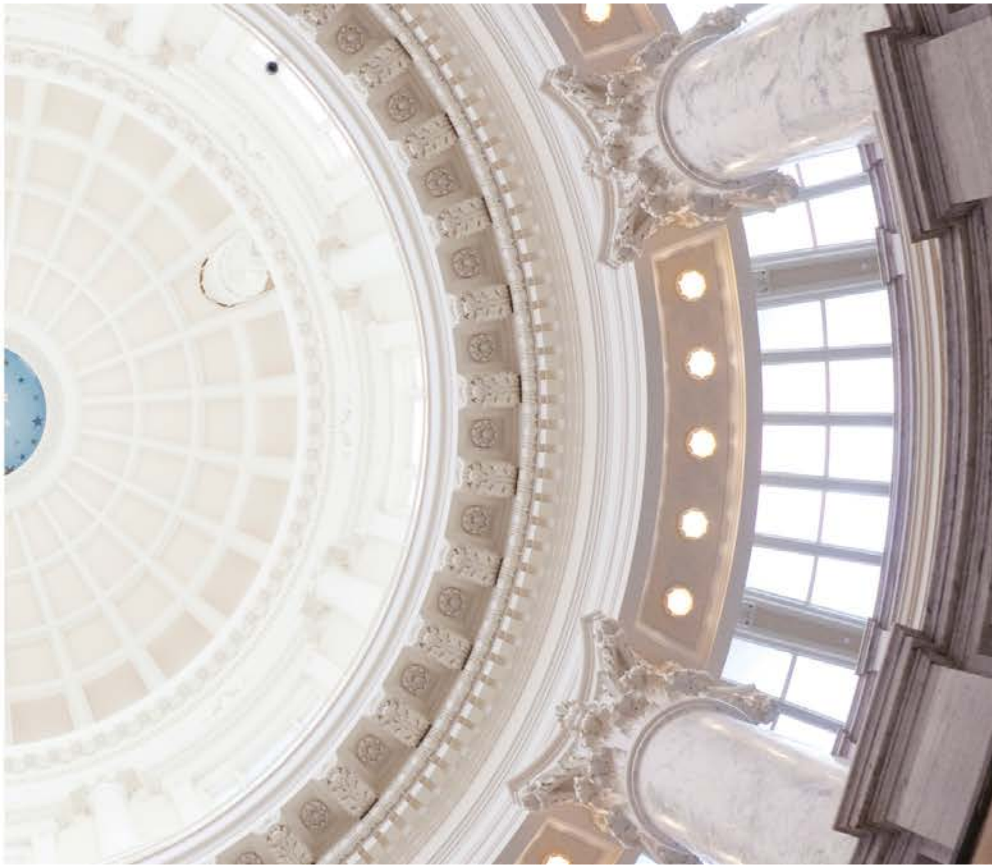


University of Denver

September | 2016

Investment Implications of Divestment: A Practical Perspective

CAMBRIDGE C|A ASSOCIATES

C|A

Range of Approaches to Climate Change

Approach	Implementation	Institutions Pursuing
Full Divestment Divest of public and/or private fossil fuel companies	• Can be applied to all investments in the portfolio, including commingled, or only to direct holdings	• University of Dayton • Syracuse University
Partial Divestment Focus on excluding the "dirtiest" companies, primarily coal & tar sands	• Can be applied to all investments in the portfolio, including commingled, or only to direct holdings	• Stanford University (direct coal investments) • University of California (coal & tar sands)
Proactive Investments Make allocations to funds that target climate change solutions	• Examples include investments geared toward cleaner fuel, power, agriculture and energy efforts	• University of California • Pomona College
ESG Integration Align portfolio with values on environmental issues via integration of ESG (environmental, social and governance) factors	• Investing with 'ESG'-focused funds and/or encouraging existing managers to engage with companies on climate change issues and potential risks	• Yale University (encouraging managers to focus on climate risks) • Amherst College
Focus Efforts Outside Investments Maintain current investment strategy	• Focus on activities outside Endowment, e.g. energy efficiency on campus	• Many colleges and universities pursuing

C|A

Context: How Have Investors Responded to Calls for Fossil Fuel Divestment?

Investors are approaching climate change issues in a number of ways, from committing to divestment to exploring more proactive investment strategies and shareholder engagement

- Cambridge Associates has helped over 80 clients address divestment inquiries, including measuring portfolio exposure to fossil fuels, performing scenario analyses and identifying potential reinvestment opportunities
- Colleges and Universities remain the most active segment of our client base to inquire about divestment
  - There are divestment petitions on over 550 college campuses globally[1]
  - Another 29 schools, including Stanford University, the University of Washington, and Georgetown University, have committed to some form of partial divestment (e.g., coal only)
  - Many schools have issued statements that they will not divest, but are leveraging their investment portfolio to address climate change concerns in other ways (e.g., ESG integration, clean energy investments, etc.)
- Several foundations and other institutions have committed to divestment, as well as several cities and counties around the U.S.
  - In January 2014, 17 foundations totaling nearly $2 billion in assets signed a "Divest-Invest" commitment to begin the process of divesting; the group has since grown to 125 foundations representing over $5 billion[2]
  - These signatories may address divestment in a different manner—some more comprehensively than others—but each has pledged to reinvest 5% of assets in proactive investments focused on climate solutions and the new energy economy
- The Interfaith Center on Corporate Responsibility (ICCR) maintains that shareholders have an obligation to use their voices to positively influence corporate decision-making, and encourages its 300+ members to engage in dialogue with companies, rather than divest

[1]As reported by the Fossil Free Campaign at 350.org as of June 2016.
[2]As reported by the Divest-Invest Campaign as of June 2016.
Note: Data collected by CA's MRI Group is not comprehensive of all client activity. It could be possible that some clients are taking action but have not contacted or solicited the aid of the MRI Group.

C|A

Overview: Divestment Impact Will Differ for Every Institution

As detailed on the following pages, forecasting the impact of divestment on a given portfolio requires inputs specific to that institution as well as agreement on key assumptions:

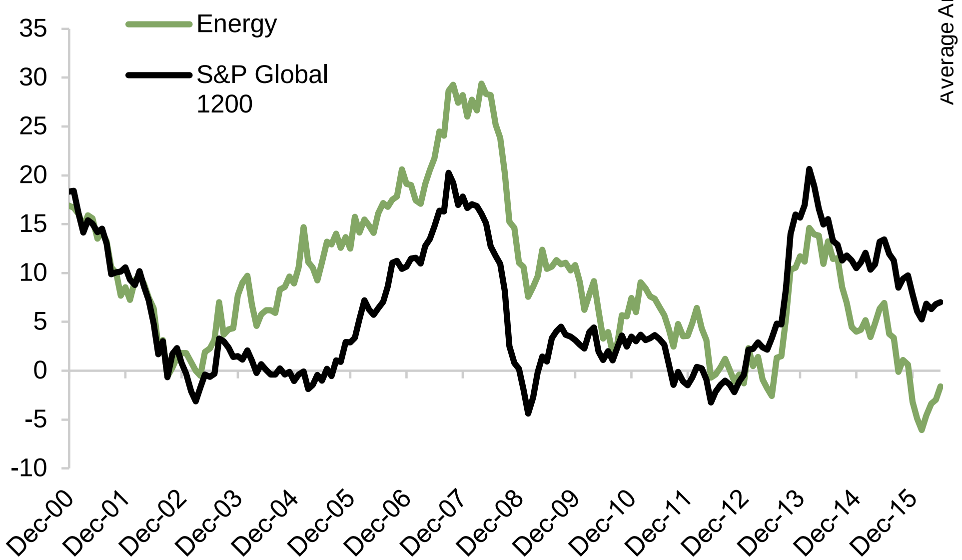
- How will the performance of energy stocks compare to the broader equity universe going forward?
  - While highly cyclical, global energy stocks have historically been additive to the global equity index over the long term, both in absolute and risk-adjusted terms.
  - Of course, the past is not always prologue, and the largest component of assessing the potential impact of divestment is establishing a view on the future performance of companies that produce fossil fuels.
- Limited manager universe that offer strategies that exclude fossil fuels:
  - What percentage of the institution's current portfolio is indexed vs. actively managed?
  - What is the historical alpha of the portfolio's current active manager roster?
  - What is the opportunity cost of a more restricted manager universe to choose from (in many cases with limited track records)?
  - What additional fees will be paid to screen out stocks in separately managed accounts or screened funds?
- Depending on the institution's definition of divestment (and the asset classes affected):
  - What percentage of the portfolio will need to be "turned over" and thereby incur transaction fees?
  - How will a loss of portfolio diversification impact the portfolio both in terms of risk and return expectations (e.g. potentially no hedge funds or private equity)?

Historically, Energy Stocks Have Been Cyclical (but Additive over Long Term)

Average Annual Compound Returns (%) Through June 30, 2016

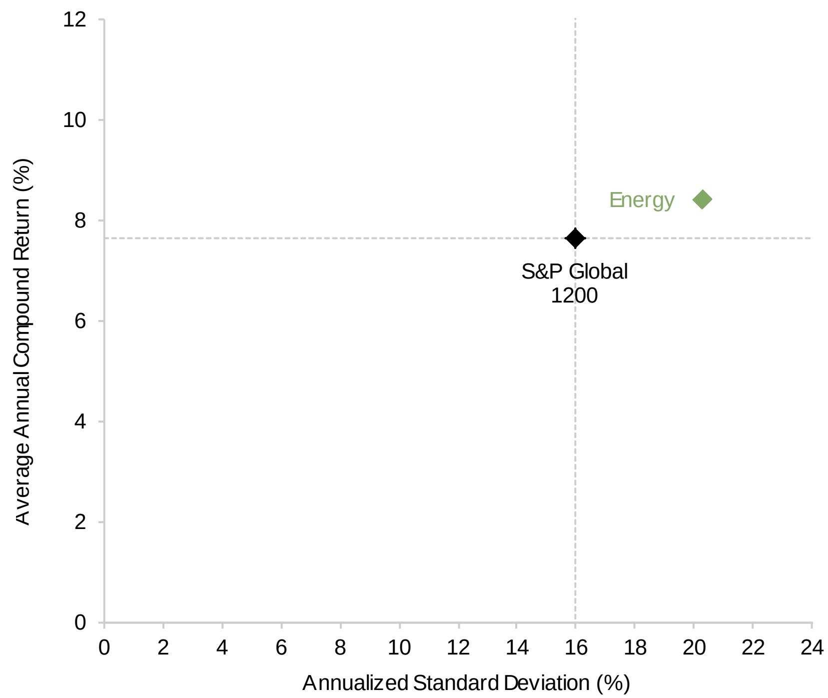
	20 Yr	15 Yr	10 Yr	5 Yr	4 Yr	3 Yr	2 Yr	1 Yr
Energy	8.4	6.8	2.4	-1.6	0.8	-1.9	-15.1	-3.5
S&P Global 1200	7.6	5.5	5.1	7.0	10.1	7.4	-0.2	-2.0

Rolling 5-Year Performance Through June 30, 2016



Risk/Return Analysis

July 1, 1996 through June 30, 2016 - 20.00 Years



	AACR (%)	St. Dev. (%)	Sharpe Ratio[1]	Relative Performance vs. the S&P Global 1200: Beta	Relative Performance vs. the S&P Global 1200: Excess Return (%)
Energy	8.4	20.3	0.38	0.88	0.8
S&P Global 1200	7.6	16.0	0.39	---	---

Sources: FactSet Research Systems and Standard & Poor's. S&P data provided "as is" without any express or implied warranties.
Notes: Performance for Energy represents the S&P Global 1200 Energy Index.
[1]The Sharpe Ratio represents the amount of return over the risk-free rate that can be expected for each unit of risk accepted. To calculate this number, subtract the average T-bill return (risk-free return) from the manager's average return, then divide by the manager's standard deviation.

C|A

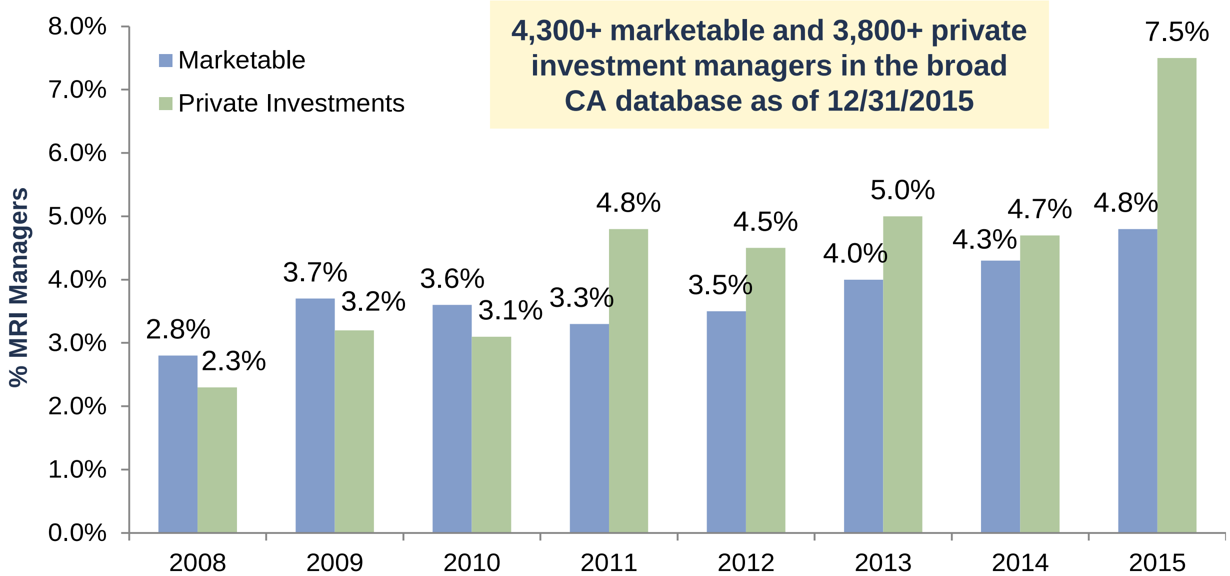
Looking Ahead, Divestment Impact on Indexed Equities Could be Modest

- Academic and practitioner studies about the impact of divestment on portfolios show a broad range of conclusions that vary widely depending on the scope, time frame and underlying assumptions.
- The Aperio Group worked with 350.org to conduct one oft-cited study that shows that the impact of divestment on a portfolio's risk and return "may be far less significant than presumed"
  - The resulting report, "Building a Carbon-Free Equity Portfolio," has been used by 350.org, student advocates, money managers, and some consultants in order to make a case for fossil fuel divestment
  - The study focuses on global, US, Australian, and Canadian equities, comparing each to the relevant index with a screened version that eliminates Oil, Gas & Consumable fuels
  - If the screened portfolios are optimized back to the index using Aperio's multi-factor model, the historical tracking error ranges from 0.75% to 0.81%; Canada is the outlier at 2.91% tracking error, because energy stocks dominate its market[1]
- Considerations related to the limited scope of the Aperio Group analysis:
  - The study only addresses equities; there is no analysis on global fixed income or alternative asset classes
  - The study pertains only to indexed equity accounts, limiting its applicability for an institution investing in actively managed strategies
  - The study ignores fees and transaction costs; the transition away from commingled accounts could become expensive

[1]The Aperio report can be found here: https://www.aperiogroup.com/resource/138/node/download.

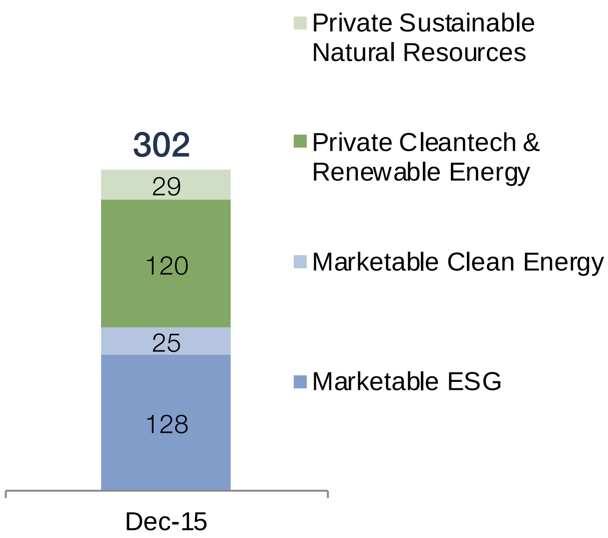
Small but Growing Universe of Managers That Exclude Fossil Fuels

% of MRI Managers in CA Database
December 31, 2008 – December 31, 2015



# MRI Managers	165	245	259	350	368	431	449	483

Environmentally Focused and ESG Strategies Are a Subset of the MRI Universe…



Some "Mainstream" Managers May Also Address Climate Change Concerns…

Marketable Products Surveyed[1]	Exclude Fossil Fuel	Willing to Accommodate Negative Screens in Separate Account (***note:** often w/ high acct. minimums)*	Integrate ESG Factors into Investment Decisions
~4,900	163	2,198	1,767

[1]Cambridge Associates has not yet surveyed all of the managers in its marketable database.
Source: Cambridge Associates LLC Investment Manager Database.
Note: The number of private investment funds in the database decreased slightly from 2013 to 2014 as a result of Cambridge's work on the Impact Investing Benchmark. For this project, funds that were never raised were taken out of the database.

C|A

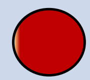
Divestment and the Commingled Fund Challenge

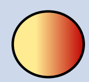
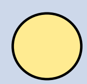
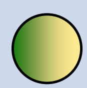
- The use of commingled fund vehicles is very prevalent in endowment portfolios
  - Many managers have very high investment minimums for separate account ($25 million or greater), limiting the options for institutions with relatively small assets.
  - Other managers (particularly outside of long-only equities fixed income) do not offer separate accounts at all.
- Key questions should be addressed about an institution's current manager roster when considering a divestment policy:
  - In long-only developed market equities and bonds, is it only acceptable to hire managers with separate account options going forward?
  - Exempt or drop best-performing equity and/or bond managers if not offered as a separate account?
  - Keep index funds or replace with typically higher cost (10-25 bps) quasi-index screened accounts?
  - Exempt emerging or frontier markets where separate accounts are expensive and/or not practical?
  - Exempt hedge funds or only invest in the small number of funds with negative screens (which may not align directly with the fossil fuel exclusion list)?
  - Exempt venture capital and buyout funds (which would require selling LP in the secondary market, often at a discount)?
  - Transaction costs to divest will vary by asset class and the percentage of managers that will be terminated as part of divestment – is the institution more comfortable incurring those costs all at once, or divesting over a longer time period?

C|A

Spectrum of Divestment Definitions with Varying Impact on Investment Strategy

- The 350.org list of fossil fuel companies encompasses publicly-traded companies with the highest fossil fuel reserves. Other definitions of divestment could potentially include:
  - Public companies with high fossil fuel emissions – e.g., transportation, construction, shipping, agricultural and airline companies
  - Private investments in oil and gas companies
  - Investment in energy transportation infrastructure, such as pipelines
  - REITs that own properties which store and/or distribute fossil fuels

<table>
<tr><th colspan="2"></th><th colspan="4">Implementation</th></tr>
<tr><th>Approach</th><th>Impact on Investment Strategy</th><th>Public Equity</th><th>Fixed Income</th><th>Private Investments</th><th>Hedge Funds</th></tr>
<tr><td>Full Divestment of All Fossil Fuel Companies</td><td></td><td colspan="2" rowspan="4">Invest Solely Through Separate Accounts and Screen Out Fossil Fuel Exposure

Limited Universe of Active Managers Given Separate Account Minimums</td><td>Liquidate; Invest in Screened Public Equity</td><td rowspan="2">Liquidate; Invest in Stocks/Bonds</td></tr>
<tr><td>Full Divestment of Public Fossil Fuel Companies</td><td></td><td>No Impact</td></tr>
<tr><td>Full Divestment of Directly Held Fossil Fuel Companies</td><td></td><td colspan="2">No Impact</td></tr>
<tr><td>Partial Divestment of Directly Held 'Dirtiest' Companies</td><td></td><td colspan="2">No Impact</td></tr>
</table>

C|A

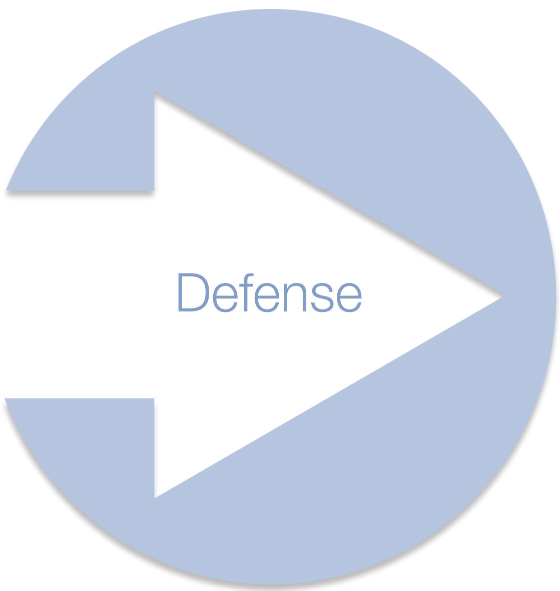
One Approach: Narrowing the Scope to Dirtiest Companies

If pursuing divestment, focusing on coal allows for less portfolio disruption and potential return impact

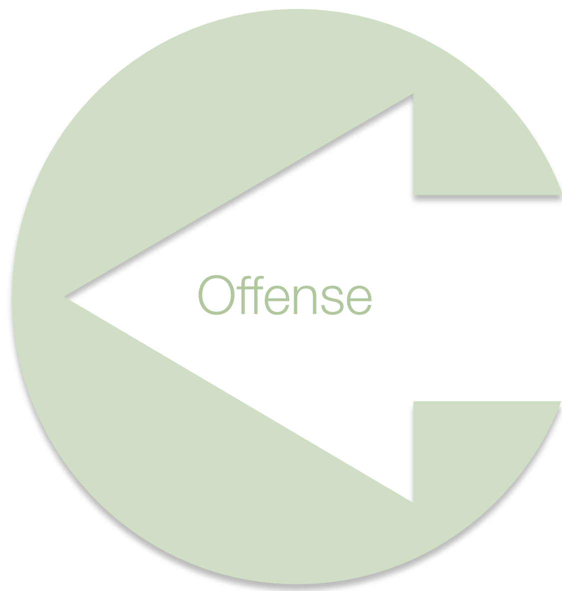
- University divestment efforts originally centered on coal rather than all fossil fuels as coal has a disproportionately large climatic impact and, unlike oil, has many available substitutes
  - Coal has the highest emissions per unit of energy relative to other fossil fuels (~2x natural gas and ~1.5x oil)
  - It is also the most easily substitutable by natural gas, renewables, or nuclear for electricity generation.
  - In contrast, it is much more difficult to find transportation alternatives to oil. Corn ethanol can actually have higher carbon per energy unit than oil.
- Coal is a relatively small part of indices:
  - As of June 2016, the energy sector comprised 6.9% of the MSCI All Country World Index (ACWI)
  - Coal mining, on the other hand, was only 0.1% of the MSCI ACWI
  - All utilities were 3.6% of the MSCI ACWI, which includes utilities predominantly using coal as a power source or utilities with a more diversified energy portfolio
  - The most common commodities futures indices do not include coal (DJ UBS and GSCI)
- Institutions have several options if wishing to divest from coal:
  1. Restrict investments in the "dirtiest" mining and coal-fired utilities within separate accounts
  2. Commit to monitoring managers' coal exposure, and consider action if exposure rises above a pre-determined threshold (e.g., 5%)
  3. Invest in Natural Resource Equity funds that exclude coal

Risks and Opportunities from the Changing Climate: A Playbook for Long-Term Investors (2015)

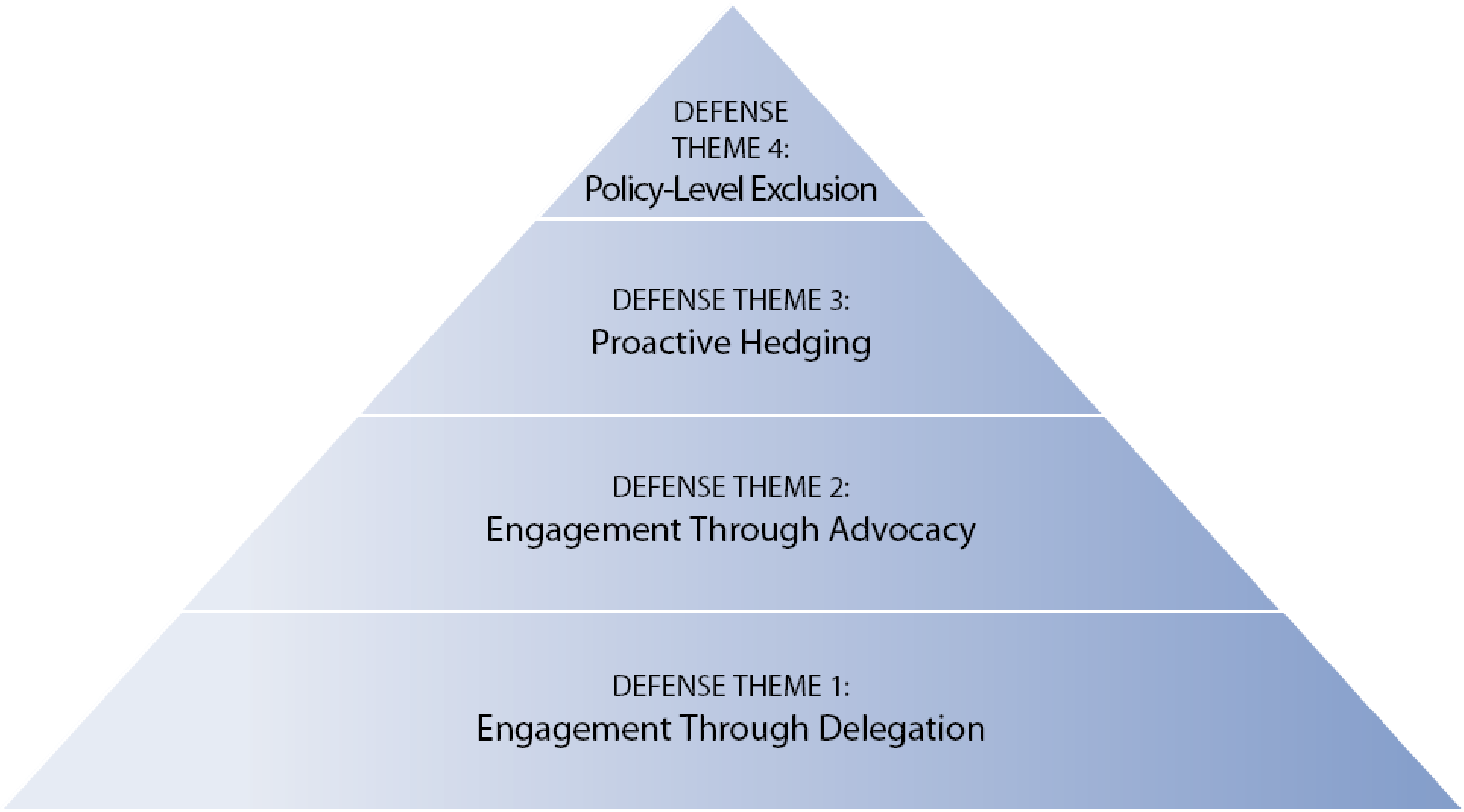
Both strong defense and offense are important to manage risks and capitalize on opportunities associated with climate change



Investors should consider how to defend the portfolio from growing risks and how to offensively position it to capture the value of proactive, solutions-oriented strategies

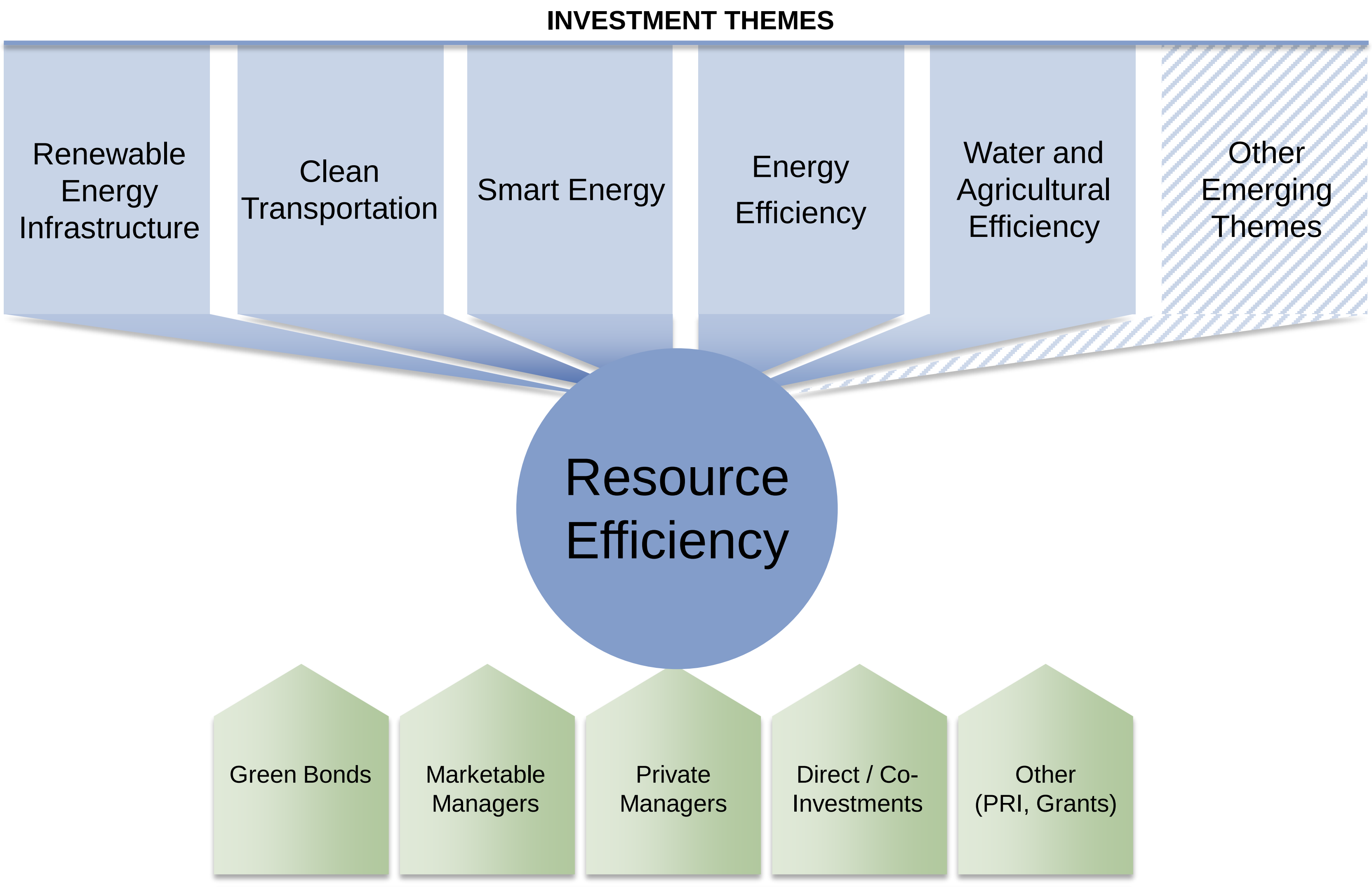


C|A has identified four approaches investors can take to better understand and manage risks

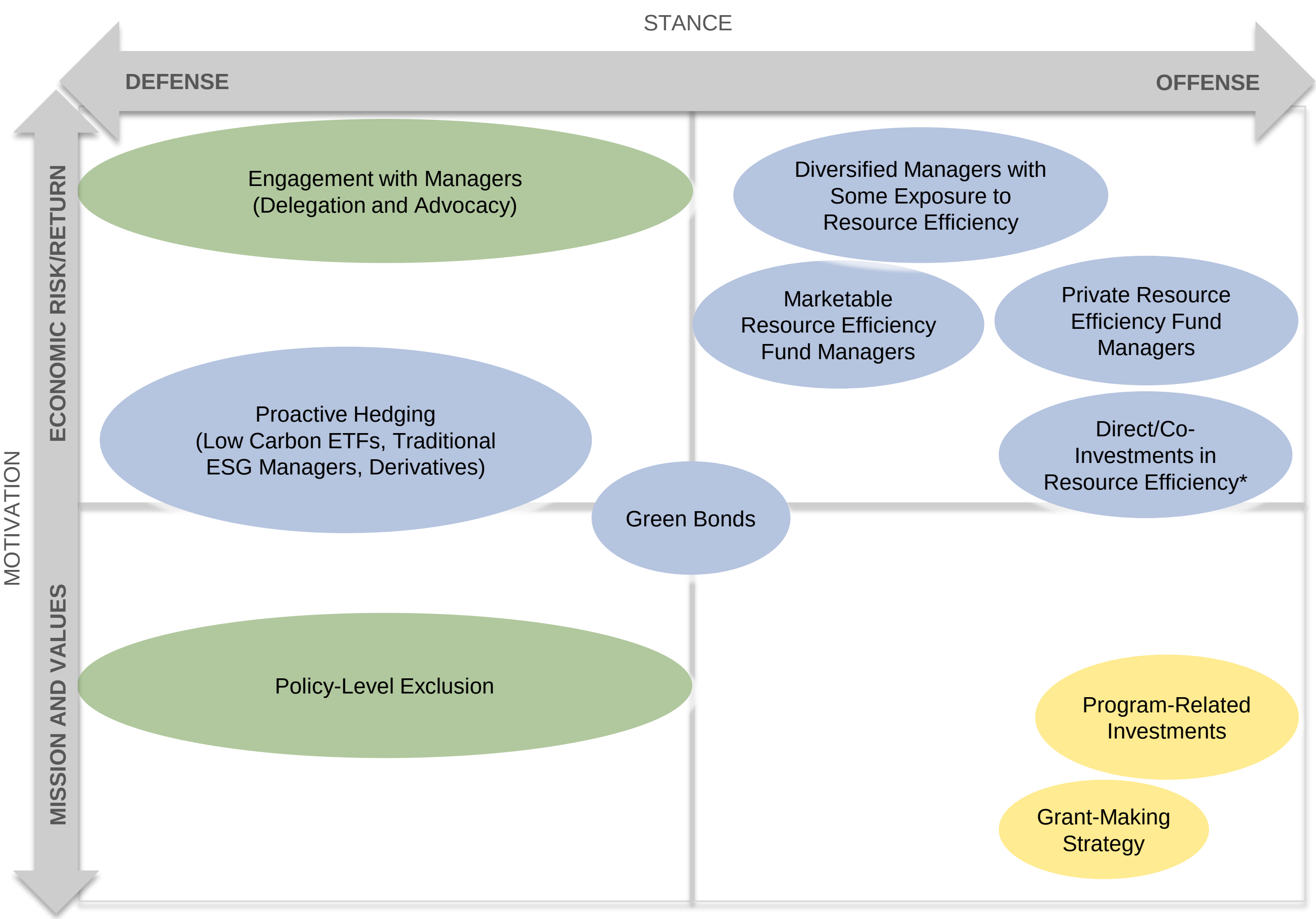


The Playbook for *Offense:* Investment Themes and Strategies

C|A has identified five primary investment themes, among others, that capitalize on current opportunities



C|A's Framework for Integrating Climate Defense and Offense



** Direct/co-investments should be viewed within the context of a well-diversified VC/PE portfolio and sized appropriately relative to fund commitments.*
Note: Blue indicates investment vehicles from long-term investment pool. Green indicates investment-related actions that do not necessarily involve deploying capital. Yellow indicates strategies that can be pursued on the program side of a foundation, outside the endowment or long-term investment pool.

Appendix

Who We Are

Cambridge Associates has been providing **independent investment advice** to nonprofit institutions since 1973. For more than 40 years, we have focused on discovering innovative ways to add long-term value to our clients' portfolios.

We have helped **shape nonprofit portfolio management best practices** through our work with some of the most sophisticated institutional investors in the world. Those insights help us maximize success for **more than 680 nonprofit institutions** of varying assets, scale, and portfolio complexity that we work with today.

We aim to build **lasting client relationships with strong investment results and superior client service**. Our investment teams are focused on understanding every aspect of their clients' portfolios. Our research professionals are on the ground around the globe, always looking for new investment opportunities.

Setting the Stage: Mission-Related Investing is Defined in Many Ways

Related Terms, Different Focus

Terminology often differs, depending on objectives

- Mission-Related Investing (MRI)
- Environmental, Social, and Governance (ESG) Investing
- Socially-Responsible Investing (SRI)
- Impact Investing
- Social Investing
- Sustainable Investing
- Responsible Investing
- Double/Triple-Bottom Line Investing

There are a number of possible approaches to investing in a way that meets an investor's mission and social objectives; we use MRI as the umbrella term

C|A

We are Committed to Mission-Related Investing (MRI)

Evolution of Our MRI Practice

- Cambridge Associates has served the socially-responsible and mission-related investment needs of clients throughout our history
- In 2008 established a dedicated group to assist clients with their MRI programs

MRI Group's Goals and Objectives

- Helping clients make informed decisions and articulate MRI policy
- Assisting them in implementing a variety of MRI strategies
- Providing access to a global institutional investment manager database and in-depth due diligence on a wide range of MRI investment opportunities

We Believe

- Interest in MRI has permanence among investors
- Implementation can be challenging, requiring patience and a willingness to learn
- MRI investment strategies and risks are new and less familiar
- Investors must have the will to develop MRI objectives and strategies – an external party cannot instill that

Our Dedicated MRI Practice of 35 Professionals Spans Six Global Offices

Since 2008, our MRI Practice has expanded significantly in response to both growing demand from investors and supply of opportunities

8+	35	150+	200+	1,000+	9
year history of dedicated practice area	MRI investment professionals	clients pursuing MRI strategies	manager meetings per year	MRI strategies tracked in proprietary databases	Strategic partnerships with MRI and ESG investment associations

C|A

Our MRI Practice Continues to Expand

Deep Resources Globally

- The team currently comprises 35 people across six global offices
- Recently hired three investment directors with extensive experience in conducting MRI manager due diligence and working with clients to build MRI programs

Expanding Manager Research Capabilities

- Integrating ESG criteria and questions into entire manager research platform
- Growing database with > 1,000 funds; almost 200 meetings per year
- Leveraging tools such as Bloomberg and MSCI ESG to quantitatively evaluate portfolio ESG risks and exposures to positive impacts

High Engagement with MRI Field

- UN Principles for Responsible Investing (PRI) Signatory, Social Investment Forum (US SIF), Global Impact Investing Network (GIIN), Confluence Philanthropy, and more
- Hosting 2nd annual Impact Investing Forum in Chicago on September 28-29, 2016
- Issued survey to over 500 clients exploring institutional thinking and practice in MRI and impact investing

Impact Investing Benchmarks

- Published first report Impact Investing Benchmark in June 2015 to report on the financial performance of private investment impact funds
- Recently began data collection on Real Assets Impact Investing Benchmark; targeting late 2016 publication

Recent Research Reports

- Risks and Opportunities from the Changing Climate (2015)
- Introducing the Impact Investing Benchmark (2015)

C|A

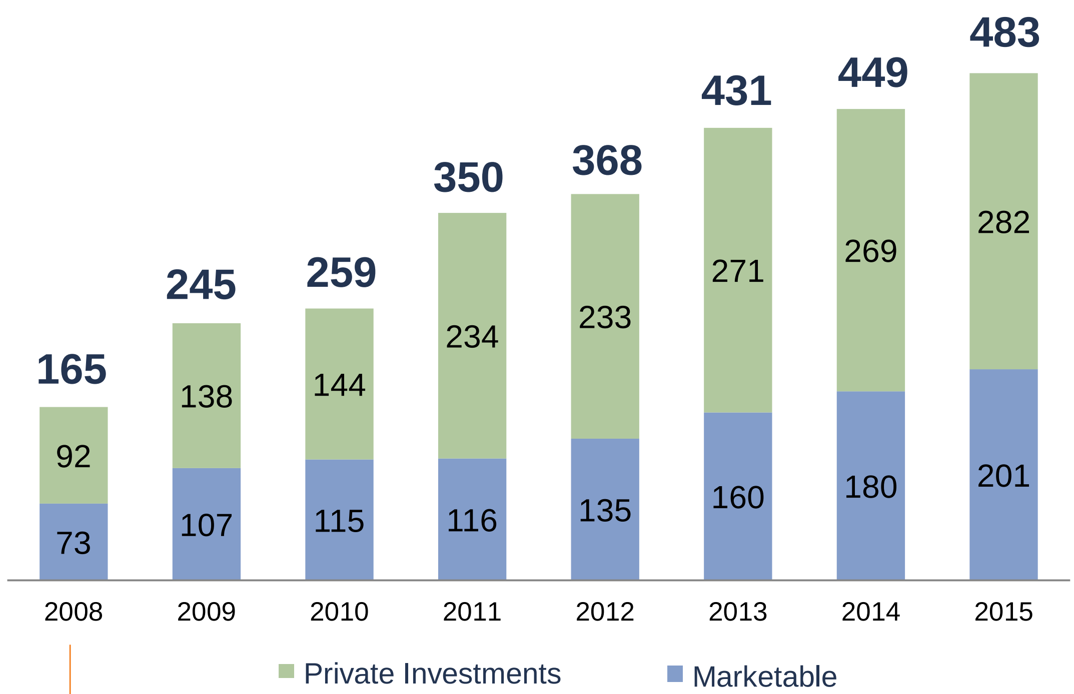
The Quality and Quantity of MRI Opportunities is Growing

Dedicated MRI resources seek institutional quality opportunities for the total portfolio

Our work is guided by client interests, and our approach is highly customized to meet those needs

Almost **200** meetings/year, **over 1/3** new manager ideas

Growth in MRI Managers in CA Database
December 31, 2008 – December 31, 2015



Since 2008, the number of MRI products across asset classes that have been researched and recommended by CA has increased substantially

Source: Cambridge Associates LLC Investment Manager Database.
Note: The number of private investment funds in the database decreased slightly from 2013 to 2014 as a result of Cambridge's work on the Impact Investing Benchmark. For this project, funds that were never raised were taken out of the database.

C|A

As a Further Input, We Integrate ESG Across Our Entire Manager Platform

Marketable Managers

- All managers in the database are asked if and how they are thinking about SRI and ESG factors

Private Investment Managers

- Our operational due diligence questionnaire includes questions about ESG practices

ESG Integration Goals and Objectives

- Provides C|A staff and clients with a better understanding of MRI/ESG data and opportunities
- Offers the potential to source new MRI/ESG products
- Encourages managers to take material ESG issues into account
- Assists clients in completing the annual UNPRI reporting framework

Firm Representative

Kristy LeGrande, CFA
Managing Director

(650) 233-5225
klegrande@cambridgeassociates.com

Focus and Experience

Kristy is a Managing Director and a member of the Private Wealth Practice at Cambridge Associates. Kristy is affiliated with Cambridge Associates' Menlo Park office, though she resides in Denver, Colorado. She advises clients on investment issues such as asset allocation strategy, manager selection, and investment program evaluation. Kristy has worked with private clients, foundations, hospitals and independent schools in the U.S., ranging in size from $20 million to $2 billion.

Prior to joining Cambridge Associates in 2001, Kristy worked as a corporate finance associate in the Business Services Group at Bank of America Securities LLC, where she had various responsibilities pertaining to capital structure analyses, mergers and acquisitions, and private and public securities offerings. Prior to that, Kristy worked at Chase Securities Inc., where she held the position of associate in the Leveraged Finance Group and played an integral role in the execution of several high yield bond offerings, working closely with financial sponsors and corporate clients. Kristy also worked in marketing and investment operations at an institutional investment management firm.

Education

- CFA Charterholder
- MBA, Tuck School of Business, Dartmouth College
- AB in Economics(*cum laude*), Harvard University

Wendy Walker, CFA
Managing Director

(650) 233-5209
wwalker@cambridgeassociates.com

Focus and Experience

Wendy is a Managing Director and Chief Investment Officer in CA Capital Management, Cambridge Associates' outsourced investment office business. Wendy has nine years of investment experience and currently serves eight clients. She works with a number of museum, university, hospital and other nonprofit institutions. Wendy is also a member of the firm's Mission Related Investing group.

Prior to joining Cambridge Associates, Wendy worked on the investment teams at Imprint Capital Advisors, focusing on socially responsible and environmental-themed investment managers, and at Parnassus Investments, conducting industry and company-specific research. Before graduate school, Wendy was a securities analyst at Argus Research, where she co-managed four model portfolios and published equity research on media and business service companies. She also previously performed fiduciary and tax accounting at McLaughlin & Stern, LLP. Wendy is a former vice chair of the Sustainable Investing Committee of the New York Society of Security Analysts.

Education

- CFA Charterholder
- MBA (with Honors), Walter A. Haas School of Business, University of California at Berkeley
- BA (cum laude) in Comparative Literature with Theater Studies, Yale University

Cambridge Associates, LLC is a Massachusetts limited liability company with offices in Arlington, VA; Boston, MA; Dallas, TX; and Menlo Park, CA. Cambridge Associates Fiduciary Trust, LLC is a New Hampshire limited liability company chartered to serve as a non-depository trust company, and is a wholly-owned subsidiary of Cambridge Associates, LLC. Cambridge Associates Limited is registered as a limited company in England and Wales No. 06135829 and is authorised and regulated by the Financial Conduct Authority in the conduct of Investment Business. Cambridge Associates Limited, LLC is a Massachusetts limited liability company with a branch office in Sydney, Australia (ARBN 109 366 654). Cambridge Associates Asia Pte Ltd is a Singapore corporation (Registration No. 200101063G). Cambridge Associates Investment Consultancy (Beijing) Ltd is a wholly owned subsidiary of Cambridge Associates, LLC and is registered with the Beijing Administration for Industry and Commerce (Registration No. 110000450174972).

CAMBRIDGE C|A ASSOCIATES