TIIP THE INVESTMENT INTEGRATION PROJECT

Assessing System-Level Investments

A GUIDE FOR ASSET OWNERS

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Executive Summary

This guide is intended to assist asset owners in assessing their managers' effectiveness in addressing systemic social and environmental risks and rewards.

Systemic social and environmental challenges such as climate change, income inequality, access to fresh water, and gender diversity are, among others, an emerging feature of today's investment landscape—and will likely continue to be so. Because the long-term sustainability of their investments depends in large part on the health and preservation of these systems, asset owners will need, and be expected, to contend with these and other interconnected, complex issues.

To do so, they will need to identify and measure the performance of their managers in addressing these systemic issues. Implicitly, many managers already recognize this challenge when, in increasing numbers, they adopt environmental, social, and governance (ESG) integration, align themselves with the UN Sustainable Development Goals (SDGs), endorse stewardship codes calling for consideration of climate change and other systemic risks, or self-identify as long-term in their approach.

As increasing numbers of managers recognize their need to address systemic challenges, asset owners will want to distinguish who among them is doing so most effectively. Owners will need a practical and comprehensive assessment framework—one able to separate those genuinely committed to influence at system levels from those more narrowly protecting their portfolios from specific risks and failing to act on the systemic nature of these risks.

This guide suggests that in making such assessments, the financial community has much to learn from the discipline of evaluation often used by foundations and governments when seeking to understand whether their programs have attained their social or environmental goals. To date, investors and for-profit corporations have turned primarily to the accounting profession for verification of the facts and figures associated with their social and environmental goals. Accounting is crucial for evaluation of an organization's credibility and financial sustainability, but it is not well-suited to the measurement of its impact on social and environmental systems.

The guide begins by examining four assumptions often overlooked by investors today but of potential use in evaluating and managing systemic challenges.

- Consistency is essential. All three links in the investment chain (managers, their actions, and their outcomes) must be evaluated. Without consistent commitments to sustainability at all levels, greenwashing or its appearance is likely.
- Judgment is valid. Qualitative judgment, in addition to quantitative metrics, is essential in evaluations. The ability to measure progress toward sustainability goals requires qualitative judgment as well as quantitative metrics.
- Inherent worth has value. Integration of the inherent worth of social and environmental systems along with their price-based attributes is essential. Reliance on price only as a measure of value is inevitably short term. Incorporation of the difficult-to-measure inherent worth of these systems helps investors maintain long time horizons.
- Balance is crucial. Investors must balance the long term with the short term and the creation of public goods with that of private benefit. They live in a world of markets driven by short-

term valuations and are simultaneously sustained by foundational social and environmental systems; the skillful management of the competing demands of these two factors is the essential challenge of system-level investment.

With these assumptions in mind, the guide proposes **six dimensions for evaluating managers and their performance**:

1. **The clarity and credibility of beliefs or principles about systemic challenges.** Without clearly stated beliefs or principles, it is difficult to know if managers will act consistently and for the long term when addressing systemic challenges. For example, if a manager does not clearly state actionable principles on their position on climate change, others cannot be assured of consistent sustainability actions or outcomes.
2. **Justification for the focus on a particular systemic challenge.** A manager could defend their focus on a systemic challenge such as climate change citing a reasonable global consensus as to its broad importance; its impact across all asset classes; and their ability to exercise influence on systemic outcomes in ways that reduce related uncertainties.
3. **Appropriateness of tools chosen to address the challenge.** To address climate change, for example, a manager can employ tools that go beyond security selection, such as coordination among their peers around the transition to a low-carbon economy, related public policy initiatives, and investments in place-based, fossil-fuel-free economies, among others.
4. **Effectiveness of the application of the tools at key leverage points.** In addition to security selection, a manager may, for example, focus on increasing the availability and usability of climate-related data; or, if more ambitious, on working explicitly to shift society's underlying paradigm from one of dependence on fossil fuels to one based on a mix of renewable energies.
5. **Contributions to an alignment of interests among key stakeholders.** Without an alignment of interests—financial and social—between those dependent on fossil fuels and those advocating a shift to a low-carbon economy, progress toward the latter will be difficult or impossible. A manager can help assure such alignment by actively persuading peers and other stakeholders to adopt common system-level goals and invest in the means of reaching those goals that are in the interests of all.
6. **Overall progress toward desirable outcomes at the system level.** Unless progress is made toward systemic goals, a manager's efforts will be in vain. For example, efforts to promote renewable energy will be of little help if greenhouse gas concentrations in the atmosphere are still rapidly increasing. The manager may then need to redouble their efforts or shift their tactics to attain their goals.

Part One of this guide reviews why the need for this approach has become necessary now. Part Two begins with a description of the usefulness of an approach that is evaluation focused. It then proceeds to examine four assumptions that underlie such an approach and that distinguish it from current practice. Finally, Part Three proposes six dimensions for the evaluation of managers' performance in contending with systemic challenges and concludes with a proposal for how these evaluations can be used to rate and rank managers.

Part One: The Challenge, Why Now, and What Now

Part One outlines why systemic risks and rewards are increasingly important in the complex and highly interconnected world of the 21st century. It also examines initial steps taken by investors today to manage and measure their impacts at system levels. Readers already familiar with the why and what of these trends may proceed directly to Part Two, which examines assumptions useful in making sustainability evaluations in this emerging landscape. Part Three then proposes six dimensions key to the evaluation of systemic impacts.

The Challenge

In recent decades, sustainable investment has evolved substantially.[a] In its various manifestations, a range of aspects of this approach are now widely incorporated. ESG data is broadly available, detailed, and integrated. Collaborative initiatives by institutional investors on environmental and societal issues are now common. Sustainability-related products and services are available across all asset classes.

This trend is not accidental. It is, rather, an implicit acknowledgement that investment must evolve if it is to contend with the major challenges of the 21st century. But is this trend a precursor to fundamental change in the theory and practice of investment? Or is it just a passing fad or, worse, an intentional exercise in "greenwashing"?

Even if it represents a fundamental change in how investment is to be conducted, how can we know which financial products and services and which asset managers are truly addressing the major systemic challenges of our times? Who is simply insulating a single portfolio from the adverse impacts of ever-increasing harm to our environment and society without using the tools available to manage the systemic risks that can impact portfolios across all asset classes?

Why Now

Today, investors in increasing numbers recognize the materiality of environmental, societal, and governance (ESG) considerations. In ESG's most fully articulated form, they acknowledge their responsibility for the creation of systemic risks, as well as rewards, and their ability—indeed obligation—to manage them. This recognition represents a fundamental change in the practice of investment. But why now? Why is this acknowledgement of the factors and responsibilities long rejected by the mainstream as immaterial and inappropriate occurring at this time?

It is not surprising that the 21st century should differ from the 20th, just as the 20th differed from the 19th century. Nor is it surprising that investment would need to adapt to such changes. Much as our telephone system has evolved from operators at switchboards to rotary dialing, to push buttons and cordless landlines, and then to the mobile cell phone networks of today, so we must expect investment to evolve. This evolution is compelling investors to recognize that they have impact on, and hence a responsibility for, the environmental and societal foundations upon which they build their strategies and from which they derive their returns.

[a] The term "sustainable" investment is used here to capture the full range of approaches variously referred to as ESG Integration, stewardship, responsible investment, impact investment, negative or positive standards setting, and solutions, along with other variations on this vocabulary.

The world has always been a dangerous, unpredictable place with substantial risks, as well as potential rewards. Social disturbances have roiled markets throughout modern history. Big business has abused the environment as it has grown ever bigger. What has changed is the scope and scale of these risks; they are now more global and interconnected, have more profound impact, and are less reversible than ever before. Once unfrozen, the Earth's ice-free poles will usher in an unpredictable world with no hope of going back. No one can begin to foresee what a worldwide mass extinction of species will mean for global ecosystems—a path down which there is no return.

With the world's population skyrocketing from two billion in 1950 to 7.4 billion in a mere 70 years, it is no wonder that we humans are having a greater, more profound, fundamentally different impact on the world in which we live. Technology has advanced to help us provide food, water, clothing, healthcare, shelter, workspace, heating and cooling, transportation, communications, entertainment and a host of other aspects of a standard of living to which the world's population has legitimate aspirations. But these comforts have come with steep costs to our environment and place great strains on societies' infrastructure and abilities to satisfy its constituents worldwide.

At the same time that our technological capabilities have grown almost incomprehensibly, so has the power of finance. With some $250 trillion in assets available worldwide, the financial community's influence is now omnipresent, persistent, and powerful.

Still, many in the investment community continue to turn a blind eye to these fundamental developments and the need to address the challenges that they bring in their wake. The primary obstacle that stands in investors' way today is the elegant, well-developed, theoretical framework within which they operate: Modern Portfolio Theory (MPT). MPT's strength is, as its name implies, its focus on the portfolio. Among its weaknesses is its deliberate ignoring of the larger systems within which portfolios operate. The policies and practices that derive from this theory are consequently ill-equipped to contend with the complexities of investors' relationships to, and responsibilities for, systemic risks to society and the environment.

Compounding this limitation is the mantra of MPT that investors' primary goal is the "maximization" of returns. Although an intuitively appealing proposition, it is difficult to put into practice without an answer to two questions: should returns be maximized over a short, medium, or long period of time? And should investors do so by playing a zero-sum game or by growing the pie and thereby maximizing returns for all? The danger is that investors will prioritize investments generating immediate gains for themselves at others' expense over those enabling sustainable, long-term returns for themselves and others. For investors with long time horizons the former is a short-sighted approach. Sustainability for them means investments with enduring returns built on solid foundations. The ability of a durable economy, built on stable environmental and societal systems, to generate returns for the long-term far outweighs the short-term value added by a manager beating the market today.

For asset managers to overcome these limitations and define a capacious, sustainable approach, they need to understand how to balance the short-term demands of the market necessary for their survival with long-term investments that provide enduring wealth. This understanding then needs to be coupled with an evaluation framework that enables asset owners to assess these managers' success in achieving that balance and in preserving and enhancing—not undermining—those foundations upon which their long-term prospects depend.

One difficulty of conceiving of such an approach lies in the fact that several of the most helpful tools for doing so are best found outside of today's financial discipline. In particular, they require us to revisit such concepts as the use of judgment and qualitative analyses that have atrophied in recent decades, the appreciation of a societal or environmental system's difficult-to-quantify inherent worth, the ability to manage conflicting goals that create tensions within these systems, and the embracing of irreducible uncertainties that come with the complex systems of the 21st century world.

What Now

For the past two decades investors have been circling around the question of how to account for their social and environmental impacts. Initially, these approaches focused on metrics for corporate social responsibility (CSR). Pioneers in this area included the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and corporate sustainability rating agencies such as KLD Research & Analytics and Innovest (both acquired by MSCI), Vigeo/EIRIS (acquired by Moody's), Trucost (now part of S&P Global), and Sustainalytics (partially owned by Morningstar).

These metrics provide a useful tool in assessing the social and environmental impact of investors' portfolios. IRIS+, for example, is an effort by the Global Impact Investing Network (GIIN) that helps investors "measure, manage, and optimize their impact" by providing "generally accepted Core Metrics Sets" accompanied by dozens of sustainability indicators applicable to a portfolio's holdings that can be rolled up into a portfolio impact score.[1]

Building on the work of IRIS+, the Impact Management Project (IMP) has extended the context of assessment to an investment's ability to (1) avoid harm, (2) benefit stakeholders, (3) contribute to solutions, or (4) a combination of the three. This approach focuses on what IMP terms the "five dimensions of impact": *who* is impacted, *what* the nature of that impact is, *how much* impact is achieved, *the contribution* of that impact to progress toward goals, and the *risk* that the impact might have unintended consequences.[2]

Investors are also responding to a groundswell of interest in the UN Sustainable Development Goals, asserting their alignment with these goals and clarifying how they might achieve that alignment. Cornerstone Capital Group, for example, has identified "access" as crucial in achievement of the SDGs and created a "heatmap" to identify the strength that access can lend to the achievement of specific SDGs through investments in particular industries or firms.[3]

In addition, since 2016, Morningstar has rated and ranked the sustainability of publicly traded equity funds. Drawing on the CSR scores of individual companies using Sustainalytics' ESG Risk framework, Morningstar generates a score for each of the hundreds of funds it follows and assigns a green "globe" rating by quintile.

In 2019, the International Finance Corporation (IFC) launched its Operating Principles for Impact Management to provide "a reference point against which the impact management systems of funds and institutions may be assessed." These principles guide investors in setting their impact expectations, implementing investments, measuring impact against expectations, and reporting, among other things. For assessing "the expected impact of each investment, based on a systematic approach," it cites among other best practices the SMART framework used by some professional evaluators. In addition, IFC requires independent verification of investors' alignment with its Principles.[4]

In addition, since 2015, The Investment Integration Project (TIIP) has been seeking to better understand and address the challenges investors face when taking action on systemic risks and rewards within large-scale environmental, societal, and financial systems. During that time, it has made progress on questions related to investors' justifications, system-specific tools, best practice, due diligence, and other transitional steps on the road to the incorporation of systemic factors.[5]

Several trends continue to impel investors toward this system-oriented approach to sustainability assessment. Financial-industry regulators, for example, have issued guidance stating that investors need to address systematic risks *per se*. The Financial Reporting Council's UK Stewardship Code 2020, which went into effect January 1, 2020, directs investors to create "long-term value… leading to sustainable benefits for the economy, the environment and society;" to "identify and respond to market-wide and *systemic risks* to promote a well-functioning financial system;" and to "systematically integrate… material environmental, social and governance issues, and climate change, to fulfill their responsibilities."[6] [Emphasis added]

The banking industry has recently promulgated a set of principles aimed at aligning their business models with society's goals, and particularly the SDGs. Developed under the aegis of UNEP Financial Initiative and launched in September 2019 by 130 banks, these principles commit signatories to "identify [its] bank's most significant (potential) positive and negative impacts on the societies, economies and environments where it operates. [Its] impact analysis should *cover [its] core business areas*." [Emphasis added][7]

These developments build on the work of those advocating a contextual and "multicapitals" approach to the sustainability of investment and its measurement—i.e. consideration of the value of natural capital, human capital, and social capital. For example, the Global Reporting Initiative has historically called attention to the importance of the systemic context of CSR reporting in its guidance to corporations. Similarly, the organization r3.0 stresses the importance of context, thresholds, system perspectives, and multicapitalism. As of early 2020, it was developing a Blueprint for Sustainable Finance incorporating these concepts.[8] In addition the International Integrated Reporting Council has adopted a multicapital framework for its CSR and investor-related reporting standards.[9]

Major institutional investors are not blind to this current state of affairs. In many regards they not only perceive the nature of the current systemic crises but also sense the direction in which they must proceed to bring about much-needed change. Two stumbling blocks to action remain, however. What evaluation framework can investors use to judge asset managers, their actions, and the outcomes of these actions? And how can the relative performance of these managers be rated and ranked?

Part Two: Four Assumptions about Systemic Sustainability Evaluation and Measurement

Part Two looks at why a principles-focused evaluation approach can be helpful to asset owners when tackling the challenge of measuring and assessing investors' ability to achieve positive systemic sustainability. It then suggests four assumptions that can help asset owners construct an assessment framework for evaluating those who make claims to addressing systemic challenges.

Why a principles-focused evaluation can be useful

Once asset owners confront the challenge of assessing the positive or negative impacts of their managers on social and environmental systems, three underlying factors that make an evaluations approach useful become apparent.

1. A holistic approach is needed;
2. Difficult-to-value factors and qualitative judgments play an important role; and
3. Application of normative considerations becomes part of the assessment process.

A principles-focused evaluation approach functions well in such contexts. It is particularly applicable when complex systems, with their uncertainties and often competing stakeholders, are involved. As Michael Quinn Patton, a primary author of this approach, argues, principles-based frameworks "are especially powerful rudders for navigating complex dynamic systems."[10] Using a framework based on principles "provides guidance for making choices and decisions, is useful in setting priorities, inspires, and supports ongoing development and adaptation."[11] In addition, "Principles-focused evaluations examine (1) whether principles are clear, meaningful, and actionable, and if so, (2) whether they are actually being followed and, if so, (3) whether they are leading to desired results."[12]

By contrast, the assessments of the accounting profession on which investors frequently rely for the verification of the accuracy of their financial statements have evolved for a different purpose: they verify the accuracy of reported data and the financial sustainability of organizations. Assessments of this kind are crucial for evaluation of an organizations' credibility and long-term financial sustainability, but this narrow exercise is not well-suited to assess an organization's impact on fundamentally important social and environmental systems.

Foundations and governments regularly and increasingly rely upon professional evaluators to assess the success of programs and projects and to guide the decision-making in seeking positive social and environmental change. Professional evaluators are trained specifically for these tasks. When using a principles focus, evaluators assess consistency of purpose, effectiveness of actions, and progress toward systemic social and environmental goals.

Four assumptions useful in measuring investment managers' impact on systemic social and environmental challenges

With these observations about the evaluation of systemic social and environmental challenges in mind, we make four assumptions that can help asset owners along this road. These assumptions are relatively simple, straightforward, and familiar in disciplines other than finance.

1. Consistency is essential

Consistency across character, actions, and outcomes is necessary to assure that impact is of a sustainable sort. Measurement approaches available to asset owners today tend to focus on a specific set of quantifiable outcomes related to portfolio holdings. If stated beliefs or actions taken are inconsistent with these outcomes, they may undermine the credibility and positive impact of these efforts.

For example, if a manager touts their investments in solar or wind power as a positive outcome for contending with global warming, but simultaneously invests heavily in fossil fuels because of a stated belief that a viable economy will depend on oil, coal, and natural gas into the foreseeable future, their net positive impact may be, at best, negligible. Similarly, if they publicly assert that a transition to alternative energy is urgently needed, but lobby for tax breaks for fossil fuels in order to benefit their portfolios' holdings, they undermine positive outcomes achieved. Or, little or nothing positive is achieved if an asset manager strongly favors alternative energies, makes investments consistently in such projects, but in the end those projects are not economically viable.

To achieve consistency, and therefore sustainability that is systemic and holistic, asset managers need to be principled, guided in their actions by implicit or explicit duties, and achieve positive outcomes efficiently and effectively. As Jonathan Wight points out, economics and its impacts depend for their legitimacy on such consistency. "If economics is to have validity, the nature of underlying institutional frameworks (including ethical norms) must be uncovered."[13] In economics, as in investment,

> [T]here are three standard ways of conceptualizing ethical issues. The three approaches are related, as illustrated in the follow schema:
>
> (1) Economic Agenda ⟶ (2) Action ⟶ (3) Outcomes
>
> An economic *agent* takes an *action* that is expected to produce certain *outcomes.*[14]

He characterizes "virtue-based (or character) ethics" as the framework most useful for economic agents, (e.g. asset managers); "duty- and rule-based ethics" for assessing the quality and impact of the agent's actions (e.g. fiduciary obligations); and "outcome-based ethics (consequentialism)" (e.g. outcomes).

People, Wight asserts, "make choices within a pluralistic moral ecosystem, that is, some mix of considering outcomes, conforming actions to principles, and exploring character or virtue as part of meaning and identity."[15] Indeed, any one of these approaches alone cannot "explain the economic world including important concepts of trust, care, obligation, and meaning."[16]

All three approaches have their use in different contexts and can overlap in practice. An investor, for example, could decide to act on climate change for financial gain (i.e. to protect the short- and long-term performance of their portfolio); because of a duty to those for whom they act formally as a fiduciary; or from a more general moral concern for their impact on future generations and the injustices of the societal and environmental harms brought about by investments exacerbating climate change.
The current emphasis on measurement solely of social and environmental outcomes relies heavily on measurement of consequences alone. This approach is practical in that it lends itself to quantifiable

metrics and calculations of efficiency. Evaluations of overall sustainability will nevertheless not be complete without assessments of character and actions.

Asset owners assessing a manager's commitment to "aligning" themselves with a specific Sustainable Development Goal, for example SDG #14 (i.e. Life below water), need to consider whether the entirety of their operations achieve this alignment; their actions taken give due consideration to the interests of their clients, beneficiaries, and key stakeholders in the system defined by the SDG; and their outcomes are effective, efficient, and contribute to overall progress toward that SDG's ultimate objectives. This task goes beyond a simple enumeration of the value—financial, social, or environmental—represented by specific investments in a portfolio.

2. Judgment is valid

When systemic social and environmental risks and rewards are key issues, investors face the prospect of unintended consequences stemming from their decisions. Judgment as to investments' ultimate systemic impacts and the flexibility to make adjustments based on those judgments need to fill that gap.

Social and environmental systems are full of uncertainties and are subject to the unpredictability of the future where decisions must be made in the absence of complete information and the outcomes of decisions need constant assessment. In these worlds, investors must rely to a substantial extent on sound judgment that accepts the "I-can-know-only-imperfectly" aspects of their situation. Experience can guide that judgment, but cause-and-effect has its limitations.

In evaluating managers, asset owners must honor the necessity for the use of judgment and assess the appropriateness and quality of that judgment—characteristics that cannot be easily captured in quantifiable metrics. If, for example, the challenge is income inequality with the systemic risks it poses of political instability, a key factor is managers' judgment on how best to contend with matters such as labor, tax, and CEO compensation.

Judgment with respect to systemic impacts is similarly essential in the realm of financial products and services, as Omar Bhidé points out in *A Call for Judgment.* There he lays much of the blame for the 2008 crisis and near meltdown of the global financial system at the door of (1) lenders who abandoned qualitative judgment in favor of mechanical, efficiency-motivated, investment decision-making in granting risky mortgages and (2) the poor investment judgment of pension funds, banks, and others who believed in the highly complex risk-diversification tactics used to securitize these mortgages. "Relying on case-by-case judgment does have drawbacks," he observes. "But mechanical decision-making is rarely a good alternative when the choices involve willful humans."[17]

He applies the same reasoning to the failure by passive investors to exercise their obligation to assess the fairness of the price of individual securities in the marketplace. He compares forsaking that judgment to driving with one's eyes closed.

> [T]he absolutist prescription to forsake judgment, to blindly trust market prices, not only puts those who follow it at risk, but also undermines the pluralism of opinions that help align prices and values. If many drive with their eyes closed, widespread collisions and injuries to those who do keep their eyes open become routine. When many simply pile on, so that prices reflect the judgments of just a few, the possibility of mistakes—and the opportunity for self-dealing—is great."[18]

Asset owners committed to achieving positive impact at system levels will need to credit judgment as well as quantitative analysis. The greater the uncertainties in the social and environmental challenges involved, the greater the need for judgment in decision-making will be.

3. Social and environmental systems have inherent worth

To a certain degree investors recognize that the social and environmental systems—the stability of which they depend upon for sustainable returns—have inherent worth. The economic value of these systems, which is real, plays out over such long time frames, however, that it is next to impossible to capture in the quantifiable measurements of today' price. For example, investors with relatively short time horizons—even, say, three to five years—find the consideration of the inherent worth of a stable climate difficult to value and impractical to apply and therefore tend to ignore it in their daily decision-making. In doing so, they run the danger of irreversibly extracting value from the environment for short-term profit and undermining their own long-term viability. By contrast, those who incorporate considerations of inherent worth, despite the difficulties of translating them directly into today's price, can support systems' long-term prospects and resilience.

Whole, overarching systems possess worth greater than the sum of their parts. Assigning short- or long-term value to the parts of complex environmental or social systems—a conceivable, but inevitably imprecise exercise—and summing them up cannot capture this worth. It is the interrelationships among these parts, not the parts themselves, that bring these systems to life. No price-based market exists for the complex, intangible relationships among the individual parts of a living body. These life-giving interactions are literally priceless.

To preserve, or even enhance, this inherent worth for the future, investors need to acknowledge and incorporate it into their present decision-making as they balance their short-term market actions with their management of long-term systemic risks and rewards.

For example, asset owners may recognize the difficult-to-price inherent value of diversity, including the biodiversity of the natural world. Diversity's value stems from the vitality and resilience it brings to social and environmental systems, as well as the economy. Managers that support diversity while still operating within price-based markets encourage long-term value creation. Those ignoring diversity run the risk of creating volatile systems with conflicting stakeholders, generating outcomes that at best are suboptimal and at worse counterproductive.

Increasingly, forward-thinking investors with long time horizons are being encouraged to recognize this inherent worth. A PricewaterhouseCoopers study, for example, noted that "Sustainability initiative[s] do provide significant indirect sources of value," and then asked:

> How can we quantify the value created for longer-term intangible benefits?... Sustainability initiatives do create *bona fide* shareholder value, but the longer-term and intangible value is a lot more difficult to quantify [than market value]. The shareholder value framework needs to be *expanded* to accommodate the value proposition of hard-to-measure initiatives, including sustainability projects.[19] [Emphasis in original]

Asset owners seeking to preserve the worth of these systems need to evaluate their managers' success in incorporating such considerations.

4. Balance is crucial

Sustainable investing needs to balance the short term with the long term, the creation of private goods with those for the public, value extraction with value creation, and self-interest with that of the community. This balance is necessary to assure a reasonable degree of alignment and stability within social and environmental systems.

Asset owners confronting systemic challenges will not want, for example, a manager who invests in a solar or wind power enterprise simply because these are the wave of the future without considering their business models and quality of management; who fails to anticipate developments in public policy or trends in customer preference; or who ignores the viability of differing technologies. On the other hand, they will also avoid a manager who overlooks alternative energy opportunities entirely due to the unpredictability of the future and its impact on future stock valuation. Without balancing the practicalities of today with the needs of tomorrow, those in the financial markets can underperform or, worse, become insolvent, before the trends of tomorrow materialize. On the other hand, if they do not correctly anticipate the future they can find themselves irrelevant today because tomorrow came too soon. Striking the right balance between these two extremes may be a constant challenge, but it is essential if managers are to invest sustainably.

Investors working with such organizations as FCLT Global, a nonprofit coalition of investors and corporations that promotes the adoption of a long-term focus in investment decision-making, acknowledge this tension and stress the importance for both of not neglecting the long-term at the expense of the profit taking today.[20] Similarly, pension fund advisor Keith Ambachtsheer calls on institutional investors to create "macro-value" at a systemic level while they manage the "micro-value" of their portfolios.[21]

This tension between the private and the public, the micro and the macro, is a basic characteristic of economies. As the anthropologist Stephen Gudeman points out: "material life [is] composed of both impersonal exchange and mutuality."[22] For Gudeman "Economy has two sides" that pull its actors in differing directions.

> Viewing these two aspects as a continuum, at one end lies economics based principally on mutuality and social relationships. At the other end lie economies based primarily on impersonal exchanges and commercial and financial products. Anthropologists know one aspect of economy and economists know the other, but the two are juxtaposed, often contradictory, and sometimes complementary. *Neither side is complete without the other* that influences it. The combination of the two varies across cultures and time, but the tension between them lies within economies and within us."[23] [Emphasis added]

Similarly, for environmental and social systems, an optimal balance exists between their efficiency and effectiveness and their flexibility and resilience. This balance is what ecological economists have referred to as an "inherent push-pull tradeoff" that requires calculated trade-offs between the two in order for systems to remain stable.[24]

Managers already engage in similar balancing acts when seeking out an "efficient frontier" that simultaneously maximizes risk and reward requirements. Asset owners will similarly want to evaluate managers' ability to master the "inherent push-pull tradeoff" between short-term value extraction and

long-term value creation. Achieving a balance between these two lies at the crux of the achievement of stable, system-level investment over the long term.

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Building on these four assumptions, asset owners can construct a measurement framework to evaluate a manager's ability to contend with risks and promote positive impacts at system levels.

Part Three: A Proposed Sustainability Evaluation Framework

In Part Three, this guide proposes an approach for asset owners wishing evaluate the systemic nature of their managers' policies and practices in addressing systemic risks and rewards. Here we illustrate how these frameworks for evaluation might be applied and provide examples of actions that can confront the challenge of climate change.

Beliefs and principles

Question:	Does the manager have formal beliefs or principles that are sufficiently clear, actionable, inspirational, and adaptable to be effective?
Evaluation dimension:	**The clarity and credibility of beliefs or principles about the systemic challenge chosen.** Asset owners can evaluate beliefs or principles using, for example, the five GUIDE parameters that are part of the principles-focused evaluation process.

A manager should clearly state their principles and beliefs. They should be able to answer questions such as: What is the role of the system in question in investment value creation? Does the health of that system pose material risks or offer substantial rewards? Do they believe they impact this value creation positively or negatively? Do they accept their responsibility to monitor, measure, and manage these impacts?

These principles and beliefs when explicitly stated can serve as an overarching framework for evaluating actions and outcomes. They can help answer questions such as: Has the manager acted consistently with their stated beliefs and are they likely to do so in the future? Do their principles serve as guidelines for future decision-making under varying circumstances and market conditions? Can they assure consistency in actions and outcomes going forward?

A manager, for example, might develop an Investment Beliefs Statement (IBS) or a statement of principles articulating their convictions as to the materiality of the systemic risks posed by climate change. They might also acknowledge the impact of their investment decision-making on climate change, their ability to manage that impact, and their responsibility to do so.

To evaluate the clarity and credibility of beliefs or principles, owners can draw on the five GUIDE characteristics used in the principles-focused approach described by Michael Quinn Patton. Principles, Patton states, are "especially powerful rudders for navigating complex dynamic systems."[25] The five GUIDE characteristics are as follows.[26]

G	Guiding	Principles need to be prescriptive. They should provide "advice and guidance on what to do, how to think, what to value, and how to act to be effective." For example, in the context of climate change, an IBS might include: "We believe that we must act to reduce the risks of climate change because they can impose financially material negative impacts on our portfolios across all asset classes."
U	Useful	Principles should be "actionable, interpretable, feasible, and pointing the way toward desired results for any relevant situation." For example, a

		manager might state, "By joining with our investment peers we can successfully urge corporations and other investees to reduce their dependency on fossil fuels, their greenhouse gas emissions, and exposure to climate-related risks."
I	Inspiring	Principles should be "values based, interpreting and expressing ethical premises… articulat[ing] what matters, both in how to proceed and the desired result." For example, "Climate change is one of the most pressing issues of our time, the addressing of which is crucial to the stability of our society and our planet and hence to the future of our investments."
D	Developmental	Principles should be "context sensitive and adaptable to real-world dynamics, providing a way to navigate the turbulence of complexity and uncertainty." For example, "The uncertainties of the impacts of climate change require us to be ever vigilant for opportunities that allow us to address the complexities of this issue while still generating competitive returns."
E	Evaluable	A principle should be "possible to document and judge whether [it] is actually being followed, and document and judge what results from following the principle." For example, "We believe in the need for transparency as to the risk-reducing impacts of our investments and related activities with regards to climate change and will report annually on these impacts and progress toward our goal of risk reduction."

When managers make clear their principles, asset owners have a basis on which to judge their character, choice of actions, and outcomes achieved. This judgment can be based on the rigor and quality of the principles and beliefs.

Actions

1. Justification of system-level focus

Question:	Can the asset manager justify their selection of the systemic challenge on which they have chosen to focus as having achieved broad consensus as to its importance, having impact across asset classes, being capable of being impacted positively by their actions, and involving irreducibly uncertain outcomes?
Evaluation dimension:	**The adequacy of the justification** for focusing on a particular systemic challenge.

Evaluating the adequacy of rationales for focusing on a particular systemic social or environmental challenge can assure the asset owner that conflicts of interest, frivolous endeavors, or an otherwise idiosyncratic, personal, or political agenda are not involved. Managers should only undertake a systemic approach when contending with broad systemic risks or rewards.

Asset owners can ask: Has the manager demonstrated that the issue on which they are focused has achieved broad consensus? Can the issue impact their investments across most or all asset classes? Can

their actions positively impact the issue? Does it involve uncertainties that cannot be dealt with solely by using the tools of conventional portfolio risk management?

A four-part justification test can be applied to assure that the issue poses systemic risks or enhances opportunities at broad system levels.[27]

- Consensus. If an issue has been widely debated and its importance generally agreed upon, then it is not one of personal or idiosyncratic concern. For example, a manager might justify their commitment to addressing the challenge of climate change as having achieved broad consensus by citing the findings of the Intergovernmental Panel on Climate Change.
- Relevance. If the issue poses potential risks or offers rewards across most or all asset classes, then it is systemic in nature. For example, climate change has the potential to affect portfolios across virtually all asset classes.
- Effectiveness. If a manager has the resources and expertise to use tools designed for systemic influence, then their efforts will probably not be wasted. For example, a manager can document not only the expertise and training of their financial analysts across asset classes in the incorporation of climate-related risk management into security and portfolio selection, but also of their firm generally in using tools such as public policy intervention, standard setting at industry levels, collaborative action and similar initiatives designed to exercise influence at a system level.[28]
- Uncertainty. If the system is sufficiently complex, a system-focused approach is appropriate. For example, although it may be possible to predict an increase of severe weather events or sea-level rise due to climate change, foreseeing the impacts of these events on mass migration and the political and economic instability that would follow is a highly uncertain exercise. When such uncertainties exist, conventional portfolio risk controls are of little use.

Adequate justifications help asset owners understand whether a manager is actually addressing systemic challenges. Owners' assessment can be based on the credibility of their manger's justifications.

2. Choice of system-dynamics tools and techniques[b]

Question:	Has the asset manager chosen tools designed to create positive outcomes at the system level?
Evaluation dimension:	**The appropriateness of the tools chosen** to exercise influence at system levels.

Only if they choose appropriately designed tools or techniques can managers act efficiently and effectively to address systemic social and environmental challenges. Evaluating the choice of tools can help asset owners understand whether a manager has sufficient knowledge of systems dynamics to exercise influence within a given complex systems.

[b] See TIIP's report *Effective Investing for the Long Term: Intentionality at Systems Levels* for a detailed description of tools designed to exercise influence in complex social and environmental contexts. These tools, described briefly in this section, can impact the interactions and flows within such systems, thereby influencing ultimate outputs and outcomes of that system.

Asset owners can ask such questions as: Has the manager chosen tools that can contribute to the strengthening of organizations contending with the systemic risk in question? Or to the building of a knowledge base in support of such organizations? Or that can solve the challenges faced by the system? Or positively impact previously unaddressed aspect of the systemic risk?

Such tools can be grouped into three categories as follows.[29]

- Field Building. *Self-organization, interconnectedness, and polity.* For example use of a field building tools can help create collaborative organizations ("self-organization," e.g. the Climate Action 100+) that can use the influence of collective action with regards to climate change. Organizations can also develop a shared knowledge base ("interconnectedness," e.g. support for climate-related disclosures by CDP) regarding the complexities of climate systems, or work to assure alignment of investors' goals with those of government and other influencers of public policy on climate change mitigation and adaptation ("polity," e.g. the Investor Group on Climate Change).
- Investment Enhancement. *Solutions, standard setting, and diversity of approach.* For example, such tools could include: offering climate-solutions-oriented investment products ("solutions," e.g. portfolios devoted to renewable energy), endorsing industry- and issue-specific norms and standards relating to climate-change mitigation ("standard setting," e.g. encouraging local and national governmental pledges to join in net-zero standards for GHG emissions), and otherwise using a combination of active ownership, engagement, and public communications ("diversity of approaches," e.g. the diversified approach to climate risks undertaken by the New Zealand Superannuation Fund).
- Opportunity Generation. *Additionality, locality, evaluation, and utility*. For example, a manager might target local or global investments that support the creation of new financial markets, or the social and environmental development of specific regions ("additionality" and "locality," e.g. Green Bonds). They might also incorporate into decision making the difficult-to-qualify overall value of a stable climate, assigning monetary value to its effects when they are quantifiable and recognizing its qualitative inherent worth when price-related valuation is not feasible ("evaluation," e.g. Natural Capital as a generalized concept). In addition they might adapt their investments in each asset class toward the aspects of climate mitigation that are best suited to the design of that particular asset class: public equities for energy efficiency; bonds for infrastructure; venture capital for breakthrough technologies; and real estate for the resilience of urban environments ("utility," e.g. venture capital funding for breakthrough technologies enabling sharp reductions in the costs of renewable energy).

Once a manager has specified the types of tools they have chosen, asset owners are well positioned to judge whether the tools are appropriate for the task and whether the manager is properly equipped to put them into action. Owners' assessment can be based on the appropriateness of these choices.

3. Actions at leverage points

Question:	Has the asset manager applied the tools at key leverage points within the system so as to exercise positive influence?
Evaluation dimension:	The effective application of the systemic tools chosen at key leverage points so as to exercise positive influence.

To be effective, investors need to identify points of maximum leverage within the system and understand in what direction to push to attain their goals. Evaluating the choice of key leverage points helps understand whether actions taken are likely to influence the system effectively and efficiently. A manager should choose to intervene at those points at which they believe substantial influence is possible.

Asset owners can ask such questions as: Has the manager chosen an appropriate point of leverage? Have they articulated why that point is one of potential impact? Was the manager ambitious in their choice of the leverage point?

Systems dynamics thinker Donella Meadows has categorized twelve leverage points at which intervention for system change has potential. Listed here are her 12 points of intervention in ascending order of importance for leverage, along with hypothetical examples of how investors might apply them in the context of climate change.[30]

12. Numbers. Constants and parameters such as subsidies, taxes, and standards. Investors might ask for increased disclosure of data such as greenhouse gas emissions, subsidies for fossil fuel industry, companies' climate policies, amounts of renewable energy produced by or invested in specific projects, and the like. Although informative, these numbers themselves portray the current status, but lack a roadmap for change.
11. Buffers. The sizes of stabilizing stocks relative to their flows. Investors can point to the size of fossil fuel assets—i.e. known and potential reserves of oil, natural gas, and coal—as potentially "stranded." The size of these reserves, however, assures the long-term continuity for their flows through the energy system, unless the price advantages of renewables persist in all circumstances forever.
10. Stock-and-Flow Structures. Physical systems and their nodes of intersection. Investors can seek opportunities that address the challenge of our current built economy, which is designed to run on fossil fuels. Electric utilities have substantial assets invested in coal-fired plants, for example. Distribution networks near optimal sources of renewables are lacking. Transportation systems are designed to run on gas and other oil derivatives. Investors can invest in infrastructure designed for renewables.
9. Delays. The lengths of time relative to the rates of system changes. Investors must contend with the time necessary to make a transition to a low-carbon economy. Climate change is progressing rapidly, making an orderly transition problematic. To speed a rapid transition, investors can support a "just transition" that aligns the conflicting interest of those upon whose cooperation that transition depends.
8. Balancing Feedback Loops. The strength of the feedbacks relative to the impacts they are trying to correct. Investors can support public policies such as pricing mechanisms for carbon emissions, subsidies for renewable energy, and tax advantages that use markets to favor renewables. The self-balancing feedback loops that the marketplace provides can speed progress toward a transition. To realize this potential, markets must be transparent, based on reliable data, and free from manipulation and other distortions.
7. Reinforcing Feedback Loops. The strength of the gain of driving loops. Investors can help speed a transition by investing in products or services that break the reinforcing feedback loop that currently promotes an ever-increasing consumption of fossil fuels: cheap fossil fuels enable a thriving economy that depends on consumption of additional cheap fossil

fuel. By slowing the flows in this feedback loop by investing in opportunities to reduce the cost of renewable energy, investors can buy time for an orderly transition. In addition to adopting strategies impacting price, investors can invest in markets that require less use of fossil fuels: local, bioregional economies that reduce transportation needs, urban environments that reduce energy use, and distributed energy production networks that use renewables efficiently.

6. Information Flows. The structure of who does and does not have access to information. Investors can help assure that climate-related data is put in the hands of those likely to act upon it positively. Corporate disclosure of greenhouse gas emissions is ineffectual without action taken to reduce them. With adequate data in hand, investors can set limits on or eliminate support for companies that continue unabated GHG emissions. Similarly, lending institutions can reward and punish those with whom they do business. By doing so, the financial community can set a replicable model for business-to-business transactions, as well as for consumers in daily purchasing.

5. Rules. Incentives, punishments, constraints. Investors can also support regulatory initiatives that favor renewables and energy conservation. They can encourage the limiting or eliminating of fossil fuels by electric utilities, banning the manufacture of energy-inefficient products, creating comprehensive, free or low-cost urban public transportation systems, adopting governmental preferential purchasing programs, and the like. These regulatory frameworks can change the fundamental dynamics of the energy markets while generating profitable investment opportunities.

4. Self-Organization. The power to add, change, or evolve system structure. Investors can act collaboratively to increase their effectiveness. Despite the competitive nature of the financial world, they can join forces with peers to promote goals that reduce climate-related risks. Similarly, they can collaborate with government and civil-society organizations to enhance and advance such efforts. These collaborations can provide a united front among investors in engagement with corporations or coordinate support for regulations that reduce climate risks or for the funding of research of mutual benefit.

3. Goals. The purpose or function of the system. Investors can offer a shared vision of not only what a system based on renewables looks like in practice but what its overall purpose is. They can clarify that renewable energy is not simply a climate-related risk reduction tactic, but a strategy to serve the needs of individual communities with sufficient energy to achieve reasonable levels of prosperity. This vision implies local or regional empowerment for decision-making.

2. Paradigms. The mindset out of which the system—its goals, structure, rules, delays, parameters—arises. Through a combination of goal setting, collaborative action, public advocacy, communication of relevant data to interested parties, and reconceptualization of market mechanisms, investors can shift current paradigms of energy production, distribution, and use. These paradigmatic shifts will help align often conflicting interests of stakeholders within this inevitably complex system—faciliating needed communications, compromises, and coordinated actions.

1. Transcending Paradigms. Transcending the shift in paradigms necessary to transition to an economy driven by renewable energy, investors can elaborate a vision of an economy in which energy is thought of as a scarce, rather than an unlimited, resource—conceived of as

an input that must be produced within the limits of the ability of the Earth's natural resources to absorb its waste products, including anthropogenic (human created) heat.

No single paradigm, including that of an economy powered by renewable energy, is likely to be satisfactory for all foreseeable circumstances. Just as we must now replace our current paradigm of a prosperous and infinitely expanding economy based on fossil fuels, so will we need to revise whatever paradigm emerges in its place at some time. Understanding the limits as well as the virtues of shifting paradigms will help investors contend with future energy-systemic risks.

These different leverage point may be categorized as more or less effective, but all have their use in certain circumstances. Asset owners can evaluate the appropriateness of their manager's choice of leverage points at which they intervened, as well as the ambition and intensity of that intervention.

Outcomes

1. Alignment within systems

Question:	Have the manager's actions contributed an alignment of interests within and among the stakeholders of the system in question?
Evaluation dimension:	**Effective contribution to alignment of the interests of the key stakeholders** within the system in question—alignment with respect to the totality of the desired outcomes of the system.

An asset manager cannot exercise effective influence if the interests of the key stakeholders in the system in question are not aligned. Investors can impact alignment on two levels: alignment of interests among themselves and alignment of the interests of other key stakeholders. Both can be difficult to achieve and require a balance of self-interest and communal goals, of the short-term and the long term.

Regulatory action is the quickest and most certain way of achieving such alignment but in the case of global systemic risks such as climate change, key stakeholders such as those dependent on the fossil fuel industry can influence that regulatory process, tilting it toward a prioritization of short-term self-interest over long-term communal goals. In this, as in other issues involving systemic risk, both regulatory action and voluntary initiatives are ultimately necessary for alignment.

The research of the Nobel Prize winning economist Elinor Oström can help asset owners seeking to assess a manager's contribution to such balanced alignments. Findings of Oström's study of the "common-pooled resources" of agricultural water-irrigation systems and forests are particularly relevant to this task.[c]

[c] Among her findings were that to a certain degree resources shared in common were better managed by those with a stake in their preservation than through top-down governmental regulation. Furthermore, Oström found that six fundamental factors can help establish a successful collaborative management structure. We have grouped these six into three categories crucial for alignment: establishing shared goals, contending with free riders, and contributing to system-level progress.

Drawing on Oström's findings, asset owners can ask such questions as: Has the manager made efforts to establish communications with and build trust among their peers and key stakeholders within the system as to shared systemic goals? Has the manager contributed to a framework for system-level management of risks and rewards that has mechanisms that discourage free-riding and encourage collaboration and compromise? Are the manager's commitments to tackling the systemic challenge long-term and tied substantially to its financial interests?

Indicators that asset owners might use to assess effectiveness in three key areas are as follows.[31]

Alignment of Shared Goals: Communications and Trust

Asset owners can assess commitments to fostering the communications and trust necessary for establishing shared systemic goals among their peers and among other key stakeholders. Without communications and trust, a shared agreement on the long-term goals and their attainment are difficult to achieve. Trust is enhanced through communications.

In the context of climate change, for example, asset owners can assess the quality of a manager's communications with peers as to the need for a stable climate to assure long-term sustainability, as well as their efforts to generate the trust among potentially conflicting stakeholders in the fossil fuel and renewable energy sectors. Trust is necessary to enable parties to make the compromises necessary to take action and make compromises

Alignment of Actions: Exit and Sanctions

Asset owners can assess a manager's efforts to assure that stakeholders participate in actions consistent with alignment on the goals for system change. Even when an overarching goal has been agreed upon, achieving progress can be impeded if free riders dominate the landscape. Free riders are inclined to let others do the hard work of system change or to cheat on their contributions. Investors and other stakeholders need the ability to exit easily from shared commitments if they believe others are not doing their part. Similarly, stakeholders must know that free riders will be sanctioned or otherwise excluded from the benefits of a system that is well-managed by others.

With respect to the transition to a low-carbon economy, evaluations can be made of the use of exit or sanctions to punish those in the fossil fuel and renewable sectors who are free riding on the hard work of others. Exiting would mean refusal by investors to collaborate with unproductive peers. Sanctions would mean shunning business relations with those who free ride.

Alignment with Progress: Long-term Commitments and Rewards for All

To assure that progress is achieved as a result of the hard work of system change, investors need both a long-term commitment to achieving positive influence and a self-interest in bringing about a transition.

To encourage a transition to a low-carbon economy, asset owners could judge the intensity of long-term commitments to communications, trust building, and collaborative actions. They could also assess the effectiveness of efforts to align financial interests among stakeholders. For example, a manager might encourage integrated oil and oil-field services firms to enter the ocean-based windmill platform industry, or pure-play electric car firms to acquire gas-fueled vehicle firms to speed their transition, or renewable energy companies to invest in business incubators and retraining facilities in regions adversely impacted by the transition.

Encouraging alignment of interests among peers or key stakeholders is crucial to change in complex systems. Asset owners can evaluate the effectiveness of a manager's efforts in promoting such alignments.

2. Progress toward systemic goals

Question:	Is the asset manager part of overall progress toward a system that generates desirable outcomes?
Evaluation dimension:	**Overall progress toward desirable outcomes** from the system and the degree of the manager's participation in the road to that progress.

The quantification of portfolio-related outcomes is an important and logical first step in measuring progress on the road toward system change. Investors can not only quantify portfolio-related outcomes but also demonstrate their participation in progress at the system level toward desirable outcomes.

With respect to climate change, useful indicators to consider in systemic evaluations could include both a quantification of portfolio-related outcomes achieved and progress in attainment of the order of outcomes described below.

- **Quantification of portfolio-related outcomes.** Several organizations have done strong work in the quantification of portfolio-related social and environmental impacts. These include the Global Impact Investing Network (GIIN), the Impact Management Project, and the International Finance Corporation (IFC), among others.

  The IFC's Operating Principles for Impact Management have recently gained traction among major institutional investors. In addition, its Anticipated Impact Measuring and Monitoring method includes considerations of a project's positive impact on systemic characteristics related to financial markets, as well as the project's impact on stakeholders, the environment, society, and the overall economy. In the broader context of the setting of national goals for implementation of the Sustainable Development Goals (SDGs), the United Nations has also developed metrics for evaluating progress for each SDG.

  Asset owners can evaluate progress in achieving positive outcomes through portfolio investment and related activities with respect to climate-change-related impacts using metrics such as these.

- **Benchmarking progress toward systemic goals.** Since the ultimate goal of those confronting risks such as climate change is systematic reduction of risks and encouragement of rewards, asset owners will want to understand if and how a manager has contributed to these overall goals. A multistep process is often necessary to achieve change within complex systems. Effectiveness can be measured in regard to progress at various steps along the way.

  For example, asset owners can use an "order of outcomes" approach such as one developed by scientists and practitioners working on sustainability issues facing coastal communities around the world. A pioneer in this effort, the consulting firm SustainaMetrix, LLC, characterized attainment of systemic change as a series of four consecutive "orders" along the path to sustainable goals. The first order is achieved when stakeholders within the system clarify their collective sustainability purpose, build supportive and informed constituencies, secure formal commitments, and have developed the capacity for implementation. In the

second "order," implementation focuses on the actions and changes in behavior necessary among stakeholders in the system, as well as that of the managers and funders of the system's infrastructure. In the third "order," actions generate desirable positive environmental and social impacts within the system over a fixed time period. Finally, at the fourth "order," the vision for sustainable pathways is realized and degrees of progress are attained along that pathway.[32]

In the case of the management of climate change's systemic risks and rewards, asset owners can assess a manager's contributions to progress in achieving these four milestones.

- Assessing contributions to systemic progress. The evaluation dimensions for gauging a manager's contributions to systemic progress are spelled out above for each of the five types of activities likely to produce positive systemic impact. By and large, these evaluations primarily require qualitative judgment, although they may include quantitative indicators. Weighing qualitative indicators across a variety of issues can be challenging. In doing so, intensity of effort, efficiency in achieving results, effectiveness in influencing collaborative efforts, and thoughtfulness in public policy, innovation in approaches are useful indicators, among others, for making such judgments.

  For example, one manager may have strong beliefs in the importance of addressing climate change, and a thoughtful justification for doing so. They may also have chosen an ambitious set of tools including self-organization and interconnectedness in order to take the first steps toward building consensus among investors, corporations, and municipalities, and contended with the "just transition" challenge by seeking public policies to support those adversely impacted by a phasing out of coal. The manager has confronted the reality of the slow pace of phasing out fossil fuels and the continuing rise of GHG concentrations in the atmosphere and is working with other investors to redouble efforts in the coming year. Another manager may have strong beliefs and justifications on global warming and offers a "climate-solutions" fund to clients but may not have taken additional steps toward action. Combining assessments of these sorts with a quantification of portfolio impacts (e.g. megawatts of renewable energy produced), an asset owner can use data such as these to evaluate the performance of the two managers relative to each other.

A Note on Balance. Establishing a balance within a system between the competing societal and environmental interests of various stakeholders is crucial to assure a system's long-term ability to achieve desirable outcomes. The same principle applies to investors. They face competing claims from the short-term market in which they operate and society's long-term goals that form a foundation on which they depend for sustainable returns. In the context of climate change, this means that a manager must promote and invest in opportunities that fulfill the long-term goals of a transition to a low-carbon economy while generating returns that allow them to compete and survive. Broadly speaking, asset owners should credit highly a manager who has achieved this balance successfully.

A Note on Scoring, Ratings and Rankings. To be useful this evaluation process will need to incorporate methods for scoring, rating, and ranking. The simplifications necessary in scoring systems will inevitably sacrifice nuance and complexity, with all the limitations that that implies. Nevertheless, as a jumping off point for discussion and decision-making, such exercises can be helpful.

We propose a simple rating framework for scoring investors that ranges from zero to twelve. Applying this framework, investors would be awarded a score of zero, one, or two on each of the six dimensions and these scores would then be added together for a single total. These relative scores could then be presented in tabular or graphic formats to clarify the relative ratings of overall performance as well as strengths and concerns in specific areas.

Conclusion

The Principles for Responsible Investment (PRI) recently asked their investor-members to pursue what it calls "Active Ownership 2.0." It stressed the importance of investors' stewardship of their assets broadly conceived, the crucial role of collaboration among investors in that stewardship, and the need for a systemic focus when it comes to achieving that stewardship. Regarding systems, the PRI is explicit.

> Systemic issues require a deliberate focus on and prioritization of outcomes at the economy or society-wide scale. This means stewardship that is less focused on the risks and returns of individual holdings, and more on addressing systemic or 'beta' issues such as climate change and corruption. It means prioritizing the long-term, absolute returns for universal owners, including real-term financial and welfare outcomes for beneficiaries more broadly.[33]

Many asset managers are intuitively aware that they can no longer ignore their impacts on environmental and societal systems such as climate change. They would like to act but doing so is difficult because the territory they must enter is unfamiliar. How to transition their policies and practices to a new level of concern for, and management of, systemic risks and rewards is not immediately obvious. Clarification of the steps they can take, the practices they can adopt, and the indicators they can use for assessment of their contributions in these areas is essential. Once clarified, what may seem a daunting task can be more easily and practically accomplished.

Much progress has been made to date in addressing the sustainability measurement conundrum. The pieces of the puzzle have been laid out on the table. Assembling a comprehensive picture of the character of investors themselves, the appropriateness of their actions, and the influence of their outcomes in achieving progress toward broad social and environmental goals is well within our reach. Once those pieces have been assembled to bring this complex picture into focus, we will be able to see our way to an effective practice that brings meaningful change to the financial community as it is compelled increasingly to address systemic challenges.

Acknowledgements, Authors, and About TIIP

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Bill Burckart. Bill Burckart is the President and co-founder of The Investment Integration Project (TIIP). Mr. Burckart has worked with a range of clients, including investment management firms, private foundations and endowments, government and major industry bodies, helping them to integrate impact and investment goals through the development and implementation of related strategies. He has also contributed to the field through groundbreaking research, including the development of market insights and practical guidance for investors and financial advisors in collaboration with the Money Management Institute (MMI); co-editing the *New Frontiers of Philanthropy: A Guide to the New Tools and Actors that Are Reshaping Global Philanthropy and Social Investing* (Oxford University Press: 2014); and helping to write the "Status of the Social impact investing Market: A Primer" (UK Cabinet Office: 2013) that was distributed to policymakers at the inaugural G8-level forum on impact investing. His writing has been featured in *The Guardian*, *Forbes*, *Quartz, top1000funds, Investment & Pensions Europe (I&PE), Benefits & Pensions, InvestmentNews, Stanford Social Innovation Review (SSIR), ImpactAlpha, CSRwire, Alliance*, *The Chronicle of Philanthropy*, *FundFire* and *Next Billion* to name a few. Mr. Burckart is a fellow of the High Meadows Institute and member of the advisory council of the Investments & Wealth Institute's *WealthBoard 100*.

About TIIP

The Investment Integration Project (TIIP), founded in 2015 by Steve Lydenberg and Bill Burckart, helps investors understand the impact and big picture (or "system-level") context of their portfolio-level decisions. This is important because "system-level" events, such as economic crises, ecosystems under stress, and societies in turmoil can disrupt the best-laid plans of investors and cost them dearly. Even seemingly "local" issues are now having much greater impact than they once did as the world becomes increasingly interconnected. TIIP designs, provides and maintains data, tools, and expertise that enable institutional investors to make this important connection between portfolio-level decisions and systemic considerations. Investors leverage TIIP's applied research and consulting services to solve program inefficiencies, enhance impact measurement, and boost long-term value creation. More information is available at www.tiiproject.com.

Endnotes

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[25] Op. cit. Patton. p.11.

[26] Ibid. pp.36-38.

[27] Op. cit. Lydenberg, et al., *Effective Investment for the Long-Term* pp. 10-22. See also William Burckart, Steve Lydenberg, and Jessica Ziegler, *Measuring Effectiveness: Roadmap to Assessing System-level and ESG Investing.* (New York: The Investment Integration Project) March 2018:15-17, for a detailed discussion of tools of this sort.

[28] The 2 Degree Investing Initiative has argued that "There is currently no scientific evidence that aligning the exposure of investment/lending portfolio with a 1.5°C pathway, whatever the metric used, (technology, carbon emissions, etc.) can serve as a proxy for measuring the related changes caused by the financial institution in the real economy." See "'Science-based Targets' fpr Financial Institutions: Position Deck + Consultation" February 2020. Available at https://2degrees-investing.org/wp-content/uploads/2020/02/2DII-Targets-Impact.pdf Accessed on March 3, 2020.

[29] Op cit. Lydenberg, et al., *Effective Investment for the Long-Term* pp. 10-22, and William Burckart, Steve Lydenberg, and Jessica Ziegler, *Measuring Effectiveness: Roadmap to Assessing System-level and ESG Investing.* (New York: The Investment Integration Project) March 2018; 15-17, for a detailed discussion of tools of this sort.

[30] Donella H. Meadows. *Thinking in Systems: A Primer* (White River Junction, Vermont: Chelsea Green Publishing) 2008:145-165. The name of each leverage point and brief vitalized description listed here is Meadow's.

[31] The three areas key to creating a framework are derived from Oström's six attributes of microsituations that promote the collaborative management of common pooled resources. Elinor Oström. "Beyond Markets and States: Polycentric Governance of Complex Economic Systems" Nobel Prize in Economics Lecture. December 8, 2009. pp. 432-433. Accessed at https://www.nobelprize.org/uploads/2018/06/ostrom_lecture.pdf on January 30, 2020.

[32] Stephen B. Olsen. "Frameworks and indicators for assessing progress in integrated coastal management initiatives" *Ocean & Coastal Management* Volume (2003) Volume 46:347-361.

[33] Susheela Peres da Costa and Paul Chandler. "Active Ownership 2.0: The Evolution Stewardship Urgently Needs." (London: Principles for Responsible Investment) p.7. Accessed at https://www.unpri.org/investor-tools/stewardship on January 30, 2020.