dedicated resources and commitment to applying a company-specific lens to each conversation (rather than expecting to engage every company in the same way). In both cases, it is helpful to have clearly identified goals and interim key-performance indicators (KPIs) for tracking catalyst-based investments to ensure progress is being made.

DRIVING DECARBONIZATION THROUGH INVESTOR ENGAGEMENT

The investor-led initiative Climate Action 100+ provides an example of how effective focused investor engagement can be in driving more rapid decarbonization. Representing more than \$55 trillion in assets under management (accounting for more than 50 percent of all global assets under management), Climate Action 100+ collectively engages with the most carbon-intensive companies in the world on their climate governance, strategy, and disclosures. Since the initiative's launch in 2017, investors have engaged more than 100 carbon-intensive companies on their transition efforts. To learn more about Climate Action 100+, visit <https://www.climateaction100.org/about/>

Case study: Top-down strategies in practice—Mapping Harvard Endowment’s portfolio

Harvard Endowment Total Assets by Climate Approach (as of 30 June 2020)



Harvard University’s Endowment—valued at \$40 billion as shown in the above chart—is among the largest academic endowments in the world, providing annual distributions to support the university’s budget in support of its mission of teaching and research.¹⁷ As recently as 2020, Harvard’s endowment portfolio employed two primary top-down climate strategies, with the bulk of assets (55.5%) taking a mix of principles- and analytical-based approaches and a portion of the balance (41.9%) remaining silent on climate. Less than 1% of the endowment takes a catalyst-based approach.

Recently, after years of pressure from student activists and alumni, Harvard University announced that Harvard Management Corporation (HMC) has been reducing exposure to fossil fuels.¹⁸ While this approach is not divestment, the endowment has no direct holdings in companies involved in fossil fuel exploration and production and will allow legacy fossil-fuel-focused private equity investments to wind

down. At the same time, HMC has been building a portfolio of investments that support the transition to a green economy. In this approach HMC is incorporating transition risk and Harvard University climate goals into its investment decision-making process; this is consistent with an analytical top-down approach.

The stakeholder pressure to divest from fossil fuels was echoed throughout our two-part Net Zero Portfolios Working Group series. Investors unambiguously agreed that they worried about facing the pressure to divest or exclude fossil fuels from investment screening on their path to a decarbonized portfolio. The main concern we heard is that while divestment can remove carbon from an individual investor’s balance sheet, it does not permanently remove carbon or fossil fuels from the economy. Strong stakeholder communications and transparency about the expected glidepath of the portfolio can help alleviate some of these pressures, but there is no silver bullet. HMC has committed to provide annual climate reporting to its stakeholders.

How to manage transitioning assets

Developing a decarbonization strategy requires acknowledging that the portfolio's progress in reducing emissions will not be smooth—and at times may appear headed in the wrong direction. A major contributor to this non-linear dynamic is the fact that long-term investors must decide how to deal with assets that are transitioning to a low-carbon future.

Transitioning assets are financial products and investments related to companies or industries that are on the path to decarbonization but cannot yet be considered climate friendly. Implementing a combination of top-down decarbonization strategies means that transitioning assets will reside in a long-term portfolio—and that is appropriate.

THE UNINTENDED CONSEQUENCES OF NET ZERO COMMITMENTS

Investors face growing pressure to divest from industries such as coal and oil and gas exploration. On the surface, divestiture might appear to be a signal that investors are acting responsibly and putting decarbonization goals into practice. Depriving transitioning companies of capital, however, can carry unintended economic consequences that run counter to the goals of investors focused on decarbonization.

Decarbonizing the global economy requires trillions in investment—in both developing new technologies and remediating existing assets. Cutting off financing from climate-focused investors may complicate and slow the transition. This dynamic highlights the need for long-term investors to think holistically and consider the externalities and overall net impact of their decarbonization strategies.

Why decarbonizing portfolio should hold transitioning assets

Transitioning assets often come from the energy, industrials, and materials sectors, which collectively represent meaningful portions of the global economy. By excluding assets based on their current carbon footprint, investors with decarbonization goals will miss out on providing capital to support the transition of those assets—and the meaningful investment potential they represent.

“Leaving out whole segments of the global economy on the basis of current carbon footprint leaves you with a very odd-looking portfolio that is unlikely to meet required risk-return hurdles.”

Member of FCLTGlobal working group on decarbonization

The inclusion of transitioning assets can alleviate barriers related to portfolio construction. As one member of our working group of global asset owners and asset managers observed, “Leaving out whole segments of the global economy on the basis of current carbon footprint leaves you with a very odd-looking portfolio that is unlikely to meet required risk-return hurdles.”

Challenges of transitioning assets

Transitioning assets need to be handled with care. In particular, investors need to guard against the perils of greenwashing by having a plan in place for how carbon-intense assets will transition. Investors also need robust reporting to track progress and a strategy for what will happen if assets fail to perform to plan; this allows investors to participate in the transition more confidently. Various initiatives led by asset owners and managers have drafted investment frameworks that address how to hold transitioning assets. These frameworks can help in constructing guidelines appropriate to the individual investment organization and its objectives and strategy.¹⁹

Constructing long-term portfolios to accommodate decarbonization goals

FCLTGlobal's *Long-term Portfolio Guide* identifies five core action areas for institutional investors' consideration when constructing an investment portfolio.²⁰ Our working group focused on incorporating decarbonization into three of the core action areas: investment beliefs, risk appetite statements, and investment mandates.

The remaining two core action areas—benchmarking and evaluations and incentives—typically are specific to the investment strategy and organization in question; thus, they fall outside this research's scope. These areas, however, may be topics for future research.



Decarbonization Toolkit: Five Core Action Areas for Decarbonizing Portfolios

This guide outlines the definition and purpose of each of the five areas and provides tools that investors can use to incorporate decarbonization into each area.

Investment beliefs: Create a sustainable foundation by clarifying your decarbonization purpose

Investors that intend to incorporate a decarbonization or net zero goal into their portfolio can start by updating their investment beliefs to reflect their views on climate change.

Clearly articulating investment beliefs, with a focus on portfolio consequences, is foundational for a sustained long-term investment strategy. Updating investment beliefs to account for net zero commitments or other decarbonization goals helps investors define a sound investment process that is relevant to their circumstances and purpose.²¹

This process starts by considering how a commitment to decarbonizing the portfolio affects the investor's views on responsible behavior, return strategy, risk

assumptions, success metrics, and time horizon. Part of documenting adjustments to investment beliefs includes adjusting objectives and strategy setting to account for any new perspectives, including remaining responsive to climate science. Aligning investment beliefs with decarbonization goals involves answering questions such as:

- Why is our decarbonization strategy necessary for fulfilling the purpose of the fund?
- What are our unique characteristics as an investor focused on decarbonization?
- What are our strategic advantages and disadvantages?

Thinking through these questions helps to clarify the investor's purpose in pursuing a decarbonization strategy, as well as highlight risks and opportunities particular to that individual organization.



Decarbonization Toolkit: Conversation Guide for Updating Investment Beliefs

This resource outlines the questions and decisions that asset owners need to address when determining how to update their investment beliefs to reflect their views on climate risk and decarbonization goals.

Risk appetite statements: Realistically align your risk management with decarbonization goals and climate risks

An institutional investor's risk appetite statement goes hand in hand with its investment beliefs—the investment beliefs guide the investment strategy and the risk appetite statement addresses the material risks in executing that strategy. A comprehensive, long-term risk appetite statement articulates the organization's motivations for accepting, mitigating, or avoiding particular risks; the statement also identifies constraints on risk and mechanisms for measuring and monitoring risk.

Updating the risk appetite statement to align with investment beliefs about climate risks and account for risks related to a decarbonization commitment is

a critical step in constructing a long-term portfolio.²² For decarbonizing portfolios, focusing on key risk identification and risk anticipation helps investors consider and incorporate various climate scenarios into portfolio construction processes.

ALIGNING ASSET ALLOCATION WITH RISK APPETITE

Changes to the risk appetite statement to reflect climate risk and decarbonization goals should naturally be reflected in the investor's asset allocation and related benchmarking. Asset allocation is one of the largest levers available to investors, not just in terms of the portfolio's risk and return profile, but also in achieving decarbonization goals. FCLTGlobal addresses this topic in depth in its 2018 publication *Balancing Act: Managing Risk across Multiple Time Horizons*. In addition, we cover asset allocation in both the *Objective and Strategy Setting* and the *Decision Management* sections of this report's practical Toolkits.

Members of the working group and other risk experts we talked to agreed that climate was particularly difficult from a risk-management perspective. The asymmetric, non-mean-reverting, and often nonlinear nature of climate-related risks makes many aspects of incorporating decarbonization especially challenging. Setting risk parameters at a top-down, whole-portfolio level helps long-term investors anticipate such challenges and ensures that investors are being appropriately compensated for the risks they are taking.

If an investor has realistically and rigorously accounted for climate risks and decarbonization

risks, the investor should be able to answer the following question: *How do we expect our probability of reaching goal and within-horizon value at risk (VaR) to change because of our decarbonization strategy?*



Decarbonization Toolkit: Conversation Guide for Updating Risk-Appetite Statements

This resource outlines the questions and decisions that asset owners need to address when determining how to update their risk-appetite statement to reflect their views on climate risk and decarbonization goals.

Investment mandates: Create mutual mechanisms for making decarbonization progress

Asset owners that use external managers need to review their investment mandates with a fresh eye to ensure that the contract terms account for the investor's decarbonization goals. The terms and conditions embodied in investment mandates constitute a mutual mechanism to align an asset manager's behavior with the asset owner's objectives. These contracts define the asset owner/asset manager relationship and play a crucial role in ensuring the relationship's success over time. Shaping mandates with provisions oriented toward long-term goals—including net zero-specific or decarbonization-specific conditions—can help build stable, lasting investment partnerships. And if the mandates are designed properly, this alignment can improve long-term performance.

Mandate updates can be implemented at contract initiation or upon renewal. Alternately, for continuing management arrangements, a side letter containing updated terms can be attached to the original mandate.

When examining their investment mandates, long-term asset owners ensure that the following aspects of the contract align with the decarbonization goals:

- Fees
- Benchmarks
- Contract terms
- Redemptions
- Manager or strategy capacity
- Risk and return projections
- Reporting
- Active ownership and engagement
- Evaluation process
- Disclosures

By selecting from a menu of preferred terms, asset owners can tailor their mandates so that they are aligned with decarbonization goals while also being specific to individual asset manager strategies and circumstances.



Decarbonization Toolkit: Terms to Consider for Net Zero Investment Mandates

This resource lists the specific areas of investment mandates that may be updated to reflect decarbonization goals and provides recommended terms to be incorporated into mutual contracts with external asset managers.

Navigating the road ahead

Climate change will continue to affect the dynamics of investing by posing meaningful risk while also offering substantial new opportunities for growth and investment. Long-term investors can successfully navigate this fundamental shift by taking a top-down approach to decarbonizing their portfolios.

Tackling this momentous issue from the top down gives investors the flexibility, transparency, and control they need to account for the complex, evolving nature of climate risk while fulfilling their fiduciary responsibilities and providing capital that will help fuel the transition to a low-carbon economy. The path to decarbonization will not be smooth, but investors that clarify their high-level objectives and then align their portfolios accordingly will be well-positioned to be leaders in this critical endeavor.



A top-down approach is the most efficient and effective way to incorporate decarbonization goals into long-term portfolios. But this approach still involves many difficult decisions.

That is why we have created a framework of resources, potential solutions, suggestions, and best practices to help investors decarbonize their portfolios while taking an active approach to holding assets in transition over the near, medium, and long term.

Components of the Toolkit:

- Five Core Action Areas for Decarbonizing Portfolios
- Conversation Guide for Updating Investment Beliefs
- Conversation Guide for Updating Risk-Appetite Statements
- Terms to Consider for Net Zero Investment Mandates

Additional Resources on Climate Risk and Decarbonization

[EU Taxonomy](#)

[Financial Sector Science-Based Targets Guidance](#)

[Foundations for Science-based Net-Zero Target Setting in the Corporate Sector](#)

[Global GHG Accounting and Reporting Standard for the Financial Industry](#)

[Measuring Portfolio Alignment: Technical Considerations \(Task Force on Climate-related Financial Disclosures\)](#)

[Net Zero Asset Managers Initiative](#)

[Paris Aligned Investing Initiative Institutional Investors Group on Climate Change](#)

[Transition Pathway Initiative](#)

[UN-Convened Net-Zero Asset Owner Alliance](#)



Five Core Action Areas for Decarbonizing Portfolios

When constructing long-term portfolios, institutional investors should focus on incorporating decarbonization targets through activity in five core action areas. This guide outlines the definition and purpose of each of the five areas and provides tools that investors can use to incorporate decarbonization into each area.

	Definition	Purpose	Tool to Implement
Investment Beliefs	Beliefs that set the investment philosophy and provide a compass for selecting investment strategies and navigating short-term turbulence	<ul style="list-style-type: none"> To clearly articulate investment beliefs, with a focus on their portfolio consequences, and to provide a foundation for a sustained long-term net zero investment strategy 	<ul style="list-style-type: none"> Conversation Guide for Updating Investment Beliefs
Risk Appetite Statement	A statement that establishes the risk framework by clarifying the asset owner's willingness and ability to prudently take risks and accept uncertainties	<ul style="list-style-type: none"> To develop a comprehensive statement of key risks, risk appetite, and risk measures appropriate to the organization and oriented to the long term To embed transition risk into capital market assumptions 	<ul style="list-style-type: none"> Conversation Guide for Updating Risk-appetite Statements
Benchmark Process	The measurement of the success of investment strategies and their execution over the long term	<ul style="list-style-type: none"> To select and construct benchmarks focused on long-term value creation To distinguish between assessing the strategy itself and evaluating the asset managers' execution of it 	<ul style="list-style-type: none"> Selected in line with appropriate climate-change scenarios and as appropriate for the relevant investment strategy employed
Evaluations & Incentives	Tools that ensure the interests of the asset owner and asset manager are aligned over the long term	<ul style="list-style-type: none"> To evaluate internal and external asset managers with an emphasis on process, behaviors, and consistency with long-term expectations To formulate incentive compensation with a greater weight on long-term performance aligned with decarbonization objectives 	<ul style="list-style-type: none"> Selected in line with appropriate climate-change scenarios and as appropriate for the relevant investment strategy employed
Investment Mandates	Mandates that define and formalize the portfolio approach and the asset owner / asset manager relationship	<ul style="list-style-type: none"> To use investment-strategy mandates not simply as a legal contract but as a mutual mechanism to align the asset managers' behaviors with the decarbonization objectives of the asset owner 	<ul style="list-style-type: none"> Terms to Consider for Net Zero Investment Mandates



Conversation Guide for Updating Investment Beliefs

Investment beliefs set the investment philosophy, provide a long-term compass to select investment strategies, and help navigate short-term turbulence. Clearly articulating investment beliefs with a focus on portfolio consequences can provide the foundation for a sustained long-term investment strategy. Updating these beliefs to account for net zero commitments or other decarbonization goals helps investors define a sound investment process that is relevant to their circumstances and purpose.²³

This resource outlines the questions and decisions that asset owners need to address when determining how to update their investment beliefs to reflect their views on climate risk and decarbonization goals.

Setting Objectives and Strategy	
Why is a decarbonization strategy necessary for fulfilling the purpose of the fund?	<ul style="list-style-type: none"> • Outcomes (e.g., dignity in retirement; insuring assets) depend on a livable world • Investable opportunities depend on resilient markets and economies
How do decarbonization goals affect desired outcomes and key metrics of success?	<ul style="list-style-type: none"> • Maintain financial targets; however, decarbonization goals may constrain how targets are achieved • Accept trade-offs in financial and nonfinancial performance • Reframe financial targets (e.g., income versus total return; absolute versus relative)
What is the ultimate time frame of the fund?	<ul style="list-style-type: none"> • The time frame could be, for example, perpetual, generational, or the time frame of liabilities
Does a decarbonization commitment affect which interim time periods are important for measuring success?	<ul style="list-style-type: none"> • Yes (specify how so) • No
What unique characteristics do investors display when focused on decarbonization? Are there any strategic advantages or disadvantages?	<ul style="list-style-type: none"> • Skilled at pricing location and duration risk during security selection • Market-making influence to change index constitution
What climate-related responsibilities beyond net zero or decarbonization do investors need to accommodate?	<ul style="list-style-type: none"> • Distributional impacts on particular communities, jurisdictions, and/or economies • Preservation of specific ecologies or biodiversity • Operational engagement with key portfolio companies to assist with transition
In what ways does a decarbonization commitment entail changes to the allocation targets in investment policies or reference portfolio and the ranges or deviations from those targets?	<ul style="list-style-type: none"> • Adjust the organization's benchmarks to underweight carbon-intensive industries • Question the organization's reversion-to-the-mean assumptions



Conversation Guide for Updating Investment Beliefs (contd.)

How does a commitment to decarbonizing the portfolio and meeting interim progress goals affect investment beliefs related to . . . ?	
Responsible behavior: (see Ripples of Responsibility) ²⁴	<ul style="list-style-type: none"> • Internal versus external management • Engagement with public officials • Cooperation with peers and counterparties • Involvement with the scientific community • Controlling externalities felt by constituent groups
Return strategy:	<ul style="list-style-type: none"> • Asset allocation • Style constraints • Tilts/exclusions • Investment or manager selection • Thematic integration • Engagement/advocacy
Risk assumptions:	<ul style="list-style-type: none"> • Efficiency and distribution of prices • Markets • Rates, inflation, and employment • Systemic/structural • Geopolitical • Physical • Operations • Behavioral tendencies (internal and external)
Success metrics:	<ul style="list-style-type: none"> • Risk-adjusted performance • Influence in financial and economic markets • Reputation • Climate outcomes
Time horizon:	<ul style="list-style-type: none"> • Cumulative expected return (near, medium, and long term) • Period in scope for capital market assumptions (embedding transition risk into capital markets assumptions) • Timing of liquidity needs • Reconstruction of asset-liability matching



Conversation Guide for Updating the Risk-Appetite Statement

Developing a risk-appetite statement provides a mechanism to articulate the overall tone, capacity, and tolerance for investment-related risks taken in pursuit of strategic objectives. An institutional investor’s risk-appetite statement goes hand in hand with its investment beliefs—investment beliefs guide the investment strategy and the risk-appetite statement addresses the material risks in executing that strategy. Updating risk-appetite statements to reflect climate risks and account for related implications for risk management brought on by the adoption of a decarbonization commitment is a critical step in implementing a decarbonization goal.

This resource outlines the questions and decisions that asset owners need to address when determining how to update their risk-appetite statement to reflect their views on climate risk and decarbonization goals.

Identifying Key Risks	
Managing the asset: In what ways have risks related to _____ changed as a result of the organization’s decarbonization plans?	<ul style="list-style-type: none"> • Investment risk • Liquidity and funding risk • Valuation risk • Counterparty and collateral • New markets and assets
Managing the organization: In what ways have risks related to _____ changed as a result of the organization’s decarbonization plans?	<ul style="list-style-type: none"> • Operational risk • Strategic risk • Fiduciary risk • Reputation risk
Managing the environment: In what ways have risks related to _____ changed as a result of the organization’s decarbonization plans?	<ul style="list-style-type: none"> • Peer comparisons • Legal, regulatory, and government • Sponsor default • Client actions



Conversation Guide for Updating the Risk-Appetite Statement (contd.)

Anticipating Risks

What is the organization’s tolerance for outperformance or underperformance to accommodate decarbonization plans?

Under what circumstances does the organization expect key investment strategies to underperform?

How does the organization envision and consider potential risks? Does a decarbonization commitment change those considerations?

How does the organization anticipate that it will respond to significant risks?

What risks does the organization choose to mitigate and what is the cost of mitigation?

What risks does the organization choose to accept and will the organization be compensated for assuming those risks?

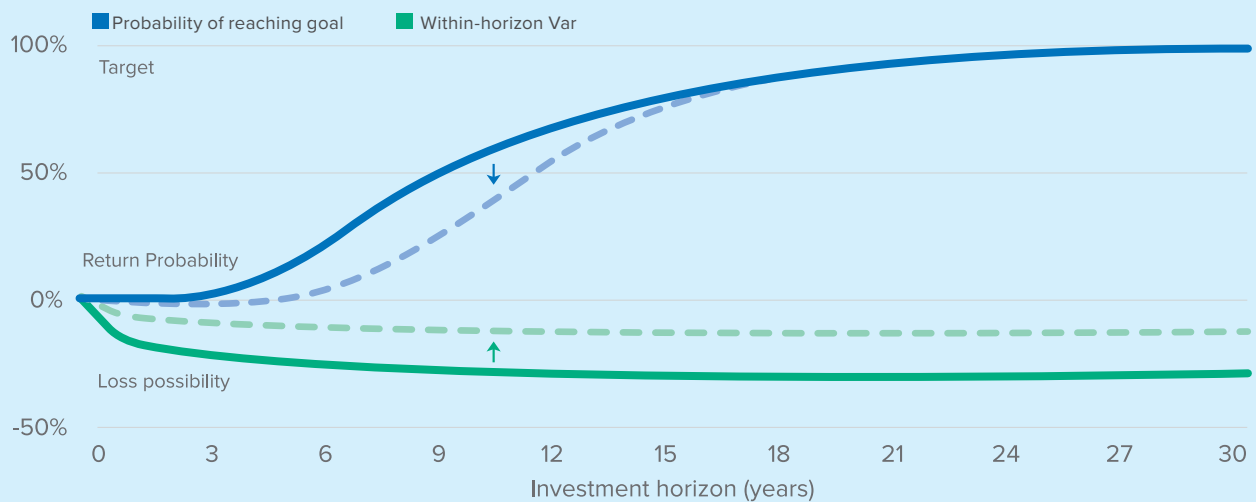
What is the amount of risk that the organization is willing to take?

- Possible examples: “somewhat more aggressive than peers” or “no greater than 10 percent chance of losing more than \$XXX million in real terms on the original capital after five years”

Is the risk measured on an absolute or relative basis, or both?

- If relative, what is it relative to and why?
- Relative to a known set of liabilities? A benchmark? Appropriate peers?

How does the organization expect the probability of reaching the goal and within-horizon value at risk (VaR) to change as a result of a decarbonization strategy? (See the chart below depicting this hypothetical change in VaR.)





Terms to Consider for Net Zero Investment Mandates

Among the most important elements in ensuring that institutional investor partnerships fulfill long-term objectives are the investment management contracts between asset owners and asset managers, the “mandates.” Shaping mandates with provisions specifically oriented towards long-term goals—including net zero or decarbonization-specific conditions—can help build stable, lasting investment partnerships and, if designed properly, improve long-term performance.

[Building on our work](#), the terms that follow offer a menu of items for consideration that can be selected from as appropriate for the strategy and objectives for a particular relationship.

Climate-specific Investment Mandate Matrix of Preferred Terms for Consideration	
	Emerging Climate-specific Terms
Fees	<ul style="list-style-type: none"> • Calculate performance fee over periods matched to interim net zero or decarbonization goals, at least three to five years in length, with deferrals rather than claw backs • Incorporate both financial and climate hurdle rates • Incentive fees paid for more rapid achievement of decarbonization goals within strategy parameters • Include a shadow carbon price in calculation of the performance fee or calculate a post-carbon-price return hurdle • General partner devotes a portion of management fee to purchase carbon credits to deliver a net zero portfolio
Benchmark	<ul style="list-style-type: none"> • Add Scope 1-3 emission commitments from scenario that corresponds to investment beliefs • Alternate index that includes long-term climate metrics or decarbonization glidepath • Scenario- or projection-based
Contract Term	<ul style="list-style-type: none"> • Set contract term to match interim net zero or decarbonization performance periods—with wide discretion to terminate
Redemptions	<ul style="list-style-type: none"> • Consider climate-strategy impact of manager’s ability to redeem in kind • Restrict investor redemptions during periods of significant investee engagement
Projections	<ul style="list-style-type: none"> • Provide projections of risk and return across multiple time horizons to incorporate climate risks • Project returns based on economic and climate parameters (e.g., aggregate revenue, earnings, or portfolio modeled as a business)
Reporting	<ul style="list-style-type: none"> • Focus commentary and reporting on events of interim net zero progress, make shorter-term reporting secondary



Terms to Consider for Net Zero Investment Mandates (contd.)

Climate-specific Investment Mandate Matrix of Preferred Terms for Consideration (contd.)	
	Emerging Climate-specific Terms
Active Ownership / Engagement	<ul style="list-style-type: none"> • Manager details current engagement practice and how this practice contributes to climate-change outcomes • Manager details proxy voting practices, including criteria for supporting climate-related ballot items • Manager details its stewardship code and climate-related commitments (e.g., TCFD disclosure, SDG implementation, etc.) • Asset owner specifies engagement expectations, including to net zero outcomes • Asset owner specifies proxy voting practices, including criteria for supporting climate-related ballot items • Asset owner specifies stewardship code and climate-related commitments (e.g., TCFD disclosure, SDG implementation, etc.)
Other Disclosure	<ul style="list-style-type: none"> • Changes in firm ownership levels, portfolio, or relationship team • Changes in organization or staffing of personnel with climate expertise • Delineate decarbonization KPIs and changes to them (see FCLTGlobal Key Performance Indicator Template) • Inclusion of decarbonization metrics in manager pay
Evaluation Process	<ul style="list-style-type: none"> • Commit ex-ante to parameters for out-of-cycle review of investment and/or climate performance • Document and monitor hiring reasons, explicitly including those related to climate • Meet with managers on a predetermined schedule that corresponds to interim progress goals for investment and climate performance • Measure monetary and climate-impact transition costs before terminating • Continue reporting and monitoring manager’s investment and climate performance for three years after termination and evaluate decision

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FCLTGlobal Authors

ARIEL BABCOCK, [Lead Author](#)

MATT LEATHERMAN

DEVIN WEISS

Project Contributors

NATALIE ADOMAIT
Brookfield Asset Management Inc.

KARISHMA AHUJA
The Carlyle Group

JEB BENTLEY
Northwestern Mutual Life Insurance

KIM TONG CHONG
Hong Kong Monetary Authority

VINCENT FELTEAU
PSP

MIKE HAYES
KPMG

ARNOLD HUI
Hong Kong Monetary Authority

LEON KAMHI
Federated Hermes

LUCAS KENGMANA
New Zealand Super Fund

FLORENCE LEE
Hong Kong Monetary Authority

ALAN MAK
Hong Kong Monetary Authority

EDWARD MASON
Generation Investment Management LLP

BERTRAND MILLOT
Caisse de dépôt et placement du Québec

RACHEL MUNNERY
Schroders

ERIKA MURPHY
Wellington Management Company

DEBORAH NG
Ontario Teachers' Pension Plan

BEN POPATLAL
Schroders

JOEL POSTERS
Future Fund

THONG CHIE SHANG
GIC Private Limited

MEGAN STARR
The Carlyle Group

GARY SZE
Hong Kong Monetary Authority

SHERRIE TRECKER
Washington State Investment Board

JARED WESTHEIM
Goldman Sachs

SIMON WEAVER
KPMG

TRICIA WINTON
Bain Capital Inc.

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