An Investor Framework for Addressing the Impact of Climate Change

KEY ELEMENTS

- Climate change is a complex issue that poses challenges across cultures, societies, businesses, and investments. This global macro trend will have consequences, many of which are uncertain in scope (e.g., rising sea levels).

- The implications of climate change will affect the investment opportunities and risks for all investors, regardless of whether or not they subscribe to environmental, social, and governance (ESG) principles.

- Business strategy, government and policy considerations, technological advances, and public opinion all play roles in how to address climate change. While these shifts present immense challenges, they also will create opportunities for investors and entrepreneurs.

- In this paper, we explore the current landscape for institutional investors and present suggestions for staying proactive regarding this long-term issue.

“We are in the early days of a much broader, systemic shift in how humanity considers our ecosystem, and investors should proceed thoughtfully as the investment landscape evolves.”

Anna West
Chair, Callan’s Environmental, Social, and Governance (ESG) Committee
Climate change presents an immense set of challenges for every person on earth. The impact of rising greenhouse gas emissions, including heat waves, floods, cyclones, and other extreme weather, is creating social, environmental, and political turbulence with widely varying consequences across the globe. In turn, these changes affect investors in diverse ways:

- More drought and flooding could drive up the cost of food and potentially disrupt distribution and transportation infrastructure
- Heat waves will make it harder to provide temperate working environments and drive up the cost of building management
- Extreme weather will raise the risks of insurance-related investment opportunities

While scientific modeling of climate change can help identify its major trends, it cannot pinpoint the precise effects the disruptions will have on communities, individuals, businesses—and investors. How institutional investors will react depends largely on their unique situations; for example, a foundation dedicated to community enrichment will have vastly different considerations than a pension fund at a multinational corporation.

Long-term investors have a history of adapting to broader trends beyond the investment space that affect their decision-making, including technological advances, regulatory changes, and globalization. Many investors are already reacting to the systemic changes resulting from a changing climate.

In this paper, we lay out the major considerations for long-term investors. We also identify solutions and areas of progress for those who are seeking to address climate-related risks as well as benefit from emerging opportunities. While climate change poses numerous moral and philosophical challenges, our focus is on the financial implications for institutional investors. In this spirit, we look beyond the causes of climate change and politics surrounding it to focus on the more important ramifications.

**In It for the Long Haul**

An investment fund that seeks to serve beneficiaries into the distant future should focus on long-term results: 20 years, 50 years, or longer (even perpetuity). Long-term investors should address short-term (i.e., five years or less) “noise” in context and not let it obscure progress toward the central long-term goal. But the reality for investors can be very different. Portfolio decisions are often impacted by short- to medium-term considerations, such as board turnover or performance challenges, often supplanting long-term strategic goals that may seem far less urgent. This dynamic makes addressing a long-term problem like climate change difficult for investors.

More investors and asset managers are starting to impress upon companies that creating long-term, sustainable value is the relevant benchmark for success. BlackRock Chief Executive Officer Larry Fink made this sentiment clear in an open letter to CEOs published in early 2018: “Society is demanding that companies, both public and private, serve a social purpose. To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society.
Companies must benefit all of their stakeholders, including shareholders, employees, customers, and the communities in which they operate.¹

His message is clear: companies that do not contribute to a sustainable society risk losing BlackRock’s support—a substantial threat coming from one of the world’s largest asset managers. BlackRock’s message is reflective of a larger theme advanced by more institutional investors: the rejection of short-term profit-maximization tactics that undermine the creation of long-term value for the company, shareholders, and a broader swath of stakeholders (e.g., community and society).

Fink’s letter includes climate change as one of the broad structural trends that businesses need to address, and other influential investing industry companies, such as Vanguard and State Street, are urging corporations to increase transparency and enhance reporting on climate change risks to investors.

While a long time horizon makes sense for goal-setting, mapping the path to achieve those goals is challenging. Climate change is uncharted territory; while we can project rising sea levels and increased weather disruptions, the pace and details of how these changes will unfold are impossible to predict with precision. Further, we do not have historical precedent for what is to come, adding additional uncertainty to any forward-looking assumptions.

Long-term institutional investors must take all change into consideration—even those with a high level of uncertainty like climate change—and make assumptions based on the knowledge available to them. Accordingly, we provide a high-level look at the major considerations and activities relevant to investors around climate change.

The Landscape of Climate Change
Along with rising temperatures, climate change has led to an increase in extreme weather activity in recent decades—and even resulted in a rise in geophysical events such as earthquakes² (Exhibit 1). Those events, however, are unevenly distributed around the world and present varying levels of risk to specific countries, governments, and institutions, depending on where they are, how fragile they are, etc. Concerns about climate change’s overall impact are profound. As the U.S. Department of Defense put it, “Global climate change will aggravate problems such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions that threaten stability in a number of countries.”³

And businesses are no exception, although there are variations in how industries and companies are addressing climate change. This includes both the current and projected effects, such as physical disruptions to supply chains and distribution channels, as well as the changing global regulatory environment. While these shifts present immense challenges, they also will create possible opportunities.

1 Larry Fink’s 2018 Annual Letter to CEOs, https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter
2 While the connection between geophysical events and climate change is not immediately apparent, research reveals a connection between rapidly melting ice sheets, rising sea levels, and changing monsoon patterns shifting the load on the earth’s crust, causing the crust to “bounce back” in the form of increased seismic activity along the underlying fault lines. For more detail, see Bill McGuire’s 2012 book Waking the Giant: How a Changing Climate Triggers Earthquakes, Tsunamis, and Volcanoes.
Business Model Impacts

Many companies are working to develop strategic responses to questions about how climate change will affect their:

- Products and services
- Ability to create or distribute products and services
- Customer base
- Business strategy, especially regarding regulations

For example, Coca-Cola, which relies on access to clean water to create its products and navigable waterways to distribute them, acknowledges that addressing climate change is critical to its business strategy. “Across the Coca-Cola system, we recognize that climate change may have long-term direct and indirect implications for our business and supply chain,” the company notes on its website. In response, the company says that it is taking a variety of actions to mitigate the impact of climate change, such as more environmentally friendly packaging, a reduced carbon footprint, and a focus on water stewardship.

Of course, businesses are subject to regulation by governments in the jurisdictions where they operate—which for a global company like Coca-Cola spans countries on multiple continents. Tracking policy considerations at a regional, national, and local level is essential to forming an adequate response to climate change for both businesses and investors.

Government and Public Policy Considerations

While the current political leadership in the U.S. has de-emphasized regulation to combat the continued proliferation of carbon emissions, activity has not abated in the rest of the world. U.S.-based investors with diversified portfolios must look beyond domestic borders when considering the policy risks and

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Exhibit 1
Climate-Related Events Have Been on the Rise

<table>
<thead>
<tr>
<th>Year</th>
<th>Geophysical events</th>
<th>Meteorological events</th>
<th>Hydrological events</th>
<th>Climatological events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1985</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>1990</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>1995</td>
<td>400</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>2000</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>2005</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>2010</td>
<td>700</td>
<td>700</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>2015</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
</tbody>
</table>

Source: Munich Re, NatcatSERVICE (2017)
opportunities for their investments. According to Callan’s database of U.S. institutional investors, the average allocation to non-U.S. equities and fixed income is greater than 20%, and that only includes publicly traded securities (Exhibit 2).

Public opinion about climate change also varies around the world, but a majority of the global population sees it as a threat. According to a 2015 Pew Research Center poll, “A global median of 51% say climate change is already harming people around the world, while another 28% believe it will do so in the next few years” (Exhibit 3).

Exhibit 2
Average Asset Allocations, Callan Fund Sponsor Database

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>1.5%</td>
</tr>
<tr>
<td>Other Alternatives</td>
<td>5.8%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>4.0%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4.0%</td>
</tr>
<tr>
<td>Balanced</td>
<td>0.6%</td>
</tr>
<tr>
<td>Non-U.S. Fixed</td>
<td>2.6%</td>
</tr>
<tr>
<td>U.S. Fixed</td>
<td>28.9%</td>
</tr>
<tr>
<td>Global Equity</td>
<td>3.2%</td>
</tr>
<tr>
<td>Non-U.S. Equity</td>
<td>16.7%</td>
</tr>
<tr>
<td>U.S. Equity</td>
<td>32.6%</td>
</tr>
</tbody>
</table>

Total Fund Sponsor

Source: Callan’s Quarterly Market Pulse Flipbook, First Quarter 2018.

Exhibit 3
Immediacy of Climate Change Worries
Latin Americans and Europeans Most

<table>
<thead>
<tr>
<th>Region</th>
<th>Now</th>
<th>In the next few years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America</td>
<td>77%</td>
<td>18%</td>
<td>95%</td>
</tr>
<tr>
<td>Europe</td>
<td>60%</td>
<td>26%</td>
<td>86%</td>
</tr>
<tr>
<td>Africa</td>
<td>52%</td>
<td>33%</td>
<td>85%</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>48%</td>
<td>31%</td>
<td>79%</td>
</tr>
<tr>
<td>Middle East</td>
<td>26%</td>
<td>44%</td>
<td>70%</td>
</tr>
<tr>
<td>U.S.</td>
<td>41%</td>
<td>28%</td>
<td>69%</td>
</tr>
<tr>
<td>Global Median</td>
<td>51%</td>
<td>28%</td>
<td>79%</td>
</tr>
</tbody>
</table>

Note: Data for “Not for many years,” “Never,” and volunteered category “Climate change does not exist” not shown. Russia and Ukraine not included in Europe median.

Source: Pew Research Center, Spring 2015 Global Attitudes survey, Q41.


The Paris Climate Accord

In 2015, 196 global parties (mostly nations, but the European Union is one party) representing close to 90% of global greenhouse gas emissions adopted the historic Paris climate accord. While the current administration has indicated the U.S. intends to withdraw from the agreement, this has not dampened efforts by the rest of the parties in the agreement to accomplish its central goal: “...holding the increase in global average temperature to well below 2 degrees Celsius above pre-industrial levels...”

Asset owners and investment managers are taking note and have begun to implement investment strategies that align with the 2-degree goal and other initiatives outlined by the agreement (e.g., strategies that invest in renewable energy, smart-grids, or energy-efficient storage systems could align with a global shift in capital to meet this goal). Notably, while those in the investment community are putting dollars into action to support this goal, a lasting solution will also include regulation and policy changes at multiple levels of government (national, state, city, etc.).

How Much Is That Carbon Worth?

As the public and policymakers have learned more about the effects of climate change, a range of organizations—educational, for-profit, nonprofit, governmental, etc.—have been working on solutions to prevent the world from surpassing the 2-degree benchmark. One of the most important for the finance world is the concept of putting a price on emissions by establishing a cost for carbon. Two methods of implementing this are a carbon tax and what is known as “cap-and-trade,” or a requirement to purchase permits to emit carbon dioxide.

Multiple countries have enacted or proposed carbon taxes, including the United Kingdom, Ireland, Australia, Chile, Sweden, and others. Canada—whose economy is highly reliant on extractive industries that produce greenhouse gases—is navigating the process of implementing carbon pricing, and investors are keeping a watchful eye on how it plays out. Stakeholders are currently working on reaching a consensus around what the price of carbon should be. Carbon taxes will likely occur through a series of future regulatory updates—political decisions to impose those taxes—and technological advancements in clean energy that replace fossil fuels and reduce the reach of such taxes. The goal of a carbon tax is to financially incentivize companies and individuals to reduce their carbon emissions, essentially ensuring that they pay fully for the cost of emitting carbon (i.e., addressing the externalities associated with environmental degradation to ensure the parties that create the carbon emissions pay for them).

Most likely, carbon pricing will not become entrenched consistently across the global economy for several decades. Carbon prices might not tick up until 2030, 2040, or 2050, so the uncertainty of the timing makes current action challenging for institutional investors that are focused primarily on the economic stakes (versus the moral decision to actively discourage carbon proliferation).

Why 2 Degrees?

Scientists have identified a global temperature rise of 2 degrees Celsius (3.6 degrees Fahrenheit) above pre-industrial levels as the threshold or “danger zone” at which a series of catastrophic consequences will occur for the natural world and people. These include rising sea levels, severe droughts and flooding, widespread food and water shortages, and more destructive storms.

While some scientists believe it is too late to stay below that threshold, there is nonetheless widespread consensus in the scientific community, and increasingly in the public sphere, that limiting the spread of carbon dioxide and other greenhouse gases that are driving the rise in temperatures is imperative to the long-term survival of the human race.

What Are ‘Stranded Assets’?
The term “stranded assets” refers to those “that have suffered from unan-
ticipated or premature write-downs, devaluations or conversion to liabili-
ties,” according to the Smith School of Enterprise and the Environment at Oxford University. In the context of climate change, the term refers to oil, coal, and other fossil-fuel assets that could become stranded (i.e., suffer losses in value) as the world shifts to cleaner sources of energy.

U.N. Sustainable Development Goals
Another important global framework shaping climate change-related investment strategies are the United Nations Sustainable Development Goals (SDGs). These 17 goals were set in 2015 and target broad intergovernmental agree-
ment around social and economic issues. Several of the 17 directly relate to climate change; others indirectly touch on it. While the SDGs specifically relate to governmental goals, many global companies are assessing how they can help to achieve the 17 goals. Likewise, index providers and asset managers are creating thematic indices and strategies that align with various SDGs.

But “carbon de-risking” and “fossil-fuel-free” portfolios are no longer foreign terms in the institutional investor market, as some expect more carbon pricing to occur in the next decade and want to avoid owning “stranded assets” and facing the tail risk of having carbon-intensive companies and sectors dramati-
cally reprice when action looks more certain.

Energy Transition: If Not Carbon, Then What?
To achieve the goals laid out in the Paris climate accord, humans must take a serious look at our energy usage, particularly our reliance on fossil fuels. While coal and natural gas have spurred progress and innovation since the Industrial Revolution, technological advances in energy generation and storage are putting renewables within reach as economically viable options.
Currently around 85% of the world’s energy comes from fossil fuels. But while some experts project we will hit “peak oil”\(^9\) in the coming decades, the general consensus is that fossil fuels will make up at least half of the global energy mix by 2050, which suggests the world may not be able to stay below the 2-degree benchmark.

Nevertheless, investors looking at long-term trends should be aware of the burgeoning renewable energy sector, which is projected to see a sevenfold jump in annual capital expenditures—from $300 billion to $2.1 trillion by 2050 (Exhibit 5). While the global implementation of a carbon tax is less certain, the future of renewable energy sources is looking robust in the coming decades.

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**Exhibit 5**

**Portfolios Must Prepare for Renewables Growth**

*Annual Global Renewable Energy Capital Expenditures*

Source: DNV GL. Data from 2015-2050 is estimated or forecasted. As of Sept. 30, 2017.

**Shifting Social Norms and Business Practices**

Business sectors are responding in varied ways to increasing consumer and investor interest in what’s broadly known as “sustainability,” depending on their industry and client base. Most large U.S. companies have acknowledged the reality of climate change, and “nearly half of Fortune 500 companies—48 percent—have at least one climate or clean energy target,”\(^10\) according to a recently published report from the World Wildlife Fund, Calvert Investments, CDP, and Ceres.

Investors are pushing companies to incorporate climate change impact, mitigation, and adaptation measures into business decisions and investor reports. As might be expected, the energy sector, which has lagged the trend toward lowering emissions and increasing disclosure around climate risks, has faced particular scrutiny, and some major energy companies have begun to issue climate reports for investors. “We proactively consider climate change in our business decisions, and we have the experience, processes and governance in place to manage the risks,” said Michael Wirth, CEO and chairman of Chevron, one of the companies taking those steps.\(^11\)

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9 Peak oil refers to the time when the maximum amount of oil is produced, after which production will fall.

10 “Power Forward 3.0: How the largest US companies are capturing business value while addressing climate change,” April 25, 2018, [https://www.worldwildlife.org/publications/power-forward-3-0-how-the-largest-us-companies-are-capturing-business-value-while-addressing-climate-change](https://www.worldwildlife.org/publications/power-forward-3-0-how-the-largest-us-companies-are-capturing-business-value-while-addressing-climate-change)

Other oil and gas companies are similarly disclosing strategic plans around climate change. Royal Dutch Shell publishes a climate change and energy transition plan on its website, although the plan assumes a more positive outlook for oil and gas demand than the industry consensus.\(^\text{12}\) Shell has developed what it calls the “Sky Scenario,” how society might achieve the goals of the Paris climate accord through “a technically possible but challenging pathway.”\(^\text{13}\)

Exxon Mobil was pressured by shareholders in 2017 to begin reporting on the impact of regulations aimed at maintaining a 2-degree climate change scenario. In the same year, it joined other oil companies (BP, Royal Dutch Shell, and Total S.A.) and a number of other large corporations in announcing support for the Climate Leadership Council’s plan to tax carbon emissions. The council is led by a group of senior Republican statesmen\(^\text{14}\) and its “conservative climate solution” has garnered support across the political spectrum, though it does not have unanimous backing from environmental groups.\(^\text{15}\) Methane detection is another emerging area of activity for Exxon Mobil, which “recently announced measures to lower greenhouse gas emissions, including a 15 percent drop in methane emissions, in an effort to address climate change.”\(^\text{16}\)

The energy sector is just one example of how different companies are addressing climate change in their business models. For investors to be able to compare these activities and tie them to business outcomes, they need reliable data. The next section looks at the vast and evolving data landscape.

### Data: Measurement and Monitoring

As Peter Drucker, the oft-quoted management thinker, put it: “What gets measured gets managed.” Many firms have emerged to tackle the challenge of how to consistently measure companies’ environmental considerations and risks—carbon footprinting included—and to rate them based on how well they are dealing with those factors. We outline a handful of the key players to convey a sense of how close investors are to being able to keep tabs on their investments’ climate scorecard.

- **FTSE**: A provider of numerous indices and analytical tools, it is the first and so far the only provider to have created an entire measurement around the transition to a low-carbon economy.
- **MSCI**: An index and analytics provider, it also offers an array of ESG research. MSCI’s Environmental, Social, and Governance (ESG) Ratings score global companies on various ESG issues using sector-specific key performance indicators (KPIs) that make cross-sector comparisons more relevant. It also publishes research on ESG topics.

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14 Including James Baker, former U.S. secretary of state under President George H.W. Bush; Martin Feldstein, former chairman of President Ronald Reagan’s Council of Economic Advisers; George Shultz, former secretary of state under Reagan; Henry Paulson, President George W. Bush’s Treasury secretary; and N. Gregory Mankiw, chairman of Bush’s Council of Economic Advisers.


• **Morningstar**: The firm began scoring mutual funds and exchange-traded funds on ESG metrics—using Sustainalytics’ underlying company ratings—in 2015. In 2018, the firm launched a portfolio carbon risk score to help investors assess portfolio risks during a transition to a lower-carbon economy.

• **Sustainalytics**: The sustainability rating firm offers investors a suite of services around ESG integration, compliance and screening, portfolio analysis, and index services. Specifically related to climate change, it provides carbon risk ratings and other carbon portfolio analytics.

• **Sustainability Accounting Standards Board (SASB)**: Dedicated to fostering high-quality disclosure of material sustainability information to meet investor needs, SASB has developed sustainability accounting standards for 79 industries in 11 sectors in an effort to make ESG data transparent and based on material issues.

• **Institutional Shareholder Services (ISS)**: It provides governance research and recommendations, responsible investment data, analytics, and research, as well as proxy voting and distribution solutions, among other services.

• **TruCost**: The firm estimates the hidden costs of unsustainable use of natural resources by a company, for example by conducting assessments to detail a company’s—or portfolio’s—carbon footprint and interpreting the risks related to climate change, natural resource constraints, and broader ESG factors.

• **Carbon Tracker Initiative**: The non-profit think tank researches the impact of climate change on financial markets, including the risks and costs of energy transition, stranded assets, and other related research around carbon-intensive fossil fuels.

But there is another saying, from the computer science industry, that sums up the challenge for these data providers: “Garbage in, garbage out.” Scores and models are only as good as the data provided by companies, much of which is voluntary and not subject to audit. In the coming years, we can expect to see a greater push for mandatory disclosure by companies, which will help to level the playing field across regions (for example, reporting in emerging markets is much spottier than in the developed nations) while also helping companies and investors better understand which metrics are being scored.

This nuanced area will continue to evolve. It is important to note that most investment managers believe qualitative analysis is needed to determine not only which metrics are important but also to accurately interpret the data to ensure that their investment implications are fully understood. There are many examples of areas in which the data can be misleading or incomplete and, without more thorough analysis, could lead to faulty conclusions.

**What’s an Investor to Do?**

Whether more troubled by the long-term humanitarian or environmental issues posed by climate change, or solely focused on meeting fiduciary duties, investors have multiple choices for addressing climate change in their portfolios.

Asset owners often approach climate-related decisions the same way as other portfolio decisions: strategically at the policy level. They identify goals and beliefs in investment policy statements and select investment managers that have the framework in place to fulfill those goals and adhere to the policy
At Callan, we think that concerned investors should first address climate change through the lens of risk mitigation, considering and preparing for multiple scenarios, and next look for return-seeking opportunities such as capitalizing on changes in underlying asset prices that have strong prospects for appreciation.

Statement. Implementation approaches vary substantially, from “tilting” investments to the most carbon-efficient companies in an industry, to shifting energy weights from fossil fuel-centric companies to renewables, to investing in green bonds. Like other areas of ESG, addressing the big “E” (climate change) does not mean excluding select industries or securities, but rather integrating new data, risk assessments, and success metrics into an existing portfolio management framework.

Other ways investors are expressing their climate-related concerns include:

- **Engagement**: Reaching out to companies held in their portfolio, using multiple communications channels such as the media, proxy voting, and shareholder advocacy
- **Research**: Dedicating more resources to studying climate change issues
- **Organizations**: Joining third-party forums such as those listed in the box above, to gain access to educational resources, best practices recommendations, and like-minded community members

Callan’s annual ESG Survey, sent to a broad group of U.S. institutional investors, is designed to measure institutional investor activity in the United States. In 2018, 43% of U.S. institutional investor respondents had incorporated some form of ESG into their investment decision-making, up from 22% in 2013. With respect to climate change specifically, some survey respondents are seeking to measure and minimize carbon exposure in portfolios, while others are focusing more on “impact”-oriented strategies that have a clear and direct connection to a climate change goal. Divestment remains a strategy of choice for some, but more proactive strategies such as engagement have taken on a bigger role, especially among larger investors (both investment managers and asset owners).

Asset managers are also becoming increasingly involved in response to investor demand for action. Many investment managers have appointed an ESG practice leader and are addressing ESG considerations in at least a portion of strategies offered. Larger managers have the leverage to engage companies

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**Investor Resources**
- **Principles for Responsible Investment (PRI)** is a global proponent for responsible investment backed by the United Nations. Signatories support six principles for how to incorporate ESG into investment practice.
- **Council of Institutional Investors (CII)** is a nonprofit “association of pension funds and other employee benefit funds, foundations and endowments” that “promotes the interests of institutional investors in the United States.”
- **Task Force on Climate-related Financial Disclosures (TCFD)** develops and promotes voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to stakeholders, including investors.
- **U.S. Sustainable Investment Forum (SIF)** is a U.S.-based nonprofit looking to shift investment practices toward sustainability, focusing on long-term investments and the generation of positive social and environmental impacts through research and engagement.
- **Intentional Endowments Network (IEN)** supports colleges, universities, and other mission-driven tax-exempt organizations in aligning their endowment investment practices with their mission, values, and sustainability goals without sacrificing financial returns.

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to improve reporting and transparency and to incorporate climate change concerns into business policy decisions. The U.S. lags developed countries in Europe, Australia, and Japan, where governments and investors have acknowledged climate change implications and baked them into the regulatory environment. Investment options that are “ESG friendly” have been an important part of the investment solution set in these countries, while the U.S. continues to play catch up. However, an increasing number of firms and strategies fall under the ESG umbrella, some of which focus more specifically on climate change, for U.S. investors to evaluate.

At Callan, we advise investors who want to address the challenges of climate change to take these actions:

• Make sure the investment policy statement reflects the investors’ intent
• Address risk-mitigation first, and incorporate multiple scenarios into the analysis given the uncertainties around climate change. And tackle the risk issues holistically (i.e., an energy production company with a defined benefit plan may need to address participant trends in addition to adjusting its investment portfolio).
• Next identify return-seeking opportunities, to capitalize on changes in underlying asset prices that have strong prospects for appreciation
• Set a timetable to re-evaluate these steps on a regular basis

Evaluating appropriate investment opportunities can be tough. Not only do objectives need to be fully understood to make sure they align with investor goals, but short track records also pose challenges. A rule of thumb for some institutional investors is to invest in products with a track record of at least three to five years—to ensure the organization has a well-founded investment strategy, the team in place to execute it, and sufficient assets to make it a sound investment for a large institution. While there are a handful of climate-related investment products that currently meet or surpass the three-year mark, many are much newer. Further, basing an assessment of a climate change-related investment strategy solely on the length of a track record is not always practical, as most of these products are forward-looking, focusing on trends that are unfolding or have yet to unfold (e.g., carbon tax, changing consumer preferences, etc.).

**Conclusion**

Climate change is a complex issue with many elements in flux. We cannot accurately predict what or when changes will occur or how humans will respond at the policy, business, and personal levels. Science and technology have big roles, as the world’s best minds turn their attention to limiting the negative effects of climate change. There is no one clear path forward for investors; rather they need to consider their own unique circumstances and objectives.
Those investors taking a “wait-and-see” approach would benefit from staying informed about the changing landscape of data providers and strategies. Investors that want to take action in their portfolios in response to climate change should begin by documenting their views in an investment beliefs or investment policy statement, and then laying out next steps based on those beliefs. Next steps might include talking to their investment managers and investment consultants to understand how they are considering these risks, or benchmarking their portfolio against a relevant barometer that reflects their concerns (e.g., stranded assets). While some investors will conclude that limiting their portfolio exposure to carbon is the only way forward, others may pursue new types of data integration, risk assessments, and success metrics to embrace renewable energy or engage with companies held in their portfolios to expedite the transition to a low-carbon economy or position their portfolios for this transition.

We are in the early days of a much broader, systemic shift in how humanity considers our ecosystem, and investors should proceed thoughtfully as the investment landscape evolves. Callan advises clients to stay informed on the latest advances and be aware of their options, as the pace of change around climate-related issues can be inconsistent. The informed asset owner will be positioned to create an appropriate policy and act accordingly. While governmental policy and politics can be easier to predict in the coming months and years, longer-term forecasts stymie even the best fortune tellers. For a challenge like climate change, it is best to be proactive and prepared for coming changes, and not be caught flat-footed when reacting to the shifting landscape.

**Next Steps for Asset Owners**

- **Stay informed.** Follow industry periodicals like *FundFire* and *Pensions & Investments*, which regularly cover top news stories related to ESG broadly and climate change specifically as they relate to investments. Stay on top of industry research, including Callan’s annual *ESG Survey*, which benchmarks peer implementation in the U.S.18 Consider joining industry groups that are relevant to your fund to learn from peers, such as the PRI, IEN, or U.S. SIF.

- **Decide if a strategic approach to climate change is right for your fund.** Document the discussion and modify language in your investment beliefs or investment policy statement to reflect the fund’s view of the systemic risks of climate change and how it should be considered in the investment framework. Consider whether your organization has the resources in place to implement your approach.

- **Talk to your investment managers and other service providers about how they are considering or addressing climate change concerns.**

- **Consider changes to your investment process**—asset allocation, manager selection, benchmarking, and reporting—that are in line with your fund’s approach to climate change.

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About the Author

Anna West is a senior vice president dedicated to Callan’s research and education initiatives. As co-manager of the Published Research Group, she works with subject matter experts across Callan to produce white papers, surveys, charticles, and other research for investors. As chair of Callan’s Environmental, Social, and Governance (ESG) Committee, Anna covers ESG trends and developments. Anna is also a member of Callan’s Diverse and Emerging Manager and Institute Advisory Committees. She is a shareholder of the firm.

Anna joined Callan in August 2006. Prior to Callan, she worked for Vail Resorts, Inc. She earned an MBA from the University of San Francisco and a BA in International Business and French from Washington University.
If you have any questions or comments, please email institute@callan.com.

About Callan
Callan was founded as an employee-owned investment consulting firm in 1973. Ever since, we have empowered institutional clients with creative, customized investment solutions that are backed by proprietary research, exclusive data, and ongoing education. Today, Callan advises on more than $2 trillion in total fund sponsor assets, which makes it among the largest independently owned investment consulting firms in the U.S. Callan uses a client-focused consulting model to serve pension and defined contribution plan sponsors, endowments, foundations, independent investment advisers, investment managers, and other asset owners. Callan has six offices throughout the U.S. For more information, please visit www.callan.com.

About the Callan Institute
The Callan Institute, established in 1980, is a source of continuing education for those in the institutional investment community. The Institute conducts conferences and workshops and provides published research, surveys, and newsletters. The Institute strives to present the most timely and relevant research and education available so our clients and our associates stay abreast of important trends in the investments industry.

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