

**Assessing & Encouraging Electric Sector Sustainability as Business Strategy:
Investor & Analyst Perspectives**

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EXECUTIVE SUMMARY

The electric power sector represents the largest contributing source of greenhouse gas (GHG) emissions in the U.S. and faces significant risk associated with climate change, extreme weather and other environmental factors (EPA, 2014). As such, this study seeks to identify the ways in which investors are seeking to minimize the risk associated with power sector investments and in doing so provide an illustrative business case for power companies to improve their sustainability performance. Sustainable investors, in particular, view investment decisions through a solid understanding of not only financial metrics but environmental, social and governance (ESG) factors that capture sustainability risks associated with GHG emissions, energy, water, supply chains, and human rights among other factors.

Sustainable investing is about evaluating material risks, maximizing risk-adjusted returns, and promoting sustainable long-term value creation. Unfortunately, there is a lack of consensus within the electric sector on how to identify and prioritize sustainability objectives, how to measure sustainability performance, and how to articulate and communicate the value of these efforts to stakeholders (Fox, 2013). It is also unclear how the larger investor community may view or value those utilities that seem to best address ESG issues over those that simply aim to provide business as usual. Thus, this study attempts to fill a void in the electric power sector by seeking to assess the how and why questions of sustainability planning and investment as they relate to investor values. Through the utilization of multiple case studies with ESG investors and analysts, this study will address what certain investors and analysts are doing to influence electric power companies to pursue sustainability as business strategy and in turn illustrate why electric power companies should strive to become more sustainable.

The first section, Research and Objectives, provides additional background on the need for this analysis.

The second section, Background on Sustainability Investing, provides an overview of sustainable investing, inclusive of the various challenges confronting investors to adopting sustainable investment strategies as well as the growth opportunities or value proposition associated with sustainable investing. This section cautions against misconceptions around sustainability investing and provides insight into how coupling ESG factors with traditional financial analysis can be an explicit strategy to drive economic growth. The section also provides background on a range of different shareholder advocacy strategies and tools investors can utilize to advance corporate policy changes or actions.

The third section, Electric Power Sector, provides an overview of the electric power sector's emissions profile, background on energy-water interdependence, and a brief primer on regulatory structure. This section also includes an overview of material sustainability issues affecting the sector in addition to highlighting several sector specific reports and analytics with implications for sustainability planning.

The fourth section, Observations: Investor and Analyst Perspectives, provides background on the case study method utilized in this study as well as the data collection process, which consisted of one-on-one telephone-based interviews with sustainable investors and analysts. Through the utilization of an anonymous identification scheme for case study participants, this section details each investor and analyst approach to assessing electric sector sustainability performance for investment and engagement purposes.

The fifth section, Discussion, consists of a thematic analysis of the key findings (bulleted below) as well as conclusions and recommendations for electric power companies seeking to attract ESG investment:

- Combined ESG & Financial Analysis Facilitates Comprehensive Understanding;
- Sustainable Investing is a Collaborative Process;
- Mixed Views Exist Around Market Design and Structure Relative to ESG Analysis;

- Specific ESG Indicators Facilitate Investment Decisions;
- Annual Disclosure is Critical for Sustainable Investment Analysis;
- Fuel Diversity, Clean Energy and Innovation are Transformative; and
- Shareholder Advocacy Enables Broad Stakeholder Engagement.

The analysis reveals that electric power companies can improve their long-term financial performance and risk-adjusted returns by taking strategic steps to position themselves as more sustainable investments in the eyes of a diverse range of sustainable investors and analysts. By carefully evaluating material risks and opportunities and developing appropriate programs and policies to minimize identified risks and leverage opportunities for improvement and innovation, electric power companies can promote sustainable long-term value creation for their shareholders on a risk-adjusted basis. Thus consistent with the findings of Ellsworth & Spading (2014); Eccles, R. G., Ioannou, I., & Serafeim (2011); Husted, Allen and Kock (2015, 2012) as well as RobecoSAM (2014) and DB Climate Advisors (2012), case studies revealed that high-sustainability performers (i.e., leaders) in the electric power sector should perform much better than low-sustainability performers (i.e., laggards) over the long-term on a risk-adjusted basis.

Case studies also confirmed the findings of Ceres and CleanEdge (2014), which stressed that investors are becoming increasingly attuned to how investor-owned electric utilities are adapting to disruptive challenges facing the sector and the extent to which utilities are modernizing their business models to enhance profitability and minimize risk of financial loss. Thus while there may be a lack of consensus within the electric sector regarding many facets of sustainability, this analysis may help shed light on what ESG investors are looking for as they make investment decisions as well as what ESG analysts are assessing as they rank or benchmark electric power companies on multiple measures of performance.

This analysis focused on sustainable investors and analysts, a subset of the market that is already committed to assessing the value ESG factors can contribute to a company's overall performance. Further analysis involving traditional (i.e., non-ESG) investors and financial analysts could be beneficial in facilitating a comprehensive picture of the broader financial community's perspectives on electric sector sustainability performance. In sum, further analysis is necessary to assess if material ESG issues affecting the electric power sector can become mainstream indicators of long-term growth and performance to traditional investors and analysts.

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I. RESEARCH & OBJECTIVES

The electric power sector represents the largest contributing source of greenhouse gas (GHG) emissions in the U.S. and faces significant risk associated with climate change, extreme weather and other environmental factors (EPA, 2014). As such, this study seeks to identify the ways in which investors are seeking to minimize the risk associated with power sector investments and in doing so provide an illustrative business case for power companies to improve their sustainability performance. Recognizing a need in this area, Ceres, a leading sustainability NGO has created the Blueprint for Sustainable Investing to encourage investors to strategically approach their investment decisions through a solid understanding of environmental, social and governance (ESG) factors that capture sustainability risks associated with GHG emissions, energy, water, supply chains, human rights and natural resource scarcity among others.

Recent data illustrate that integrating ESG analysis and conventional financial analysis improves prospects for maximizing sustainable risk-adjusted returns because material information is examined over both the short-term as well as the long-term (Ellsworth & Spalding, 2013). However, ESG performance criteria are difficult to measure compared to traditional financial criteria (e.g., sales, revenues, debt to equity, price to earnings). As a result, many investors are skeptical of ESG considerations and question their compatibility with optimizing investment returns. Furthermore, the Electric Power Research Institute (EPRI) has found that there is a lack of consensus within the electric sector on how to identify and prioritize sustainability objectives, how to measure sustainability performance, and how to articulate and communicate the value of these efforts to stakeholders (Fox, 2013).

In light of the lack of consensus experienced in the electric sector around sustainability, EPRI convened the Energy Sustainability Interest Group in 2008 to provide a collaborative forum for EPRI members to discuss and address sustainability related issues. A significant deliverable from this effort has resulted in a comprehensive materiality assessment (identification, categorization, and defining) of sustainability issues affecting the electric power sector. While EPRI's research is informative and will help provide a basis for better understanding the material issues that affect the electric power sector, it does not capture the outstanding questions of how the larger investor community may view or value those utilities that seem to best address these issues over those that simply aim to provide business as usual.

Thus, this study attempts to fill a void in the electric power sector by seeking to assess the how and why questions of sustainability planning and investment as they relate to investor values. It will address what certain investors are doing to influence utilities to pursue sustainability planning as part of a growing movement towards an overall risk mitigation strategy by institutional investors and in turn illustrate why utilities should strive to become more sustainable. Specifically, this study focuses on the universe of

investor-owned electric power companies, which are owned by millions of shareholders through direct investments or indirectly through other investments such as retirement funds, life insurance policies, or mutual funds. These investor owned utilities provide electricity for nearly 75 percent of U.S. customers (EEI, 2015).

Through a literature review of existing reports and analytics specific to the electric sector and sustainability planning as well as one-on-one interviews, this research paper seeks to illustrate how certain investors and analysts view and influence sustainability planning and investments in the electric sector. The utilization of multiple case studies and a qualitative analysis of key themes gleaned from the interviews should provide insight for electric power companies and their stakeholders as they weigh the pros and cons of sustainability as business strategy.

II. BACKGROUND ON SUSTAINABLE INVESTING

A leader in the corporate sustainability movement, Ceres President and Director of the Investor Network on Climate Risk, Mindy Lubber, describes sustainable investing as “the integration of a new set of risks and opportunities into investment decision making, and a shift from short-term thinking about earnings and profits to long-term value creation. It means going beyond traditional financial analysis that fails to account for sustainability risks and opportunities and developing new analytic tools that will (Ellsworth & Spaulding, 2013).”¹ In essence, sustainable investing is about evaluating material risks, maximizing risk-adjusted returns, and promoting sustainable long-term value creation.

Accordingly, NGOs like Ceres, CDP (formerly the Carbon Disclosure Project), and the Forum for Sustainable and Responsible Investment (U.S. SIF) among others, are encouraging sustainable investment strategies by large institutional investors (*e.g.*, pension funds, investment banks, insurance companies, hedge funds, sovereign wealth funds, and endowments) and their investment managers that have the power to influence the sustainability of the companies in which they invest.² For the electric power sector, these NGOs are leveraging investor pressure on the industry to embrace sustainability as a core tenet of their

¹ One U.S. NGO in particular, Ceres, has successfully forged a constructive platform for dialogue between investors, the business community and other public interest groups around corporate social responsibility for the environment. Founded by a small group of investors six months after the Exxon Valdez oil spill that occurred on March 24, 1989 with the idea of bringing capitalists and environmentalists together to catalyze a new sustainable business model, Ceres began with the creation of the Valdez Principles (later known as the Ceres Principles) – one of the first environmental corporate codes of conduct. Since its establishment over 25 years ago the NGO has successfully developed and launched numerous tools designed to enable businesses and investors with resources for addressing and incorporating into their decision making key environmental and social challenges.

² For purposes of this analysis, investors include both asset owners as well as their respective asset managers.

corporate governance structure, portfolio, and strategy. For example, Ceres has created the Blueprint for Sustainable Investing to encourage more investors to strategically approach their investment decisions through a solid understanding of ESG factors that capture sustainability risks associated with GHG emissions, energy, water, supply chains, human rights, and natural resource scarcity. These factors are not incorporated into traditional financial criteria and analytics (*e.g.*, sales, revenues, debt to equity, price to earnings) but they are just as material to the company's long-term financial growth and success.

Some would also point to this as taking a “triple bottom line” (TBL) approach to measuring a company's performance, a term created in 1994 by John Elkington, the founder of international consultancy SustainAbility (Economist, 2009). Elkington is considered a world authority on corporate responsibility and sustainable development (SustainAbility, 2015). The Economist (2009) provides insight into what the TBL approach actually means from an investment perspective:

His argument was that companies should be preparing three different (and quite separate) bottom lines. One is the traditional measure of corporate profit—the “bottom line” of the profit and loss account. The second is the bottom line of a company's “people account”—a measure in some shape or form of how socially responsible an organisation has been throughout its operations. The third is the bottom line of the company's “planet” account—a measure of how environmentally responsible it has been. The triple bottom line (TBL) thus consists of three Ps: profit, people and planet. It aims to measure the financial, social and environmental performance of the corporation over a period of time. Only a company that produces a TBL is taking account of the full cost involved in doing business.

In this regard, companies that couple economic considerations with ESG factors are better able to provide a full picture of their overall long-term performance.³ This is also consistent with the three pillars of sustainability: economic, environmental and social. Failing to combine all of these factors into a comprehensive overview of a company leads to an incomplete assessment.

Electric Power Sector

This analysis focuses on the electric power sector, which represents the largest contributing source of GHG emissions in the United States (EPA, 2014). More specifically, this study focuses on the universe of investor-owned electric power companies – those companies that are owned by shareholders through direct investments or indirectly through other investments such as retirement funds, life insurance policies, or

³ The TBL approach couples social and governance factors under the “people account.”

mutual funds. Investor owned utilities provide electricity for nearly 75 percent of U.S. customers (EEI, 2015). Of note, there is significant public and private interest in targeting the sector for emission reductions. Global clean energy infrastructure investment opportunities and end-use energy efficiency improvements are estimated to demand over \$13 trillion over the next 15 years in order to combat climate change (Global Commission on the Economy and Climate, 2015). Thus, it is no surprise that investor influence has been increasingly exerted over utilities ranging from: shareholder resolutions and proxy voting; direct engagement with utility executives; divestiture of coal assets from investment portfolios; and the creation of investment products that incorporate ESG analysis.

Furthermore, environmental regulatory dynamics (e.g., air, water, waste and climate regulations) and market forces are driving the electric power sector to increasingly invest in low-carbon forms of generation such as natural gas and renewables (MJBA, 2014). These factors are also driving utilities to improve operational efficiencies through investment in new waste and water management technologies and practices as well as energy efficiency technologies and practices. Simultaneously, such factors are favoring increased disclosure and transparency around climate risk and associated mitigation strategies. These trends are bolstered through increased investor interest and activity in sustainable investing. In fact, Rudden (2012) notes, “To the extent a utility is a high sustainability performer, it is more likely to meet SRI [socially responsible investment] criteria and thereby attract capital at a lower cost of equity.” However, challenges exist.

Challenges Aboard

Leveraging the power of institutional investors to influence corporate behavior, specifically within the electric power sector, is not without its challenges. Ceres finds that the majority of the investor community has not fully embraced business strategy through a sustainability lens (Ellsworth & Spaulding, 2013). ESG performance criteria are difficult to measure compared to traditional financial criteria. As a result, many investors are skeptical of ESG considerations and question their compatibility with optimizing investment returns. Furthermore, the Electric Power Research Institute (EPRI) finds that, “A lack of consensus exists...on how to identify and prioritize sustainability objectives, how to measure sustainability performance, and how to articulate and communicate the value of these efforts to stakeholders (Fox, 2013).” Thus, even defining sustainability remains elusive to some in industry.

Furthermore, Eccles, R. G., Ioannou, I., & Serafeim (2011) remind us that over the years scholars, such as Friedman (1970), Clotfelter (1985), Navarro (1988), Galaskiewicz (1997), Baloti and Hanks (1999), and Brown et al. (2006) have argued that adopting environmental and social policies can destroy shareholder

wealth and result in negative financial implications, despite any private benefits that may be earned from adopting ESG policies. They further detail this argument as follows:

...management might lose focus by diverting attention to issues that are not core to the company's strategy. Moreover, these companies might experience a higher cost structure by, for example, paying their employees living rather than market wages or by proactively reducing environmental externalities over and above what is required by regulation, failing to reduce their payroll rapidly enough in times of economic austerity, passing on valuable investment opportunities that are not consistent with their values, earning lower margins on their products due to more expensive sourcing decisions to appease an NGO, and losing customers to competitors by charging a higher price for features that customers are not willing to pay for (Eccles, R. G., Ioannou, I., & Serafeim, 2011).

Thus making the business case for sustainability investment and planning has been a challenging and often contentious matter. As previously noted, the majority of the investor community has not embraced the integration of ESG analysis into traditional financial analysis and valuation measures. Ceres and Deutsche Bank Climate Change Advisors, for instance, believe this is due to the financial community confounding ESG analysis with socially responsible investing (SRI), which has been perceived by traditional investors as being more narrowly focused on moral grounds (e.g., tobacco, gambling, alcohol) and the connection between financial performance has not been as clear (DB Climate Advisors, 2012; Ellsworth & Spalding, 2013). Ellsworth & Spading (2013) also note that, "the evolution from traditional values-focused SRI funds to best-in-class ESG funds has been a recent development for which no long-term studies are available." Additionally, literature on corporate social responsibility (CSR) has tended to treat economic benefits to firms as "unintentional spillovers that result from laudable CSR behavior (Husted, Allen and Kock; 2015, 2012)." Empirical studies assessing the relationship between CSR and corporate financial performance (CFP) have also reported mixed findings (Husted, Allen and Kock; 2015, 2012).⁴

Such concerns and misperceptions can deter electric power companies from prioritizing ESG strategies into their business operations and corporate structure. As a result, better differentiating CSR and SRI from ESG factors and analysis could help alleviate some of these concerns and misperceptions. Specifically, CSR tends to be a more narrowly focused approach to corporate governance factors and community engagement. This tends to fall within the "social" or "governance" umbrella of the ESG factors. The World Business Council for Sustainable Development (WBCSD) (2015) defines CSR as, "the continuing commitment by

⁴ The next section emphasizes studies that have found a positive correlation given the need to help support the case for electric power companies to incorporate ESG factors into their business operations and corporate structure.

business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large.” The WBCSD (2015) also notes that there is no universal definition of CSR as it “means very different things to different people...” However, simply reviewing the WBCSD’s definition illustrates a missing component that is critical to investors: corporate economic performance. WBCSD acknowledges that there is a “bottom line pay-off” associated with CSR; however, as noted above by Husted, Allen and Kock (2015, 2012) this appears to be more of a “spillover” effect rather than an intentional economic growth strategy. Thus, CSR appears to overemphasize external economic development factors resulting from corporate benevolence, which can deter investors from taking CSR seriously as an internal growth strategy. SRI also faces a similar problem.

The Interfaith Center on Corporate Responsibility (ICCR) (2015) defines SRI as, “the practice of aligning one’s investment portfolio with one’s values.” This can occur through a variety of ways: “...from negative screening or avoiding stocks that may present social concerns such as munitions, alcohol and tobacco, to impact investing and community development investing, used to encourage companies and programs that are advancing sustainable environmental and social solutions (ICCR, 2015).” Recognizing some of the concerns associated with SRI some are seeking to redefine SRI as sustainable, responsible and impact investing. For example, the Forum for Sustainable and Responsible Investment (U.S. SIF) (2015) released a common misperception guide around SRI to debunk the following misperceptions: (1) SRI investments have lower returns, (2) SRI investing only includes negative screening, (3) SRI involves only public equity investments and (4) SRI is not consistent with fiduciary duty. Of note, SRI includes an assessment of ESG criteria into investment analysis and portfolio construction in the following ways (U.S. SIF, 2015):

- *Positive Screening:* Proactively investing in companies with good ESG practices.
- *Exclusionary Screening:* Avoiding or divesting from companies with poor ESG practices.
- *Full ESG Integration:* Explicitly including ESG risks and opportunities into all processes of investment analysis and management.
- *Thematic Investment:* Targeting specific themes such as climate change, water or human rights.

Returning to the primary concern among traditional investors, the link between financial performance has not always been clear when emphasizing social values and motivations in making investment decisions, despite integrating ESG analysis. SRI again appears to drive “spillover” benefits for strong ESG performance and laudable practices, rather than intentional economic growth (Husted, Allen and Kock, 2012, 2015). This is because economic criteria, balance sheet and income statements are not usually

considered in the initial screening and selection, although financial performance becomes an important post-screen decision factor (Rudden, 2012).

As we will discuss in the next section, coupling ESG factors with traditional financial analysis as an explicit strategy to drive economic growth helps shift the discussion away from mixed views around SRI and CSR.

Opportunities Exist

Recent data support the argument that integrating ESG analysis and conventional financial analysis improves prospects for maximizing sustainable risk-adjusted returns because material information is examined over both the short-term as well as the long-term (Ellsworth & Spaulding, 2013). In 2012, Deutsche Bank Climate Change Advisors reviewed over 100 academic studies on sustainable investing, examining company and fund performance, making it one of the most comprehensive reviews of the literature to date (DB Climate Advisors, 2012). They found that 100 percent of the studies agree that companies with high ratings for ESG factors have a lower cost of capital, suggesting that the market views these companies as low risk compared to other companies and rewards them accordingly. Furthermore, they also found that 89 percent of the studies found companies with high ratings for ESG factors exhibit market-based outperformance.

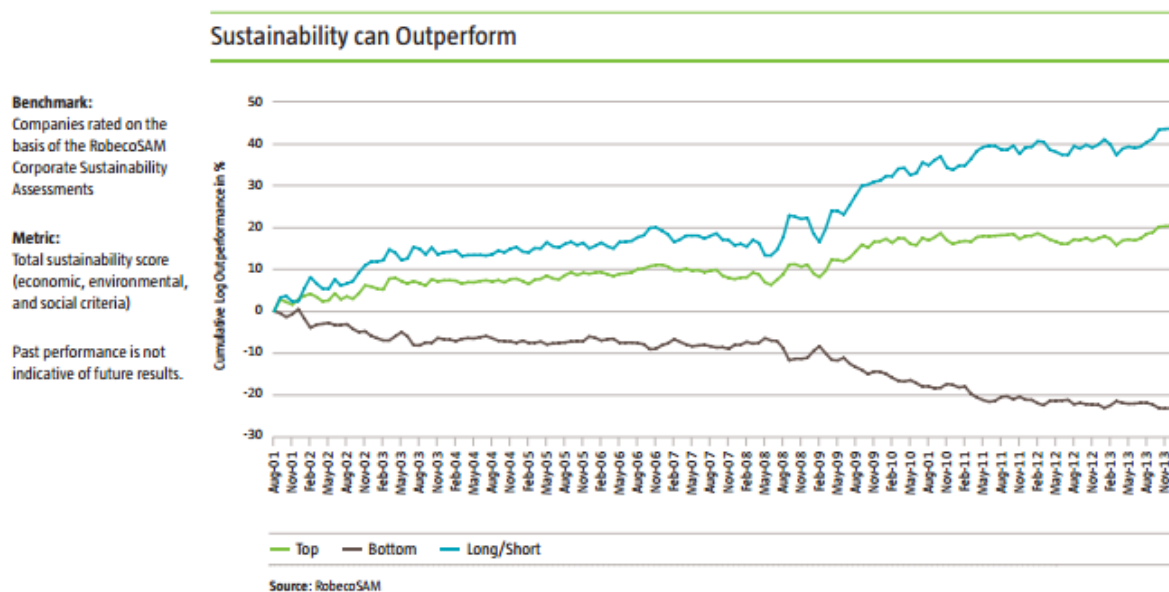
Eccles, Ioannou, & Serafeim (2011) of Harvard Business School conducted an 18-year study (1993-2011) of 180 companies assessing how corporate culture focused on sustainability influences corporate behavior and performance outcomes. They found that corporations that voluntarily adopted environmental and social policies many years ago (i.e., High Sustainability companies) exhibited fundamentally different characteristics from a matched sample of firms that did not adopt similar policies (i.e., Low Sustainability companies) and that High Sustainability companies significantly outperform their counterparts over the long-term, both in terms of stock market and accounting performance. Specifically, “the annual above-market average return for the high-sustainability sample was 4.8 percent higher than for their counterparts and with lower volatility. The high-sustainability companies also performed much better as measured by return on equity and return on assets (Eccles, R. G., Ioannou, I., & Serafeim, 2011).” They found this level of outperformance to be stronger in sectors where the customers are individual consumers instead of companies, companies that compete on the basis of brands and reputation and companies with products that significantly depend upon extraction of a large amount of natural resources.

A study of more than 530 companies per year between 2001 and 2013 that participate in RobecoSAM’s annual Corporate Sustainability Assessment, found that a portfolio of sustainability leading companies

outperformed an overall sample by 1.67 percent annually, while a portfolio of weak sustainability companies underperformed the overall sample by 1.86 percent annually. See Image I below, which illustrates the following:

The green line tracks the cumulative outperformance of Portfolio 1 ‘Sustainability Leaders’ versus the overall sample of companies. The black line tracks the cumulative underperformance of Portfolio 5 ‘Sustainability Laggards’ versus the broader sample. The turquoise line tracks the outperformance of an investment strategy that consists of maintaining the sustainability leaders on a long position and short-selling the sustainability laggards (RobecoSAM, 2014).

IMAGE I. RobecoSAM - Sustainability Performance (2014)



	Portfolio 1 Sustainability Leaders	Portfolio 5 Sustainability Laggards	Long/Short (Pf. 1 vs. Pf. 5)
Outperformance (p.a. in %):	1,67	-1,86	3,60
Tracking Error (in %):	3,05	2,56	4,82
Information Ratio:	0,55	-0,73	0,75
T-Stat:	1,96	-2,53	2,66

Terminology

Outperformance (p.a. in%) refers to the average annualized outperformance of a given portfolio relative to the overall sample of companies (Portfolios 1, 2, 3, 4, and 5).

Tracking Error (in%) refers to how closely a portfolio follows the wider sample to which it is benchmarked, as measured by the standard deviation of the relative stock returns.

Information Ratio = outperformance/tracking error. This is basically a measure of risk-adjusted returns.

T-Stat in this context is a measure of statistical significance.

The study's findings also refute arguments that sustainability policies erode financial performance, concluding that:

Overall, the findings of this research provide us with credible evidence that firms that adopt corporate sustainability best practices are not contradicting or neglecting their primary objective, which is to maximize the profits of their shareholders. On the contrary, it would appear that the puzzle of corporate financial performance broadly encompasses both financial and extra-financial considerations. Investing in sustainability leaders ultimately contributes to superior long-term investment results with improved risk-return profiles (RobecoSAM, 2014).

RobecoSAM (2014) further bolsters the business case for investment by identifying how sustainability must translate into financial performance. Specifically, the report notes that sustainability must impact either (1) the amount of cash flow generated by the company or (2) the cost of external financing to the company (i.e. weighted average cost of capital). Free cash flow is a function of revenues and expenses as well as taxes and reinvestment rates. The weighted average cost of capital is a function of short-term interest rates and risk premiums a company must pay to acquire equity, debt financing, and cash. RobecoSAM (2014) go on to discuss the main theoretical arguments that support the business case for sustainability, which are identified below.

- *Stakeholder Management:* Companies that proactively engage stakeholders should see a positive financial impact because they are working to address and resolve competing stakeholder concerns. In contrast, companies that fail to address stakeholder concerns are likely to have low investor confidence in their stock, which impacts the cost of financing and therefore reducing profitability.
- *Reputational Benefits:* Sustainable companies can gain reputational benefits and increase brand value which can enable them to (1) attract and retain talented employees, (2) boost the sale of sustainable goods and services, and (3) improve relationships with investors as well as attract credible trading partners and suppliers.
- *Enhanced Operational Efficiencies:* Sustainable companies tend to undergo structural changes that may enable competitive advantages.
- *Long-term Perspective:* Companies that prioritize sustainability emphasize long-term corporate objectives over short-term profits, which can lead to more stable earnings growth and less downside volatility.

These arguments are further bolstered by Husted, Allen and Kock’s (2015, 2012) exploration of how corporate social action creates economic value through strategic social planning and strategic social positioning. “Generally speaking social strategy creates economic value for the firm via improved firm reputation, product differentiation or process innovation (Husted, Allen and Kock; 2015, 2012).” They limited their assessment to firms that deliberately designed projects and measured strategic investments and outcomes, while excluding those that did not. The authors coin this type of behavior as “social strategy,” the act of developing a “portfolio of intentional, profit-seeking social projects.” Husted, Allen and Kock (2015, 2012) provide a table of terms and definitions, shown below in table I, with appropriate citations, relevant to understanding social strategy. Their work shifts the discussion away from controversial concepts associated with CSR and SRI to one of social strategy while also broadly emphasizing “economic value creation” instead of narrower concepts of financial performance. It also reminds readers that ESG measures can be viewed purely as a form of business strategy.

TABLE I: Relevant Terms for Understanding Social Strategy

Term	Definition	Source
Social Project	A combination of human and nonhuman resources organized temporarily to achieve a specific objective	Cleland and King (1988)
Social Strategy	Portfolio of intentional, profit-seeking social projects	Husted, Allen and Kock (2012)
Value Creation	Combination of resources in new ways in order to increase the productivity of those resources	Moran and Ghoshal (1999); Schumpeter (1934); Andrews (1987)
Planning	Defining a program and agenda for action, including the investment of financial and human resources, and the measurement of outcomes	Andrews (1987)
Positioning	Extent to which firms are proactive in responding to social issues vis-à-vis their competitors	Clarkson (1995); Meznar and Nigh (1995)

Dynamism	The perceived difficulty in predicting external events that may affect the competitive environment	Aldrich (1979); Delmas, Russo, and Montes-Sancho (2007)
Munificence	Availability of resources to support growth	Castrogiovanni (1991, 2002); Dess and Beard (1984); Koka, Madhavan, and Prescott (2006); Staw and Sz wajkowski (1975)
Stakeholder Salience	The degree to which managers give priority to competing stakeholder claims.	Mitchell, Agle, and Wood (1997)
Stakeholder Integration	The ability to establish trust-based collaborative relationships with a wide variety of stakeholders	Sharma and Vredenburg (1998)
Continuous Innovation	Ability to experiment and continuously improve social projects, impacts, and stakeholder relationships	Hart (1995); Sharma and Vredenburg (1998)
Social Responsibility Orientation	A company's commitment to participating in the solution of social problems	Goll (1991); Goll and Sambharya (1995)
Participative Decision Making Orientation	A proactive search for opportunities, participation, analytic decision tools, open communication channels, and participative consensus-based decision making	Goll and Sambharya (1995)

Ceres and other likeminded NGOs argue that findings like these support the case for investors with broad market exposure to not only invest in companies that have implemented sustainability strategies, but also to actively engage companies in their investment portfolio that have not yet done so or have only made cursory progress.

Investor Strategies

Despite the aforementioned challenges, sustainable investors are leveraging a variety of tools and strategies to harness the opportunities while being constantly influenced by a network of diverse NGOs with the objective of promoting more socially and environmentally responsible corporations. The following provides a brief review of some of these tools and strategies that can help influence corporate practices, policies and investment decisions.

Direct Engagement or Coalition Building

One strategy for investors is direct engagement through letter writing and constructive dialogue. Such engagement is often the result of a coalition building strategy with industry, nonprofits, and even government agencies to increase corporate social and environmental responsibility (As You Sow, 2015C). These investor-led coalitions educate and encourage companies to adopt policies and practices with positive environmental and social impacts in order to improve brand reputation and reduce corporate risk. If dialogue alone is insufficient to facilitate change, shareholder resolutions typically follow.

Shareholder Resolutions & Proxy Voting

Shareholders in a publicly traded company, with at least \$2,000 worth of stock for at least one year prior to the filing deadline, are entitled to propose resolutions to company management for a vote at the company's annual meeting (U.S. SIF, 2015; As You Sow, 2015A). Resolutions are placed on the company's proxy statement, and all persons and institutions that own stock in the company can vote at the annual meeting. Shareholders can vote their proxies via mail, internet, phone, or by attending the annual meeting in person, which the majority do not.

Filing a shareholder resolution for consideration can be an effective means for shareholders to encourage corporate responsibility and send a strong signal to management about a high-risk company policy or procedure. Resolutions often urge the company to issue an analytic report or assessment that can lay the foundation for policy changes that may impact a company's bottom line, such as brand reputation. The process can lead to the withdrawal of the resolution, followed by a negotiated dialogue that, if successful, results in the desired change or outcome sought by the filer. Negotiated dialogues can help corporate executives avoid making controversial issues subject to review by all applicable shareholders.

While the vast majority of shareholder proposals are non-binding, resolutions that obtain more than a majority of support are particularly difficult to ignore and can incite additional shareholder concerns if the company fails to respond accordingly (As You Sow, 2015A). Sustainable investors and their

representatives, such as As You Sow (2015A), find that resolutions that obtain at least 20 percent support send a clear message to executives that the company’s policy in question may be too risky or not beneficial to shareholder interests. Resolutions may be offered year after year, gradually increasing support over time, or may be pulled so that the company can address the matter, recognizing growing interest.⁵

Sustainable investors and NGOs often target electric companies for shareholder advocacy. Ceres, for example, tracks shareholder resolutions filed by its investor network participants on sustainability-related issues that companies are facing, focusing on climate change, energy, water scarcity, and sustainability reporting. At the start of 2015, over a dozen resolutions were filed with electric power companies. Table II, below, provides a sampling of the filed 2015 resolutions that target the electric power sector (Ceres, 2015).

TABLE II: 2015 Electric Power Sector Shareholder Resolutions

Company	Resolution Summary	Filer
Ameren Corporation	Adopt an executive compensation incentive policy for GHG reductions	As You Sow
Dominion Resources, Inc.	Issue a shareholder report on the financial risks to the company posed by climate change and corresponding mitigation efforts	Dr. Pamela Morgan
Dominion Resources, Inc.	Adopt quantitative goals for reducing GHG emissions	Mercy Investment Services, Inc.
Dominion Resources, Inc.	Issue a bioenergy report on risks associated with the company’s biomass facilities	Marion Edey
Dominion Resources, Inc.	Add independent board member with environmental expertise	Joy Loving
Dominion Resources, Inc.	Issue a report on efforts to mitigate environmental risk associated with coal ash operations	Ruth Amundsen
Dominion Resources, Inc.	Issue an annual lobbying spending and disclosure report	Bill Fleming

⁵ In order to be resubmitted for consideration by shareholders in the coming year, resolutions need to receive at least three percent support in their first year, at least six percent in their second year, and at least ten percent in their third year of facing a vote (U.S. SIF, 2015; As You Sow, 2015A &B).

Dominion Resources, Inc.	Adopt an executive compensation incentive policy for GHG reductions	Bernice Schoenbaum
Dominion Resources, Inc.	Issue a shareholder report on methane emission reduction targets and disclosure	Robert Van der Hye
DTE Energy Co.	Assess and report on how the company is integrating, or can integrate, distributed generation of renewables into its business model	New York City Office of the Comptroller
Entergy Corporation	Adopt an executive compensation incentive policy for GHG reductions	As You Sow
First Energy Corp.	Quantitative goals for reducing GHG emissions	Calvert Asset Management Company, Inc.
Great Plains Energy Incorporated	Adopt quantitative, time-bound GHG reduction goals and issue shareholder report	As You Sow
MGE Energy	Issue a shareholder report illustrating how the company will provide customers with 25% renewables by 2025	Judy Haight
Southern Company	Adopt quantitative, time-bound GHG reduction goals and issue shareholder report	Sisters of Charity of Saint Elizabeth

Divestiture of Coal and Fossil Assets

An additional approach to sustainable investing seeks to encourage energy companies to divest themselves of coal assets by encouraging institutional investors to cease investment in coal or other forms of fossil fuel. In fact, college and university students have been at the forefront of a national grassroots movement to encourage divestiture of university endowment holdings in coal mining companies or electric power companies that use coal in addition to oil and natural gas (Fossil Free USA, 2015; We Are Power Shift, 2015).

In May of 2014, in response to a student-led petition process, Stanford University's Board of Trustees became the first major university to announce that it would not directly invest endowment funds in coal mining companies and would divest any current direct holdings in such companies (Lapin, 2014; Spross,

2014). Stanford also agreed to recommend to its external investment managers, who invest in a wide range of securities on behalf of the university, that they avoid investments in these public companies. However, the University declined to divest from oil and natural gas companies. Stanford University President John Hennessy explained:

The University's review has concluded that coal is one of the most carbon-intensive methods of energy generation and that other sources can be readily substituted for it. Moving away from coal in the investment context is a small, but constructive step while work continues, at Stanford and elsewhere, to develop broadly viable sustainable energy solutions for the future. (Lapin, 2014; Spross, 2014).

Divestment of coal assets has gained increasing traction in light of pending environmental regulations that could lead to an increase of “stranded assets” or projects that are worth less than investors or companies originally anticipated (Scott, 2014). What should be particularly concerning to the electric power sector is the ease at which divestment of coal could occur compared to other sectors of the fossil industry. Bloomberg New Energy Finance (2014) reports:

Significant divestment from coal would be much easier than significant divestment from oil and gas. Listed coal companies are small enough in aggregate that investors could divest and re-invest without unbalancing portfolios. Oil and gas companies are too large, and too widely held, for divestment to be easy or fast.

Forbes, reflecting on the report, notes that the market capitalization of ExxonMobil alone is \$425 billion or almost twice as large as the entire coal sector – valued at roughly \$234 billion – just five percent of the size of the oil and gas groups (Scott, 2014). As such, domestic coal mining companies and coal heavy utilities should be increasingly conscious of the potential for investors seeking to make a public policy statement by divesting from coal assets.

ESG Financial Products

Through the creation of dedicated investment products that incorporate ESG analysis, investors and money managers have the opportunity to align their investments with broader economic and social values and demands. U.S. SIF's (2014) most recent biennial survey, *The Report on US Sustainable, Responsible and Impact Investing Trends 2014* finds ESG assets have expanded 76 percent in two years: from \$3.74 trillion at the start of 2012 to \$6.57 trillion at the start of 2014. These assets now account for more than one out of every six dollars under professional management in the United States. Specifically, U.S. SIF (2014) has identified significant growth in the amount of ESG assets under management compared to 2012:

- 308 money managers and 880 community investing institutions now manage a combined \$4.80 trillion in ESG assets compared to \$1.41 trillion;
- 480 registered investment companies, including mutual funds, variable annuity funds, exchange-traded funds and closed-end funds, account for \$1.94 trillion in ESG assets compared to \$644 billion; and
- 336 different alternative investment vehicles, including private equity and venture capital funds, responsible property funds and hedge funds, currently account for \$224 billion in ESG managed assets.

For both money managers and institutional investors, climate change remains the most significant environmental factor in terms of assets, affecting \$276 billion and \$552 billion, respectively (U.S. SIF, 2014).

Principles for Responsible Investment

U.S. SIF (2014) concludes that emerging trends over the past two years illustrate that there has been a growing commitment on the part of institutional investors and asset managers to the United Nations-supported Principles for Responsible Investment. These principles outline a global framework for taking ESG considerations into account in investment analysis, decision-making and active ownership strategies. These principles include (UNPRI, 2015):

1. We will incorporate ESG issues into investment analysis and decision making processes
2. We will be active owners and incorporate ESG issues into our ownership policies and practices
3. We will seek appropriate disclosure on ESG issues by entities in which we invest
4. We will promote acceptance and implementation of the Principles within the investment industry
5. We will work together to enhance our effectiveness in implementing the Principles
6. We will each report on our activities and progress towards implementing the Principles

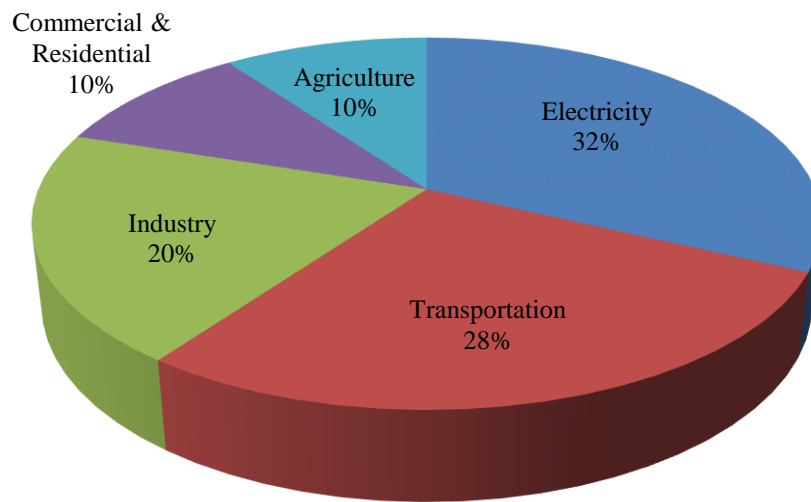
The growth in ESG financial products and markets has, therefore, largely been driven by increased consumer demand for ESG products by institutional investors and individual investors as well as by the mission and values of management firms, according to the latest U.S. SIF report (2014). These trends are expected to continue to grow as consumers, NGOs, and investors demand access to more financial products that take into account the Principles of Responsible Investment.

III. THE ELECTRIC POWER SECTOR

Emissions Profile

The electric power sector is the largest source of domestic GHG emissions (EPA, 2014). See table III below, which identifies the various economic sectors based on their contribution to GHG emissions. The U.S. Environmental Protection Agency (EPA) reports that in 2012, the electricity sector contributed to about 32 percent of GHG emissions, with over 75 percent attributable to coal combustion – the most carbon intensive fossil fuel.

TABLE III: Total U.S. GHG Emissions by Economic Sector, 2012



Source: EPA, 2014

The electric sector is also responsible for about 62 percent of SO₂ emissions, 13 percent of NO_x emissions, and 61 percent of mercury air emissions (MJB&A, 2014). Accordingly, the electric sector has been a leading target for legislative and regulatory efforts to reduce emissions and promote a more sustainable emissions portfolio as well as a target for financial analysts and investors seeking to mitigate risk exposure.

Energy-Water Nexus

Energy and water systems are deeply interconnected and interdependent upon one another. Water is used in all phases of energy production and electricity generation, while energy is required to source and deliver water for use and consumption. This relationship was particularly evident in 2012 when severe drought affected more than a third of the U.S., constraining power plant operations and limiting energy production

(DOE, 2014). Nearly half of all water withdrawn in the U.S. is used for electricity generation and over 75 percent of water used by existing systems is fresh, surface water (DOE, 2014).

Recognizing constraints to power supply and delivery as a result of this interdependence, the Department of Energy (DOE) released a report in 2014 identifying challenges and opportunities associated with the energy-water nexus. The report finds that water scarcity, variability, and uncertainty are becoming more prominent, potentially leading to vulnerabilities of the U.S. energy system (DOE, 2014). To address these challenges, DOE identified the following “strategic pillars” to inform the agency’s role in advancing research oriented solutions (DOE, 2014):

1. Optimize the freshwater efficiency of energy production, electricity generation, and end use systems;
2. Optimize the energy efficiency of water management, treatment, distribution, and end use systems;
3. Enhance the reliability and resilience of energy and water systems;
4. Increase safe and productive use of nontraditional water sources;
5. Promote responsible energy operations with respect to water quality, ecosystem, and seismic impacts; and,
6. Exploit productive synergies among water and energy systems.

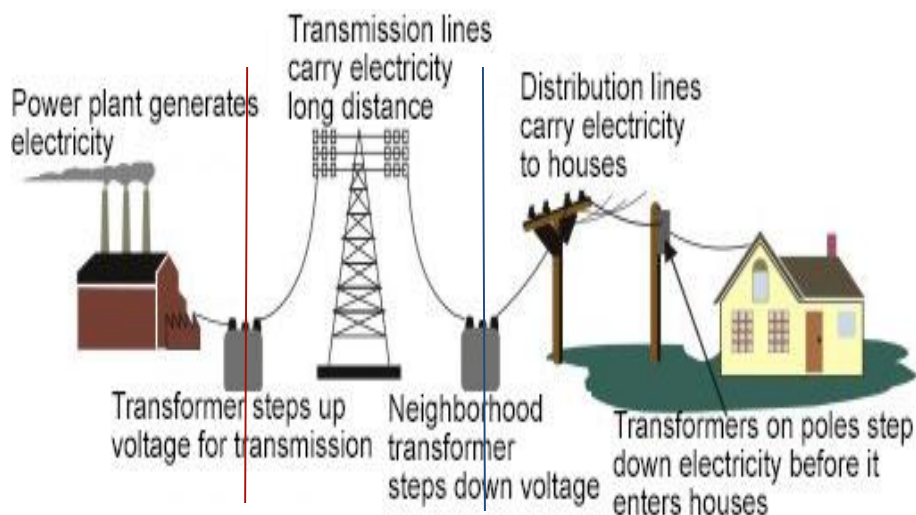
Several different trends are increasing the urgency to address the energy-water nexus in a collaborative and proactive manner. Climate change continues to negatively affect precipitation and temperature patterns across the country while population growth and regional migration patterns indicate continued growth in more arid parts of the country – placing further strain on the management of energy and water systems (DOE, 2014). However, technological solutions and innovations can reduce energy dependence on fresh water sources, improve efficiency in delivery and provide transferable benefits for other countries struggling with energy-water management issues.

These trends should affect investors as they assess electric sector sustainability performance relative to a resource constrained environment. For example, as drought and temperature increases become more prevalent, affecting access to sufficient water supply, all investors will need to assess which electric sector technologies are least dependent on water and/or which companies are investing in sustainable solutions. DOE (2014) notes that, “Investors are interested in the likelihood of different technology penetration scenarios and research and development (R&D) insights.”

Regulatory Structure

Electric power companies tend to be divided by their corporate structure (e.g., vertically integrated utility or independent power producer) and the markets in which they operate (i.e., regulated or deregulated). The history of energy restructuring is beyond the scope of this report but to simplify what this means – the picture below (Texas Office of Public Utility Counsel, 2015) illustrates the basic electricity generation and delivery model for a vertically integrated utility. The red line between generation and transmission is drawn to illustrate how electricity restructuring or deregulation affects this delivery model. The Regulatory Assistance Project’s *Electricity Regulation in the U.S.: A Guide* provides a comprehensive examination of utility regulation, structure, and rate setting, which the following summarizes on a high level basis and supplements from general knowledge for background purposes (Lazar, 2011).⁶

IMAGE II. Electricity Generation, Transmission and Distribution



Under the traditional system of electricity delivery, vertically integrated utilities own generation, transmission and distribution of electricity to consumers and they are regulated by state public utility commissions (PUCs), which are charged with setting the rates they receive for their services. They operate essentially as regulated monopolies and in exchange for providing reliable and affordable electricity service they are guaranteed recovery of their costs in addition to a fair rate of return. However, monopolies are not always the most efficient models, and as such, competition within the electric power sector led to the rise of independent power producers (IPP) or wholesale power providers under a restructured or deregulated market system – these generation entities are not guaranteed cost recovery for their investments and as such can be viewed as riskier than rate-regulated utilities. In sum, restructuring resulted in the spin-off of

⁶ Discussion around consumer or government owned utilities is beyond the scope of this report, which is focused on investor-owned utilities and generators.

wholesale generation from retail distribution services. The blue line in Image II illustrates where retail distribution services begin. All retail rates and distribution services are state regulated, while wholesale power generation and interstate transmission is regulated by the Federal Energy Regulatory Commission.⁷

Thus in addition to the investor community, another key stakeholder group that heavily influences investment decisions for the electric power sector includes regulators, such as state PUCs. When reviewing or approving utility investment decisions and/or cost recovery, PUCs have the implicit and explicit authority to consider a range of diverse and environmentally significant issues related to sustainability, such as facility siting, resource planning and acquisition, energy conservation programs, renewable energy development, and emissions disclosure (Dworkin et al, 2006). This authority can be statutory or part of the general charge that regulation of public utilities furthers the public interest.

Given these dynamics regulators must carefully balance how to provide utility customers with affordable and environmentally sustainable energy services. This can create a difficult balance when PUCs look to approve investments that result in potentially high up-front costs but have long-term benefits. For example, investment in more resilient infrastructure following an extreme weather event can raise cost concerns. While investors may be willing to provide financing for these projects, utilities that depend on cost recovery cannot prudently proceed without approval, or at least an assurance, from the commission that cost recovery will be awarded, which often requires a long term view by the PUC.

Of note, Standard & Poor's (S&P) highlighted the importance of and influence exerted by state utility regulators as utilities retire and retrofit coal-fired power plants, for example, in response to increasingly stringent environmental regulations and industry trends: "Regulated utilities can generally pass these costs on to customers. Plans to meet stricter standards could weigh on credit quality if a utility lacks adequate cost recovery regulatory mechanisms (MJB&A, 2014)." However, utilities that are more sustainable or less vulnerable to the risks associated with stricter environmental standards can reap benefits. Rudden (2012) reminds us:

Regulators might note that, *ceteris paribus*, the benefits of superior stock market performance and lower costs of equity ultimately rebound to both customers and investors. One estimate is that high levels of sustainability performance have created \$20 to \$25 billion or more in market over the last ten years within the investor owned utility sector. This figure will likely grow in the future as utilities sharpen and integrate sustainability practices and policies.

⁷ Transmission assets can be owned by individual utilities, groups of utilities or independent entities (Lazar, 2011).

As such, sustainability leaders are more likely to meet SRI criteria and therefore attract capital at a lower cost of equity (Rudden, 2012).

The National Association of Regulatory Utility Commissioners' (NARUC) annual conferences and committee structure are providing a platform for discussing these challenges and hearing from subject matter experts. For example, at the most recent 126th Annual Meeting, a subset of Commissioners heard from sustainable venture capital firm, DBL Investors, on ways to overcome financing barriers for underrepresented minorities in the sustainable energy profession (NARUC, 2014).⁸ Hearing from sustainable investment firms, such as DBL, on various sustainability-related challenges facing utilities can help Commissioners consider longer-term decision making factors. Additionally, NARUC's Committee on Energy Resources and the Environment serves as one of several targeted venues under the NARUC umbrella for state regulators to discuss ways to "provide utility customers with environmentally sustainable and affordable energy services (NARUC, 2015)."⁹ Thus, committee level engagement with sustainable investors and NGO experts, around a broad range of sustainable energy topics affecting the sector, can help better equip Commissioners with the information needed for longer-term decisions.

Material Sustainability Issues

To address the lack of consensus experienced in the electric sector around sustainability, EPRI convened the Energy Sustainability Interest Group (the Interest Group) in 2008 to provide a collaborative forum for EPRI members to discuss and address sustainability related issues. A significant deliverable from this effort has resulted in a materiality assessment (identification, categorization, and defining) of sustainability issues affecting the electric power sector. To EPRI's knowledge, the project represents the most extensive effort to date to acquire this type of information (Fox, 2013). EPRI identified 15 material sustainability issues (Table IV) grouped into the three pillars of sustainability: environmental, social and economic (Fox, 2013). Issue identification took place during interviews and a literature review of sustainability and corporate responsibility reports by electric power companies as well as other publications such as academic articles and reports.

⁸ DBL Investors is a venture capital firm created from the spin-out of the Bay Area Equity Fund I from JPMorgan in January of 2008. The firm uses venture capital to accelerate innovation in a way that positively affects an organization's social, environmental, and economic impact in the local community as well as its financial success – thus creating what the firm has coined a "double bottom line" or DBL.

⁹ This particular Committee (NARUC, 2015) focuses on "energy efficiency, environmental protection, renewable and distributed resources, consumer protection, low-income weatherization and assistance, and public interest research and development."

TABLE IV: Material Sustainability Issues & Definitions Grouped by Sustainability Pillars

Sustainability Pillar	Material Issues	Definitions
Environmental	<ol style="list-style-type: none"> 1. Greenhouse gas emissions 2. Reductions of other air emissions 3. Water quality 4. Water availability 5. Habitat protection and biodiversity 6. Waste management 	<ol style="list-style-type: none"> 1. Reduction of GHGs 2. Reductions of non-GHG emissions, e.g., NO_x, SO_x, Hg, PM 3. Minimize the impact of producing electricity on water quality (e.g., chemical, nutrient and thermal pollution) 4. Ensuring the short and long-term availability of water for electricity generation and all other uses 5. Preserving natural habitats and the species that depend upon them 6. Preventing and minimizing the impact of electricity generated waste on the environment
Social	<ol style="list-style-type: none"> 7. Public safety and health 8. Employee safety and health 9. Job satisfaction 10. Community support and economic development 11. Engagement and collaboration 	<ol style="list-style-type: none"> 7. Preventing accidents and minimizing the impact of electricity generation, transmission and distribution on long-term public health 8. Safety of utility employees and contractors 9. Maintaining a workforce satisfied with their work and working environment 10. Contributions by electric utilities to their communities through procurement decisions, philanthropy, and volunteerism 11. The value of transparency and involvement of stakeholders in the decision-making process

Economic

12. Energy reliability
13. Energy affordability
14. Skilled workforce availability
15. Economic viability of electric utilities

12. Ensuring uninterrupted supply of electricity for all consumers
13. Ensuring total electricity bills are at affordable levels for customers
14. Maintaining a workforce with the required size and skill profile
15. Long-term financial viability of electric utilities and sustainability of the business model.

A precursor to this effort was a 2011 EPRI report reviewing how the industry portrays its sustainability priorities through corporate reporting and the designation of key performance indicators (KPIs). Of note, EPRI and the Interest Group later questioned whether corporate sustainability reports were an appropriate proxy for estimating the importance of sustainability issues given that some sustainability priorities do not have standard KPIs associated with them. Thus, the 2013 materiality assessment enabled the identification of the most relevant, material sustainability issues to the electric power sector.

While EPRI's research is informative and will help provide a basis for better understanding the material issues that affect the electric power sector, it does not capture the outstanding questions of how the larger investor community may view or value those utilities that seem to best address these issues over those that simply aim to provide business as usual. Furthermore there appears to be fairly limited financial analysis on this sector specific subject matter.

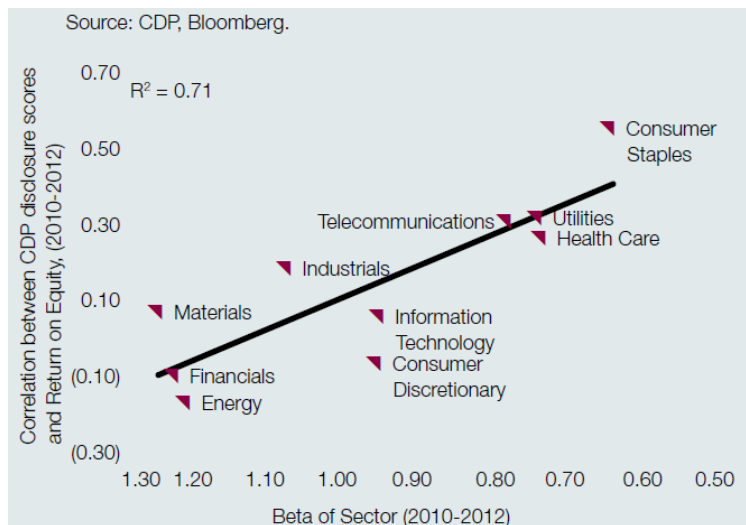
Electric Sector Specific Analytics

CDP Global 500

Sustainable Insight Capital Management and CDP (Khan and Fox, 2013) conducted an analysis of the CDP Global 500 universe of companies and found that corporate leaders on climate change engagement, as measured by industry-relative CDP disclosure scores, generate a superior return on equity, more resilient cash flow generation, and stronger dividend growth than peers. However, an analysis of the report quickly reveals that electric sector data does not appear to have been as closely examined as other sectors. Table V illustrates the correlation by sector between CDP disclosure scores and return on equity

(ROE), one of the limited measures specifically identifying the utility sector. The utility sector is considered a low beta sector, meaning that it is not considered particularly volatile or risky.

TABLE V. Correlation between CDP Disclosure Scores & ROE is Highest in Low Beta Sectors



While this appears to support the case that utilities relative to their CDP scores have a higher ROE than other more volatile sectors, the report itself does not make a specific case for why the utility sector should pursue sustainability planning. In general, analyses seem to generalize corporate sustainability across sectors. This has been a consistent problem.

Griffin and Mahon (1997) assessed 25 years of research examining the relationship between corporate social performance and corporate financial performance. One of their key recommendations was that future research should focus on one industry rather than a broad-based survey of multiple firms in various industries in order to further understand corporate social performance and corporate financial performance in a particular industry context. They noted that such an approach would offer more relevant data and insight into certain outcomes.

Benchmarking Air Emissions

M.J. Bradley & Associates (MJB&A) in collaboration with Bank of America, Calpine, Entergy, Exelon, Public Service Enterprise Group (PSEG), Ceres, and the Natural Resources Defense Council (NRDC) released the 2014 Benchmarking Report ranking the environmental performance of the 100 largest power producers in the United States based on publically reported data to the U.S. Energy Information

Administration (EIA) and the U.S. Environmental Protection Agency (EPA).¹⁰ The report facilitates the comparison of emissions performance by company based on generation and fuel consumption data reported to EIA and emissions data on SO₂, NO_x, CO₂ and Hg reported to EPA. It is intended for a wide audience, including industry executives and power plant managers, environmental stakeholders, financial analysts and investors, journalists and public policymakers. Of particular relevance to this analysis, the report and its corresponding data can be used by investors to assess the costs and business risks associated with the environmental performance of investments as well as by electric companies to assess corporate performance relative to key competitors, prior years, and industry benchmarks.

While financial evaluation of environmental performance data relative to SO₂, NO_x and Hg may be a “relative routine corporate practice,” disclosure of CO₂ related performance is increasingly gaining attention (MJB&A, 2014). In fact, MJB&A (2014) reminds readers:

A turning point in corporate disclosure of CO₂ impacts occurred with the U.S. Securities and Exchange Commission’s (SEC) issuance, in January 2010, of interpretive guidance concerning corporate climate risk. Since the issuance, all publicly-traded companies in the U.S. are required to disclose climate-related “material” effects on business operations – whether from new emissions management policies, the physical impacts of changing weather or business opportunities associated with the growing clean energy economy – in their annual SEC filings.

However, despite the SEC guidance some companies still do not mention climate change in their annual form 10-K filings and as such some stakeholders are calling for strengthening of the requirements around climate-related risk disclosure (MJBA, 2014).

For the electric power sector, MJB&A (2014) highlights the importance of benchmarking environmental performance for investors, particularly in light of inconsistent or piecemeal corporate disclosure practices:

Changing environmental requirements can have important implications for long-term share[holder] value, depending on how the changes affect a company’s assets relative to its competitors. Especially in the context of climate change, which poses considerable uncertainty and different economic impacts for different types of power plants, a company’s current environmental performance can shed light on its prospects for sustained value.

In recognition of these factors rating agencies such as Moody’s Investors Service and S&P have issued reports analyzing the credit impacts of climate change for the power sector (MJB&A, 2014). While

¹⁰ Emissions data rankings compiled for the Benching Marking report can be found in the appendix.

mainstream financial firms such as Citigroup and Sanford C. Bernstein have issued reports evaluating the company-specific financial impacts of different regulatory scenarios on electric power companies and their shareholders (MJB&A, 2014).

Furthermore, electric companies themselves can benefit from analyzing the benchmarking data as a form of corporate self-evaluation, which can influence corporate policy development and general business planning. The data helps reveal environmental risks and opportunities (MJB&A, 2014). Risks that could have financial implications include: loss of competitive advantage, decrease in asset value due to policy changes, reputation and exposure to future litigation. While business opportunities include: increasing the competitive advantage or productivity of existing assets, potential to generate or enhance revenues from emission trading mechanisms and increasing market share by diversifying into clean energy.

The report provides an insightful look into environmental performance by compiling available data; however, it does not cover the financial or economic aspects of performance and could be strengthened by incorporating some long-term financial metrics for comparison. While that may not necessarily imply correlation, it could help illuminate insightful market and economic trends affecting individual companies.

Benchmarking Clean Energy Deployment

Ceres and CleanEdge released an inaugural 2014 benchmarking report comparing the clean energy and energy efficiency performance of the 32 largest investor-owned utility holding companies in the country. The report represents a “first-of-its-kind” attempt to address the lack of centralized information on how domestic utilities rank with respect to clean energy deployment. Analysts assembled data from a variety of sources, including state Renewable Portfolio Standard (RPS) annual reports, SEC 10-K filings and PUC reports. The report “fills a knowledge gap by offering utilities, regulators, investors, policymakers and other stakeholders consistent and comparable information on which to base their decisions. And it provides perspective on which utilities are best positioned in a shifting policy landscape that includes the Environmental Protection Agency’s newly released carbon pollution limits for existing power plants (Ceres & CleanEdge, 2014).” The top and lowest ranked utilities can be found below in Figures ES-1 and 2 (Image III).

IMAGE III. Ceres & CleanEdge Utility Rankings

Figure ES-1: Top Ranked U.S. Investor-Owned Electric Utilities on Clean Energy Deployment

Utility Rank	Renewable Energy Sales (% of 2012 retail electric sales)	Cumulative Annual Energy Efficiency (% of 2012 retail electric sales)	Incremental Annual Energy Efficiency (% of 2012 retail electric sales)
1	NV Energy (21.08)	PG&E (17.18)	Pinnacle West (1.77)
2	Xcel Energy (18.11)	Edison International (16.87)	Sempra Energy (1.67)
3	PG&E (16.87)	Northeast Utilities (16.46)	Portland General Electric (1.47)
4	Sempra Energy (16.86)	Sempra Energy (12.54)	Puget Sound Energy (1.47)
5	Edison International (16.67)	Xcel Energy (10.62)	Northeast Utilities (1.46)

Source: Ceres and Clean Edge, for data sources see Appendix B.

Figure ES-2: Lowest Ranked U.S. Investor-Owned Electric Utilities on Clean Energy Deployment

Utility Rank	Renewable Energy Sales (% of 2012 retail electric sales)	Cumulative Annual Energy Efficiency (% of 2012 retail electric sales)	Incremental Annual Energy Efficiency (% of 2012 retail electric sales)
28	Entergy (0.64)	PSEG (0.90)	Southern Co. (0.21)
29	AES (0.53)	SCANA (0.84)	FPL (0.19)
30	Dominion Resources (0.52)	Pepco Holdings (0.73)	Entergy (0.06)
31	Southern Co. (0.05)	Dominion Resources (0.41)	PSEG (0.05)
32	SCANA (0.0)	Entergy (0.13)	Dominion Resources (0.03)

The report is beneficial to investors with a strong interest in which utilities may be more financially viable as the sector transitions towards more sustainable business models. Specifically, the report notes that the broader financial community, including investors in the electric industry, is continually seeking new and improved metrics for evaluating the financial, environmental and social performance of electric utility companies. In fact, “investors are becoming increasingly attuned to how investor-owned electric utilities are adapting to disruptive challenges facing the sector and the extent to which utilities are modernizing their business models to enhance profitability and minimize risk of financial loss (Ceres & CleanEdge, 2014).” Furthermore, electric power companies can benefit from the analysis by obtaining a better understanding of how their peers are performing and how advanced technologies, state policies and innovative rate mechanisms may help create shareholder value. Arguably, “utilities making significant and increasing investments in clean energy resources and infrastructure are...better positioned for greater profitability as public policies to reduce carbon emissions take hold (Ceres & CleanEdge, 2014).

Ceres and CleanEdge (2014) conclude from their analysis that wide disparities exist with respect to which electric utilities currently deliver renewable energy and energy efficiency. For example, five of the 32 companies assessed accounted for over 50 percent of renewable energy sales. Additionally, there are discrepancies between utility benchmarking performance and actual-on-the-ground actions, calling into question shortcomings with data quality and benchmarking efforts. For example, at least one company has taken public credit for energy savings without being involved in the actual efficiency projects. Thus, better, more up-to-date data is needed in order to form a complete picture of how to compare utilities based on their clean energy and efficiency performance.

The report helps address a coverage gap for a subset of utilities, but again fails to draw any particular financial or economic implications beyond merely indicating the potential to help drive investor awareness in performance. Obtaining a better understanding of the current financial performance of some of the top ranking companies versus those at the end of the ranking could provide some insight into the extent of economic performance associated with being a greener or more efficient operation.

Roadmap for Sustainability: Electric and Gas Utilities Progress

Ceres and Sustainalytics (2014) analyzed ESG performance data for 35 electric and gas utilities as part of a multi-sector sustainability analysis of 613 large, publicly traded U.S. companies. The report does not benchmark companies, but rather utilizes a tiered system to demonstrate relative company performance towards the degree at which companies are making progress towards meeting the expectations identified in the Ceres Roadmap for Sustainability (2010):

- Tier 1: Setting the Pact;
- Tier 2: Making Progress;
- Tier 3: Getting on Track; and
- Tier 4: Starting Out.

CERES ROADMAP EXPECTATIONS

(1) Governance for Sustainability:

Companies should embed sustainability into the core building blocks of management and board structures, goal-setting, and strategic decision-making.

(2) Stakeholder Engagement: Companies should proactively engage in robust dialogue with stakeholders across their entire value chain and should integrate feedback into strategic planning and operational decision-making.

(3) Disclosure: Companies should regularly report on sustainability strategies and performance. Disclosure should include credible, standardized, independently verified metrics encompassing all material stakeholder concerns, and detailed goals and plans for future action.

(4) Performance

Operations: Companies should invest the necessary resources to achieve environmental neutrality and to demonstrate respect for human rights in their operations. Companies should measure and improve performance related to GHG emissions, energy efficiency, facilities and buildings, water, waste, and human rights.

Supply Chains: Companies should require their suppliers to meet the same environmental and social standards as the company has established for itself. Companies should establish sustainable procurement criteria, catalyze improved supplier performance, and facilitate disclosure of suppliers' sustainability information.

Employees: Companies should make sustainability considerations a core part of recruitment, compensation, and training, and should encourage sustainable life choices.

Ceres Roadmap (2010) expectations are identified in the side bar. Additionally, the specific key findings identified in the report for the electric sector can be found in the appendix while a high level summary of the key findings is briefly discussed below (Ceres & Sustainalytics, 2014).

Based on the subset of companies that participated in the survey most have taken steps to incorporate board-level or c-suite oversight of ESG factors; however, there appears to be limited accountability at the management level, implying a lack of cross-functional engagement across teams or corporate offices. Electric companies are also lacking in terms of integrating clear evidence of stakeholder engagement into their operations. Of interest, companies are however increasingly improving investor engagement by referring to sustainability risks and opportunities in at least two modes of investor communications, recognizing the growing interest from the financial community in these matters. This bodes well for disclosure trends within the sector, as companies are increasingly including material sustainability issues that are not compliance driven, in financial filings.

Performance expectations encompass three separate categories: operations, supply chain and employees. While a majority of electric power companies surveyed have a program in place to reduce their GHG emissions they are lagging behind in setting actual quantitative, time-bound targets for which they can be held accountable. Furthermore, they are falling behind in adequately addressing exposure to water risks in their operations. Despite having seen

an increase in companies establishing social standards for suppliers, the sector could stand to improve supply chain engagement. The majority of companies appear not to have any system in place for sustainable supply chain management and very few companies have adopted standards established by the International Labor Organization. However, more companies are providing their employees with basic information on sustainability performance, but very few are systemically embedding sustainability into company-wide training and education efforts. Each of these categories represents an opportunity for electric sector performance improvement.

Ceres & Sustainalytics (2014) have provided an industry snapshot of how some electric sector companies are incorporating or not incorporating ESG metrics into the business operations and performance – and as such are making progress towards or alternatively have room for improvement in meeting the Ceres Roadmap for Sustainability (2010). However, yet again, discussions regarding financial implications or metrics that illustrate Tier 1 or Tier 2 companies are better off financially as a result of incorporating these policies and practices are missing.

While there are various studies demonstrating a positive relationship between strong ESG performance and financial performance, as previously discussed, the electric sector correlation is not as distinct. Accordingly, engaging with investors and ESG analysts directly may enable a thoughtful assessment of just how important or valuable ESG practices are as a measure of economic or financial success. It may also help better illuminate how best to create economic value through specific targeted approaches to corporate sustainability (Husted, Allen and Kock; 2015, 2012). Thus the following analysis includes multiple or collective case studies developed from one-on-one interviews with investors and ESG analysts that have made sustainable investment a key focus of their business portfolios and practices. While the initial focus for this assessment was limited to investors, it became clear that a broader range of perspectives was necessary to help create a more illustrative approach to assessing electric sector sustainability performance.

IV. OBSERVATIONS: INVESTOR & ANALYST PERSPECTIVES

Methods

The utilization of multiple case studies and a qualitative analysis of key themes gleaned from the interviews should provide insight into how the electric sector is viewed by key financial stakeholders while also serving as a resource for electric power companies and their stakeholders as they weigh the pros and cons of sustainability as business strategy. A case study methodology was appropriate for this particular analysis as it enables an “in-depth understanding” of a small number of cases set in their “real-world contexts (Yin,

2012).” Furthermore, because my research is seeking to answer both descriptive - *what is happening and what has happened* – as well as explanatory questions – *how or why did something happen* – the case study methodology is one of the most appropriate methods to guide my research (Yin, 2012).

As indicated above, in addition to investor perspectives, this assessment also features perspectives on electric sector ESG performance from research analysts that provide ESG analysis and support for investors. The need to broaden the scope of my research became apparent throughout the literature review process.

Human Subjects Research Exemption

The Duke University Office of Research Support approved my request for exemption from review on December 22, 2014. Per my protocol, I obtained written consent from investors and analysts that served as my interviewees. I have also developed an anonymous identification scheme in order to protect the identities of the individuals that did not want to disclose their company’s name.

Data Collection

I consulted with a colleague at Ceres to obtain feedback and insight into the scope of my interview questions. Investors were asked the following questions about their organization’s sustainable investment strategy for the electric power sector; these questions were slightly retooled for analysts and adjusted as appropriate for individual circumstances:

1. Could you please describe the key elements (e.g., economic and market analysis, ESG analysis, financial analysis and portfolio construction) of your company’s sustainable investment strategy regarding electric sector holdings?
 - a. How does your organization integrate ESG analysis into its traditional financial analysis?
 - b. How does your organization measure successful ESG performance within the electric power sector?
(What is considered successful ESG performance within the electric power sector?)
2. What methods of disclosure (e.g., Global Reporting Initiative, Carbon Disclosure Project, Integrated Reporting, Corporate Sustainability Report, etc.) does your organization prefer?
3. How does your organization benchmark or rank electric companies based on disclosure of ESG performance?
4. What trends has your organization identified relative to electric power companies with higher performing ESG scores/indicators and financial performance?
5. Does your organization assess ESG factors relative to electric sector infrastructure investments or research and development opportunities you may consider financing?
 - a. If yes, do you provide more favorable terms for more sustainable companies?
 - b. How is this distinction drawn?

6. In making electric sector investment or financing decisions how do you factor in the market design (i.e., regulated or deregulated) in which they operate and the structure of the company (i.e., vertically integrated utility or independent power producer)?
7. How does your organization encourage electric sector companies to become more sustainable (e.g., shareholder resolutions, direct requests, collaboration with other investors, engage with exchanges, engage with regulators, etc.)?
 - a. Which approaches do you find to be the most successful for driving change?
 - b. What types of outcomes (i.e., environmental, economic, social or governmental) have you noticed as a result of this type of engagement?
8. How does your organization evaluate electric sector public policy positions on sustainability in making investment decisions?
9. How does your organization evaluate electric sector participation in trade associations in making investment decisions?
10. What do you consider to be the key emerging trends affecting the electric sector and their regulators?
11. Do you have any additional information or insights you might want to share relevant to this study that I have not asked about?

Selection of Interview Subjects

I conducted one-on-one interviews with sustainable investors and financial analysts. A colleague at Ceres provided the contact information for several investors that would potentially be inclined to speak with me regarding the scope of my project. Additionally, I was able to find contact information for U.S. SIF's institutional members through their publicly accessible Financial Services Directory. Searchable categories included: institutional investors, research and index providers, investment consulting firms, investment management firms, venture capital and private equity firms as well as several other options. I sent inquiry emails to the contacts provided by Ceres and to members in the directory. I sought to schedule telephone interviews with responsive individuals over the month of March 2015.

One limitation of this approach is that interviews are limited to a network of sustainable investors and analysts. This may add a bias by profiling investors and analysts that already believe in ESG performance as a critical means of assessing a company's overall value but will nonetheless offer insight into the diverse range of perspectives held by sustainable investors and analysts. While there were many similarities between my interview subjects, many differences also emerged that help illustrate the inherent complexities between different types of sustainable investors and analysts. As such, interview subjects included investors that have made a strategic decision to exclude electric power holdings from their portfolios as

well as investors that have screened out certain categories of utilities, such as those with nuclear or coal holdings. Some interview subjects also sought to differentiate between proactive, affirmative investment strategies that seek out sustainable solution-oriented companies as opposed to investors that have implemented traditional negative screening practices – while many appear to include a blend of both approaches. With respect to analysts, I was able to interview one global ESG firm with coverage of a broad range of sectors as well as one more narrowly-focused domestic ESG firm providing electric sector specific services. Unlike my approach to outreach for investors, I learned about the latter analyst from a professor and placed a phone call directly with the firm requesting their participation in my research.

Of note, based on responses to my informed consent form some interview participants were willing to speak with me but did not want the name of their organization disclosed. As a result, Table VI (below) sets up an anonymous identification scheme in order to respect participant wishes regarding disclosure. In addition to the anonymous case study identifier – which will be used throughout the remainder of this research paper – a description of the organization is included along with the participant’s name, title and/or company based on the confidentiality needs stated in their informed consent forms. A column identifying any additional information analyzed to supplement the one-on-one interviews is also included.

TABLE VI: Case Study Participants - Anonymous Identification Scheme

ANONYMOUS CASE STUDY IDENTIFIER	DESCRIPTION OF FINANCIAL STAKEHOLDER	TITLE, COMPANY	ADDITIONAL INFORMATION REVIEWED
Investor A	Investment Management Company, Mutual Fund	Senior Vice President for Sustainable Investing	Website
Investor B	Investment Management Company, Pension Fund of the United Methodist Church	Manager, Sustainable Investment Strategies; Wespath Investment Management	Website
Investor C	Investment Management Company	Director of Shareholder Advocacy; Calvert	Website
Investor D	Asset Management Firm	Director; Impax Asset Management	Website
Investor E	Asset Management Firm	Senior ESG Analyst; Walden Asset Management	Website
Analyst A	Global Responsible Investment Research Firm	Chief Utility Analyst	Website
Analyst B	Electric Sector Specific Investment Research Firm	Co-Founder & Managing Partner, Target Rock Advisors	Website

Case Studies

Investor A, Family of Mutual Funds

Investor A's company was originally founded with the intent of providing investors an opportunity to align their investments with their values while also challenging corporations to be more socially and environmentally responsible. The company launched one of the first publically available mutual funds in America to use social as well as financial criteria in the investment decision-making process. Since its founding, the company has evolved into one of the leading sustainable investment entities in the country with the full integration of ESG factors into investment analysis and decision making processes. I had the opportunity to interview the company's Senior Vice President for Sustainable Investment.

The company has a four pronged approach to investment that is applicable across all companies, inclusive of the electric power sector, described below as adapted from their website and our interview:

1. Economic & Market Analysis
 - a. Conducted under the direction of the company's Chief Investment Strategist, it consists of a top-down, qualitative and quantitative analysis to identify macroeconomic investment themes that can guide sector allocation and security selection.
 - b. Recent themes have included global economic recovery, commodity pricing, climate change and the depletion of natural resources, among others.
2. Fundamental Financial Analysis
 - a. Rigorous financial analysis is conducted for equities and fixed income under the oversight of the Investment Management Team. In addition to the company's own proprietary research it relies on insights from independent research and data collection firms as well as major sell-side research firms.
 - b. The company typically seeks to invest in Growth at Reasonable Price stocks while assessing a variety of financial metrics.
3. ESG Analysis
 - a. The company also evaluates companies based on ESG factors in order to obtain additional insight into factors that can influence a company's stock performance.
 - b. Electric power companies are evaluated on the basis of unique sector specific factors in addition to general ESG criteria and then benchmarked against their peers for performance.
4. Portfolio Construction

- a. Portfolio construction and management are primarily based on actively weighting regional and sector allocations against a fund’s underlying benchmark along with a thorough analysis of the risks associated with these weightings.

With respect to ESG analysis, Investor A stated that the company is essentially, “looking at risks and opportunities that the market may not recognize as well.” According to the firm’s website, they generally seek to invest in companies that are developing innovative solutions to global sustainability challenges, promoting gender diversity and investing in sustainable infrastructure among other factors. For example, the company invests in projects that include energy efficiency, renewable energy finance, consumer financing for sustainable technologies, climate change mitigation and nature resource conservation. Drilling down more specifically to the electric power sector, Investor A notes that key factors for consideration include: (1) GHG emissions; (2) environmental footprint, inclusive of air emissions and water impacts; (3) safety; and (4) human capital development.

Investor A is looking for companies with “a less than average dependence on coal” and assesses “leaders and laggards” on every material variable. In order to best assess this, the firm uses MSCI’s ESG Intangible Value Analysis to assess company policies and performance on key issues as well and MSCI’s ESG Impact Monitor Analysis to review company actions over the prior three year period that may better illustrate risk factors. Investor A relies on rankings done by MSCI and occasionally does an overlay of its own.

Investor A also engages in shareholder advocacy and public policy engagement with companies to improve their ESG performance. For example, the company advocates before the SEC and other government regulators to encourage publically traded companies to achieve higher levels of disclosure, transparency and sustainability. Of note, Investor A shared during our interview that, “The way we intervene in public policy is in ways that level the playing field and make all companies more sustainable or at least make all companies report on sustainability.”

Investor B, Pension Fund of the United Method Church

Investor B is the investment management division of the General Board of Pension and Health Benefits of The United Methodist Church. With over \$20 billion in assets under management, the General Board is recognized as the largest faith-based benefit plans administrator and pension fund/investment asset manager, and based on assets under management it is among the top 100 pension fund in the U.S. In operation since 1908, this financial services institution has served individuals and United Methodist Church-affiliated organizations with the administration of pension plans and the management of pension

plan assets. Of note, Investor B was the only faith-based institution to be invited as a founding signatory of the UN's Principles for Responsible Investment in recognition of the fund's global leadership in sustainable investment practices focused on ESG factors. I had the opportunity to interview the Manager of Sustainable Investment Strategies.

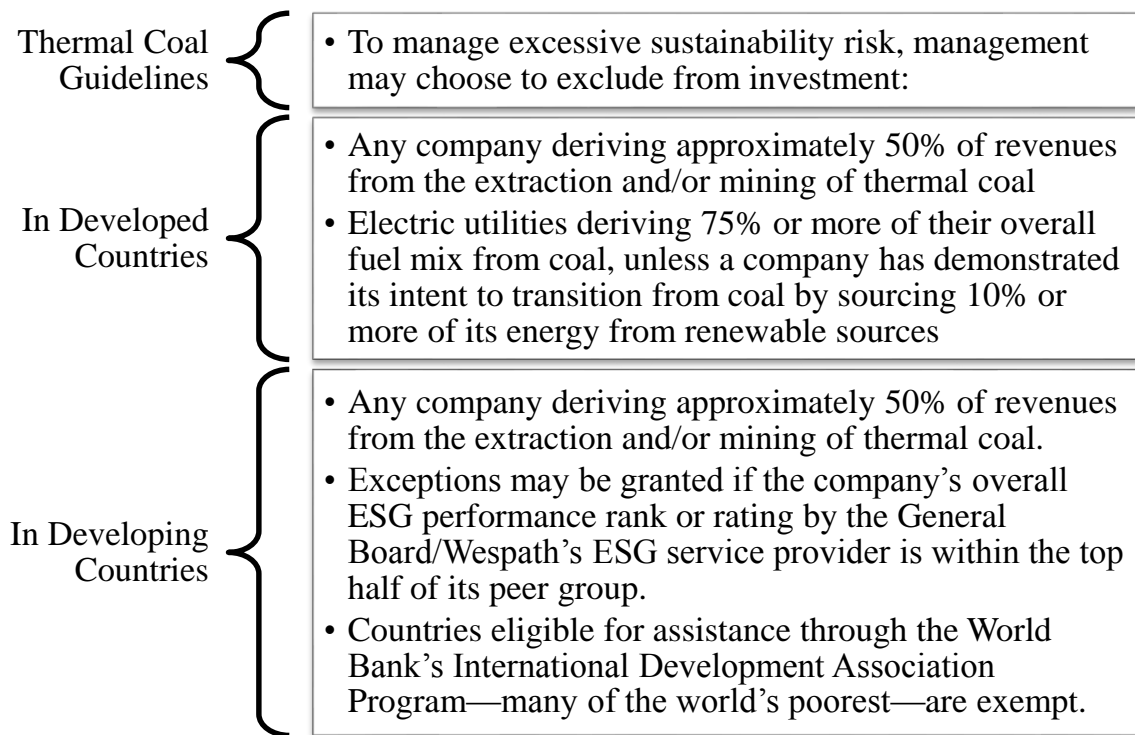
Investor B stated, "As a church fund we are a faith based investor so therefore we are concerned about issues that are of concern to both shareholder value and the church." However, they are also a "universal owner" with investments occurring across all sectors, including utilities. As such, each potential investment is screened against church values, shareholder values and other applicable guidelines. For example, Investor B will not invest in companies that exceed a 10 percent screening threshold for revenue generated from gambling, alcohol, tobacco, and weapons.

Investor B subscribes to an ESG research provider in order to obtain a full profile of each potential investment's ESG profile as viewed under the umbrella of "risk" mitigation. Most common risks associated with electric sector investments tend to relate to environmental and community risks. For example, there are instances where communities have prevented the opening of a coal-fired power plant, thus making them a risky near-term or future investment. Of note, the investor also relies on an external portfolio manager, who makes the final buy and sell decisions based on financial metrics.

Of note, in 2014, the board of directors established a new policy on the "Management of Excessive Sustainability Risk" to assist in identifying and managing ESG-related risk. The policy takes a long-term view recognizing that there may be instances in which a particular issue, set of companies, and/or industries pose high levels of risk to investors. In those circumstances the new policy empowered the board to approve investment guidelines that inform the execution of Investor B's active ownership strategy. Investor B explained that the, "Management of Excessive Sustainability Risk puts into writing our long held belief that ESG factors can impact a company's financial performance and in cases where we think that the risk is excessive we then have the option to write a supplementary guideline to help us decide whether we want to engage the company in dialogue or if we think the risk is so great we would exclude it from the portfolio." That same year, consistent with the newly adopted policy, the board established a set of guidelines on climate change specific to thermal coal (see text box below).

The guidelines were supported by internal research indicating a trend away from electricity generated from coal, which is the most carbon intensive fossil fuel, as well as an expectation that coal will become heavily taxed or phased out over time in favor of alternative sources in many markets. Investor B's analysts anticipate that such research further support a deterioration in the value of securities in companies that derive a significant portion of their revenues from the production and consumption of thermal coal. During

our interview, Investor B stated, “We did the financial analysis on thermal coal, we think this is a guideline that is fiduciary-led but environmentally-supported, gets at both shareholder value and church value.”



Pursuant to the newly adopted guidelines, if 75% or more of a utility’s fuel mix comes from thermal coal Investor B will exclude it from their portfolio unless the utility is getting 10 percent or more from renewables. Of note and related to their faith-based values, Investor B draws a clear distinction in applying the electric sector-specific thermal coal guidelines only to developed nations: “We distinguished between developed nations and developing nations...in developing nations access to electricity is a critical factor in poverty alleviation so we did not feel it was appropriate to apply the guideline in developing nations.... In developed nations, though, we think they have enough access to resources to be moving towards more carbon friendly or climate solutions.”

In addition to mitigating risk, Investor B is also looking to identify which electric power companies are leveraging investment opportunities around renewables, for example. In essence, they are interested in how companies are seeking to mitigate climate change and promote long-term growth in the process. Providing further context, “In addition to looking for risk, another piece of that is what they [utilities] are doing to promote renewables or find investments in renewables...We are looking for opportunities to promote the low carbon economy.”

Investor B also participates in shareholder advocacy and public policy engagement with other companies to help improve their ESG performance. With respect to the thermal coal guidelines, Investor B will proactively engage with utilities in their portfolio that obtain less than the 75 percent threshold from thermal coal for their fuel mix. As this is a new guideline, they are currently in the process of analyzing utilities in their portfolio and identifying which ones to engage with. Engagement would likely be around sustainability performance or GHG emissions and identifying opportunities for mitigation. From past experience, Investor B has found that discussions with electric power companies around GHG emissions were more complicated than when engaging on other issues, such as energy efficiency, due to the lack of federal regulations or laws. Companies were fearful of being first movers as they wanted public policy signals prior to making significant capital investments.¹¹ Also of note, while Investor B does not factor a utility's participation in trade associations or their public policy positions into making investment decisions, it does consider these factors in its engagement decisions.

Investor C, Investment Management Company

Investor C is a leading sustainable investment management company that assesses ESG performance across all sectors and fully integrates ESG and financial analysis into its processes. I had the opportunity to interview the firm's Vice President of Shareholder Advocacy.

For the utility sector, the firm wants to see policies and programs in place that address material issues for the sector such as GHG emissions, efficiency, safety and water use. The company also has a prohibition against investments in nuclear power due a range of environmental (e.g., safety, waste, Fukushima) and economic (e.g., over budget, financing difficulties) issues. Investor C seeks to invest in companies that have a good environmental track record, minimal accidents or spills, active reporting/disclosure, and a fuel mix that is trending away from coal. On the social side, the company wants to see metrics for safety, community engagement, health and safety certifications, loss time, and fatalities. Climate change and risk mitigation are also major driving factors for the firm. According to the firm's website, "From investment policy to securities analysis to shareholder advocacy, climate change is an integral part of our thinking about how to manage investment risk, identify return opportunities, and help reduce carbon emissions on behalf of our clients."

¹¹ This situation is currently playing itself out in the federal regulatory process now around the Environmental Protection Agency's Clean Power Plan regulation for existing power plants. The proposed rule, as drafted, does not credit electric sector clean energy investments made prior to the 2012 baseline. As a result many power companies are advocating for the provision of early action credits or recognition for early action in the final rule.

The firm leverages its position as an active shareowner to engage and advocate for improvements in company climate policies and footprints. Specifically, Investor C participates in shareholder advocacy and public policy engagement by filing resolutions to get companies to set GHG targets and goals and/or actively calling for more flexible energy markets across the country. The company also seeks to talk directly with companies through stakeholder dialogues.

The firm has sector specialists in fixed income and equities as well as sustainability. The two specialists share information in order to develop a comprehensive picture of company performance. However, the traditional financial analysts will typically make the final investment decision – essentially functioning as a gatekeeper. The firm has six portfolios with no exposure to fossil fuels and low exposure across most others. The firm’s rigorous ESG analysis has resulted in low or no-carbon exposure portfolios, based on extensive analysis of total exposure to fossil fuel reserves by portfolio holding weights. Investor C uses MSCI-supplied data as a baseline, and augments this data with proprietary inputs from its ESG analysts on known reserves not captured in the MSCI data.

While the firm has limited fossil exposure, it is not actively promoting divestment. According to the firm’s website:

Divestment is a valid choice, but so too is active ownership that challenges companies to curb carbon emissions and to point us toward a renewable energy economy. What we find unacceptable is for investors to stand on the sidelines – failing to exercise our rights as shareholders to push companies to address this growing crisis...

The firm has also taken a public position around stranded assets on its website, noting that it is a “potentially significant future risk factor for investors to consider but it is not yet an actionable investment thesis...Nonetheless, companies as well as investors should take this risk seriously and diminish their reliance on hydrocarbon assets.” In this context, the firm’s website relays that “divestment and engagement can therefore be complementary, mutually reinforcing strategies to advance the same objectives by combining outside and inside pressures and players.”

Investor D, Asset Management Firm (Sustainable Investor)

Investor D is a leading investment manager dedicated to investing in “the opportunities created by the scarcity of natural resources and the growing demand for cleaner, more efficient products and services, through both listed and private equity strategies.” It manages \$4.6 billion in assets. Investments are primarily focused on a global equity strategies across energy efficiency, alternative energy, water,

waste/resource recovery, food and agricultural markets. While the company is focused on “resource efficiency and environmental markets” it has not invested in electric power utilities. I had the opportunity to interview Investor D’s director.

Investor D shared, “Rather than looking at fossil [fuel] as an exclusion, it is simply not in the universe.” There are no electric utilities within the company’s holdings, as they would have to have an extremely high concentration of renewables. For example, the company has invested in the renewable energy subsidiary of some European utilities, where they have spun off from the parent company. It may consider doing this in the U.S. but opportunities appear limited and volatility remains an issue. With investments in 1600 companies worldwide, all are focused on resource optimization and climate solutions. Investor D has implemented an “affirmative investment strategy” as opposed to a “negative screening investment strategy” that has been typical of early SRI investors.¹² Investor D noted that, “the idea is that there is a growth strategy available,” by investing in solution-oriented companies. Furthermore, these companies tend to “outperform traditional investments.”

Investor D views ESG factors for risk elements across all companies. The company conducts a ten step analysis, of which nine are standard investment evaluation tools and techniques. Step five is an internal proprietary ESG scoring process and investments must meet a certain score in order to enter the “investable universe” of “A-list” approved stocks. The lowest scoring companies are the least attractive investments and the highest scoring companies are the most attractive. The company’s experience has shown that the firms that score the highest on their internal ESG scoring system “have tended to be very strong portfolio performers.” According to the company’s Policy on ESG issues, ESG analysis of potential stocks includes consideration of the following information:

- ESG processes, policies in place and level of disclosure;
- Structure and effectiveness of the Board (independence, tenure, backgrounds, diversity);
- Shareholder friendliness and the protection of shareholder rights (anti-takeover defense);
- Ownership structure and control issues (dominant or majority owner);

¹² Investor D also encouraged me to flesh out the differences, particularly in performance, between an affirmative investment strategy and a negative or exclusionary screening investment strategy in my research. Early SRI investors have emphasized negative screening as a means of weeding out investments from their portfolios, while an affirmative investment strategy appears to identify investments based on their ability to achieve certain objectives such as improving environmental performance or providing innovative solutions to the various challenges posed by climate change. This assessment is beyond the scope of my research and deserves further analysis; however, interviews revealed that most investors practice a mix of both approaches in developing their overall portfolio.

- Compensation and incentive structures, alignment with shareholder long term interests and level of disclosure;
- Corporate behavior, reputation and integrity; and
- Proxy voting and accounting practices.

The investor also has a policy of actively engaging with companies on ESG issues independently and on behalf of clients as well as through joint representations with other institutions.

Investor E, Asset Management Firm

Investor E is a division of Boston Trust and manages money for institutional clients, high net worth individuals, families and foundations since about 1975. The company's website boasts of "over thirty-five years of experience weighing the trade-offs between investing in innovative or best-in-class companies ("positive screening") and ruling out poor performers ("negative screening") for client portfolios." It pursues a multi-pronged approach that integrates climate change risk in investment decision-making, corporate engagement, and public policy advocacy. I had the opportunity to interview the firm's Senior ESG Analyst.

Since its establishment the firm has included ESG analysis in its investment strategy. It has \$3 billion in assets under management including a large cap product, which is an equity product benchmarked against the S&P 500, as well as a small- and mid-cap product. As it relates to utilities, the large cap product is most relevant. However, historically Investor E has avoided investing in electric power companies as the company did not feel they were good financial investments due to their GHG footprint as well as local impacts experienced by communities near coal plants, for example. In fact, they have separately managed fossil-fuel free accounts for several clients and have been able to "outperform our benchmarks." According to Investor E, this is significant because there is considerable debate around whether or not investors can eliminate certain sectors and still have solid performance on a risk-adjusted basis: "our experience has been that you can."

Currently, Investor E is reconsidering making investments in utilities along standard ESG screens. They are assessing carbon emissions, degree of reliance on coal or natural gas as well as employee safety and other social factors like benefits, labor relationship, and track record with local communities (e.g., want to avoid companies where there is a pattern of environmental neglect as evidenced by multiple spills, contamination incidents or regulatory fines.). During my interview, investor E noted, "Historically the SRI community has avoided exposure to nuclear power and we're no exception there." Specifically, "if

there is exposure to nuclear we would not invest in a company.” Investor E favors utilities with less emissions and is leaning towards potential investment in transmission and distribution companies “as opposed to the actual power production,” which can help play an important role in the future to promote renewables and distributed generation. As such they are also looking to assess how traditional utilities are expanding into energy efficiency and renewables – although not noticing significant shifts yet.

In evaluating investment decisions, every company is looked at by two analyst - a traditional financial analyst and an analyst on the ESG team. According to the company’s website, an in-house team conducts primary and secondary research to evaluate ESG performance. These findings are integrated into stock research presented at a weekly Investment Committee meeting. When reviewing a company for potential investment, Walden’s ESG analysts begin by developing an understanding of the company’s core products and services. This informs and prioritizes further research of material strengths or concerns in the four areas of its analytical framework: environmental performance, workplace practices, community impact, and corporate governance.

As previously noted, Investor E also participates in shareholder engagement and public policy advocacy. They conduct direct engagement with companies through letter writing, phone calls and one-on-one outreach. They will also file shareholder resolutions to get issues addressed, but as they do not have any utility holdings at this time they rely on the broader investor community for shareholder advocacy with utilities. Additionally, the firm participates in lobbying and public policy advocacy with other investors. For example, they supported the EPA’s Clean Power Plan and weighed in as an industry. The firm also wants to know how transparent companies are with respect to their own lobbying activities and political spending as well as the lobbying done by of trade associations (e.g., Chamber of Commerce) on behalf of member companies. This is of particular importance in analyzing utilities’ as there can be a disconnect between an individual company versus what their trade associations are advocating on climate change and other sustainable energy factors.

Analyst A, Global Responsible Investment Research Firm

Analyst A is a global responsible investment research firm specializing in ESG research and analysis. It serves both values-based and mainstream investors that integrate ESG information and assessments into their investment decisions by offering a wide range of ESG products and solutions. I had the opportunity to interview the firm’s Chief Utility Analyst.

Analyst A provides investors with the following ESG services of interest:

- Company-specific research;
- Country risk research related to ESG performance of 165 countries;
- Industry-specific research, including the following relevant sectors -
 - Utilities;
 - Oil, gas, coal and consumable fuels;
 - Electrical equipment; and
 - Energy equipment and services.
- Sustainability index services that enable investors to benchmark the performance of their portfolios against a set of sustainability leaders and easily identify high ESG performing companies; and
- United National Global Compact compliance research to enable easy identification of companies that are in breach of the principles.

Analyst A analyzes ESG performance across all sectors and uses “material” ESG issues to further assess performance for a particular sector. The firm conducts an internal, proprietary materiality assessment and incorporates client-specific concerns and interests, as appropriate. Ranking is conducted by sector and subsector based on overall ESG performance as well as certain thematic metrics. As such, more microscopic analysis on specific indicators and material issues is possible.

The electric power sector is considered a “high impact sector” as there are many ESG issues at play such as: (1) GHG and other air emissions, (2) community relations, and (3) the development of sustainability products and services. Analyst A wants to identify companies that are strong in all three areas. With respect to emissions, there is no threshold for eliminating a company from benchmarking but rather each utility is discussed relative to the sector average. Analyst A also wants to see, with respect to community relations, how a company may address (e.g., establish a grievance mechanism) negative environmental and other impacts that can occur (e.g., coal ash spill) as well as how a company is engaging with and empowering community stakeholders. Lastly, with respect to sustainability products and services, Analyst A is looking to see how a company may leverage its strengths to support sustainable business solutions and mitigate risk. Given the diversity of the electric power sector, there is no one size fits all solution. Thus utilities that leverage their strengths to promote sustainable solutions tend to perform better. Also of note, Analyst A closely examines company policies, programs and management systems in place.

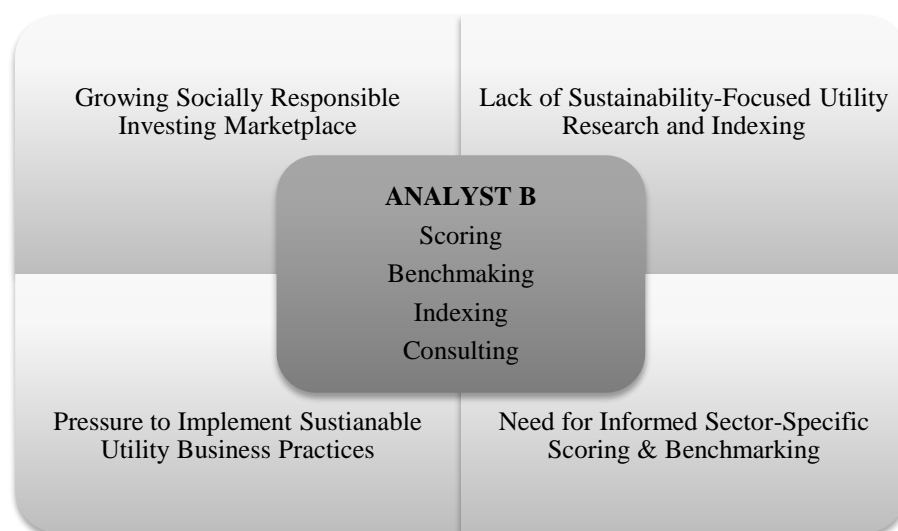
Analyst A takes a neutral approach to assessing public policy positions taken by companies as there are many different opinions and interpretations based on the clients’ perspectives and needs. For example, some investors view nuclear power as a sustainable, non-carbon source of electricity while others will disagree.

Therefore, the company will provide the necessary intelligence around public policy issues based on what the client requests.

Analyst B, Electric Sector Specific Investment Research Firm

Analyst B’s firm was established in order to help “put sustainability into the proper context for electric utilities.” The firm’s website notes that it, “...bridges the gap between the growing importance of sustainable business practices in the energy and utility industry and the relative lack of informed, industry-specific benchmarking and analytics.” I had the opportunity to interview the firm’s Co-Founder and Managing Partner.

The firm’s niche is identified by the diagram, as adapted from their website, below:



Analyst B provides utilities and investors with the following sustainability and ESG-focused services:

- Scoring & Benchmarking;
- Indexing;
- Consulting & Advisory;
- Securities Screening; and
- Research & Analytics.

The “value proposition,” identified by the firm, for utilities and investors seeking their services is summarized from the firm’s website in Table VII below.

TABLE VII: Value Proposition

Utilities	Investors
<ul style="list-style-type: none"> • Help highly performing companies better communicate their ESG performance to regulators, investors, equities analysts and other stakeholders. 	<ul style="list-style-type: none"> • Regulated utilities are charged with balancing ESG considerations.
<ul style="list-style-type: none"> • Enhance sustainability planning by creating industry-wide benchmarks and reference points for goal-setting and understanding best-in-class practices. 	<ul style="list-style-type: none"> • Utilities have a vested interest in supporting local and regional health and economic development.
<ul style="list-style-type: none"> • Guide performance improvements through self-assessment tools, benchmarks, sensitivity analysis and scenario testing. 	<ul style="list-style-type: none"> • State and federal regulation promote diligent reporting and transparency.
	<ul style="list-style-type: none"> • Utilities are conduits for energy conservation and efficiency as well as the development of alternative clean energy and smart grid infrastructure.
	<ul style="list-style-type: none"> • Utility earnings are largely asset based, which tend to be relatively stable over the long-term horizon.
	<ul style="list-style-type: none"> • Utilities are highly focused on providing dividends at sustainable levels.
	<ul style="list-style-type: none"> • Many utilities, especially small- and mid-caps, are under-covered by securities analysts. As such, price discovery and liquidity are potentially hampered, making room for long-term investment opportunities.

Analyst B takes a TBL approach, which fully integrates economic performance along with ESG metrics, in assessing electric sector sustainability performance. Of note, the firm “only assesses diversified energy companies that meet a certain threshold – if overall net operating income was derived from nonregulated activities we would drop them out because we felt they were not stable enough.” Analyst B noted during our interview, that “most sustainability analytics focused primarily on ESG issues and did not consider the fundamental financial and economic issues.” As such, the firm’s TBL three-prong assessment measures the following:

- *Economic:* financial health and stability; regional economic health and development; regulatory quality, risk and diversity; and electric and gas operating efficiency.

- *Environmental*: emissions and emissions reporting; energy efficiency and demand side management; and power portfolio quality and diversity (i.e., do not want to see an over reliance on any one or two sources of electricity).
- *Social*: employee health, safety and development; corporate governance; customer satisfaction and resilience (e.g., electricity rates, changes in rates); charitable giving and philanthropy; and overall quality of sustainability reporting.

The above TBL assessment actually includes hundreds of different KPIs specific to the electric sector and identified as helping to drive sustainability performance. The company developed these KPIs through interviews with utilities, CEOs, financial analysts and other key electric sector stakeholders. The company also relied on publically available and independently verified data in assessing KPIs – as such Analyst B did not require utilities to report on this information through additional surveys or other assessments. The firm’s sustainability assessment is proprietary and patent-pending.

Analyst B has created a Sustainable Utility Leaders Index (SULI) comprising U.S.-domiciled energy utilities ranked as highly sustainable. SULI component companies exhibit the best overall sustainability performance across all three TBL categories (economic, environmental, and social) as determined by the firm’s sustainability assessment and indexing process. The SULI has typically included 12 to 15 companies. Utilities are reevaluated annually as such some utilities may drop out and be replaced by other higher performing utilities. Analyst B noted, “When analyzed historically it tended to outperform the less sustainable utilities as well as the S&P and Dow Jones.” This has changed recently with market fluctuations, but “for the most part, high sustainability leaders as a group have outperformed other groups.” Of interest, Analyst B noted that public policy positions have not previously factored into scoring: “Lots of weight has been given to pronouncements of intent, but we have decided to focus not on what they have said but on what they have done.” However, the company is now considering how to weigh positions on current and prospective issues in the next generation of their index.

Analyst B is particularly interested in facilitating investment opportunities between SRI investors with ESG funds and utilities. Specifically, analyst B noted that, “There was an immediate negative reaction on everyone’s part about utilities even being considered sustainable to these investors.” As such, the firm, “sought to bring the message to utilities” that this set of investors does not view them as sustainable entities. The hope is that utilities will begin to take a closer examination of their policies and practices related to material ESG issues. In turn, Analyst B has sought to “create a system of securities analysis and stock

market analysis to illustrate overall value: If we can demonstrate [economic] performance and good stewardship then we can get the SRI community to invest [more broadly in the utility sector].”

V. DISCUSSION

Table VIII below provides a high level summary of the key themes or findings that emerged during my interviews with investors and analysts.

TABLE VIII: Case Study Summary of Themes

KEY THEMES	SUB-THEMES & CONTEXT
<i>Combined ESG & Financial Analysis Facilitates Comprehensive Understanding</i>	<ul style="list-style-type: none"> • Electric sector companies are evaluated on specific material issues. Viewed as a “high-impact” sector. • Enables company-level framing of material risks and opportunities that the market may otherwise overlook. • ESG integration with financial analysis enables a complete assessment of a company’s long-term performance. • While strong ESG performance and strong financial performance were not always readily identifiable, anecdotes revealed more sustainable companies have less risk and better long-term performance. • Electric sector financial performance in the short-term is less correlated to ESG performance than near-term financial indicators.
<i>Sustainable Investing is a Collaborative Process</i>	<ul style="list-style-type: none"> • Sustainable investors tend to rely on a dedicated ESG team and a traditional financial analysis team. • Teams communicate with each other and help frame investment decisions. • Financial analysts tend to make the final buy-sale decision after initial ESG screening or prospective analysis is complete. • Investors also typically subscribe to an ESG research provider for analytic support. • ESG researchers tailor analysis to meet client needs, screens and preferences for materiality.
<i>Mixed Views Exist Around Market Design and Structure Relative to ESG Analysis</i>	<ul style="list-style-type: none"> • Environmental and other impacts are made despite regulatory structure. • Financial analysts rather than ESG analyst may be better suited to assess the implications of market structure on overall performance. • Some investors and analysts do not significantly differentiate between vertically integrated utilities and independent power producers in their ESG assessments • Some investors find the competitive, deregulated model appears to better accommodate long-term growth than the monopoly approach. • Analysts tend to identify risks associated with deregulated utilities, some going so far as to exclude them from sustainability rankings. • Differentiation requires a state-by-state assessment given various regulations and laws affecting electric power companies. • Market design may factor into analysis of corporate governance structure as well as investment decisions around parent company

	ownership versus subsidiaries, depending on risks and opportunities inherent in each.
<i>Specific ESG Indicators Facilitate Investment Decisions</i>	<ul style="list-style-type: none"> • Companies tend to be benchmarked by peer group and size or compared by averages, enabling identification of leaders and laggards. • Not all investors benchmark or rank companies, especially if they utilize ESG screens which can eliminate riskier companies from their portfolio. • There are hundreds of indicators that investors assess to determine ESG performance. Those commonly mentioned during interviews included: <ul style="list-style-type: none"> ○ Climate change/GHG management and mitigation ○ Air Quality ○ Water use and risks ○ Safety ○ Human capital development ○ Community engagement ○ Corporate governance ○ Sustainable products and services • Researchers can conduct microscopic analysis on specific indicators enabling a deeper understanding of a utility’s performance.
<i>Annual Disclosure is Critical for Sustainable Investment Analysis</i>	<ul style="list-style-type: none"> • Corporate disclosure is key to effectively assessing materiality. • Investors and analysts will seek out the full range of available disclosures. • GRI appears to be the preferred methodology for disclosure of material sustainability issues and CDP appears preferred for disclosure of material climate risks, while mixed reviews emerged on integrated reporting. • It is considered unacceptable for a company to not participate in any form of disclosure beyond what is required by law. • Investors and analysts want to see measureable data and information not just anecdotes. • Disclosure is different from actual accountability.
<i>Fuel Diversity, Clean Energy & Innovation are Transformative</i>	<ul style="list-style-type: none"> • Investors are generally trending away from companies with a high reliance on coal. • Electric power companies moving towards renewables, energy efficiency, distributed generation and increased customer engagement are seen as more competitive by investors and analysts. • Electric power companies that can frame themselves as “solutions” driven may become more competitive investments for sustainable investors. • Decentralized supply of energy is seen as making the market more competitive. • Storage is seen as a game changer by investors but it is unclear when this technology will become commercially available. Bulk of R&D in this area is being done outside of the electric power sector. • Definitions of “clean” energy vary by investor.
<i>Shareholder Advocacy Enables Broad</i>	<ul style="list-style-type: none"> • Investors engage in various forms of shareholder advocacy to encourage more sustainable performance.

<i>Stakeholder Engagement</i>	<ul style="list-style-type: none"> • Direct engagement facilitated through third party groups can provide strength in numbers. • Investors find the threat of a shareholder resolution can facilitate robust stakeholder engagement. • Participation in membership-based organizations is less important than a company’s public policy positions. • ESG research analysts tend to leave interpretation of public policy positions up to clients. • Advocacy and the divestment movement may be complementary tools to foster a more rapid clean energy transition.
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Findings: Analysis of Interviews

Combined ESG & Financial Analysis Facilitates Comprehensive Understanding

Electric sector companies should be evaluated on specific material issues in addition to their overall financial performance. As a part of a “high-impact” sector, integrating material ESG indicators with financial analysis enables a complete assessment of a company’s long-term performance. Accordingly, sustainable investors are able to benefit from company-level framing of material risks and opportunities that the market may otherwise overlook. From a sustainability perspective, Investor A shared the following analogy, “We do a fundamental analysis just the same way as a financial analyst but we are looking for good management, companies that are capable of adding value over time. They look at cash flows and value statements, we look at a company’s record.” This analogy nicely illustrates how the two different perspectives actually complement one another.

However, while strong ESG performance and strong financial performance were not always readily identifiable, anecdotes revealed more sustainable companies tend to have less risk and better long-term performance. For example, Investor B shared the following story around ESG performance and financial trends, with the caveat that this particular financial indicator was viewed in isolation from other influential indicators:

...I looked at the 10 year stock price of the electric companies that we invest in. What I noticed was that there were three categories. The first category would be the electric companies that had very little or no fuel mix from coal. Then there seemed to be a mid-range of around 35 to maybe 60 or 65 percent of companies using that [thermal coal] as their fuel mix and then the third grouping of companies were those 65 percent or more reliant on thermal coal in their fuel mix. In grouping the electric companies in those three categories and looking at their stock prices, what I noticed is that the group that was most heavily reliant on coal their stock charts were flat or negative over 10 years, whereas the other two groups showed growth.

Additionally, most investors and analysts alluded to strong performance from their more sustainable power sector and non-power sector investments. Investor D noted that, “our experience has been that the firms that score highest on our ESG internal scoring system have tended to be very strong portfolio performers.” While Investor E noted that there is “no penalty to ESG investing.” Specific to the electric power sector, Analyst B shared that they assessed stock performance using a proprietary approach to develop the firm’s Sustainable Utility Leaders Index, which “when analyzed historically it tended to outperform the lesser sustainable utilities as well as the S&P and Dow Jones.” Analyst B also confirmed that, “for the most part high sustainability leaders as a group have outperformed the others as a group.”

Electric sector financial performance in the short-run; however, is less correlated to ESG performance than near-term financial indicators due to a variety of unique factors. Specifically, Analyst A attributed this to the unique cost structure affecting the sector, highlighting that electric companies tend to have a very large number of capital assets (e.g., power plants), they are not very liquid and they tend to have long-term fuel contracts and other fixed costs. Accordingly, the correlation between ESG factors and financial outcomes in this sector is much more visible over the longer-term.

Sustainable Investing is a Collaborative Process

Interviews revealed that sustainable investors tend to rely on both a dedicated ESG team and a traditional financial analysis team. These cross-functional teams communicate with each other to help frame investment decisions. However, financial analysts or portfolio managers tend to make the final buy-sell decision after initial ESG screening or prospective analysis is complete. One investor shared that while they have sector specialists in fixed income and equities (i.e., financial analysts) as well as sustainability, final investment decisions are made on the financial side. Also of note, some investors have external portfolio managers, such as Investor B, who are responsible for making buy-sell decisions. Accordingly, external support is complementary to internal processes and policies that affect investment decisions.

A common form of external support, investors typically subscribe to an ESG research provider to supplement their own internal analysis. For example Investor A uses MSCI data to identify “leaders and laggards on every single variable.” Utilizing supplementary materials around ESG indicators helps save time for investors and can make the investment process more efficient. While ESG research providers may have standard materials and resources they offer, to be competitive they typically tailor their analysis to meet individualized client needs, screens and preferences for materiality. Analyst A consistently emphasized the importance of meeting client needs and providing the “necessary intelligence” for clients to make informed investment decisions.

Analyst B emphasized the needs of investor clients in tailoring information but also shared how they work with utilities as clients to help make the business case for sustainability as business strategy. In particular, Analyst B “sought to bring a message to utilities that these [SRI] investors do not view them as sustainable entities.” Thus Analyst B sought to create an electric sector specific system of securities analysis and stock market analysis to illustrate how “overall value affects capitalization and stock market price.” In general, there is a clear recognition by researchers that client needs and preferences shape portfolio development and can facilitate an overall value proposition for the sector. This type of collaborative process ensures comprehensive analysis and is fairly indicative of sustainable investing.

Market Design and Structure Illicit Mixed Perspectives Relative to ESG Analysis & Long-term Performance

As a high impact sector, environmental and other impacts are made despite regulatory structure. As a result, some investors and analysts do not significantly differentiate between vertically integrated utilities and IPPs in their ESG assessments. Investor A noted that “for the most part they are more similar than they are different.” Analyst A takes a similar view; however, also noting that assessing corporate governance poses an exception as market design influences governance structure. Additionally, Analyst A also noted that regulatory structure influences investor purchasing decisions when considering whether to invest in the parent company or a subsidiary relative to their respective risks and opportunities. For example, a large utility conglomerate could create a separate entity strictly dedicated to renewables, providing a potential solution for investors seeking to avoid ownership of nonrenewable assets that may be associated with the parent company. Investor D noted that they have invested in renewable energy subsidiaries of European companies, but “cannot say they have been better holdings.” This is likely due to the volatility experienced within the renewables sector, which Investor D mentioned.¹³ However, mixed views emerged among investors and analysts regarding electric sector regulatory structure and overall performance.

¹³ In additional research, I discovered a 2011 report from the Economist Intelligence Unit that describes this volatility, which can oftentimes be overlooked in general discussions about renewables deployment (Watts, 2011): “In 2010 global investment in new renewable energy projects exceeded investment in new fossil fuel fired plants for the first time, largely driven by a mix of renewable energy incentives and political pressure to invest in less emission-intensive energy production. Yet although investments in renewable energy plants are growing, so are the risks. Political/regulatory risk and financial risk are on the rise against a backdrop of macro-economic uncertainty, while weather-related volume risk is rising up the agenda as investments in offshore wind farms accelerate. At the same time, the availability of risk management resources—including risk expertise, industry data and insurance cover—in the renewable energy sector remains limited, potentially restricting the sector’s access to development capital.”

Some investors felt that the competitive, deregulated model appears to better accommodate long-term growth more readily than the regulated monopoly approach; while one analyst specifically identified a range of risks associated with deregulated utilities/IPPs, going so far as to exclude them from sustainability rankings. For example, one investor speaking candidly shared that the monopoly utility is an endangered position because consumers want more flexibility and choice from their electricity providers – a value proposition possible in deregulated states. In contrast, in identifying electric companies to assess for sustainability performance, Analyst B shared that his firm “only selected diversified energy companies that met a certain threshold. If their overall net operating income was derived from nonregulated activities we would drop them out because we felt they were not stable enough and had too much nonregulated business interests.” Additionally, he noted “utilities that create unregulated entities generally do not do a good job diversifying into other areas, which makes them risky and perhaps unsustainable.”

While regulatory structure is an important distinguishing factor among electric companies, financial analysts rather than ESG analyst may be better suited to assess the implications of market structure on overall performance. For example, Investor A described this as “...more of a financial calculation that happens on the other side of the aisle.” Additionally, Investor E noted that, “every company is looked at by two analysts – a financial analyst and an analyst on our ESG team. Market design, structure and/or segment of the company would be examined by traditional financial analysts.” Investor A also teased out that the overall revenue structure of a company depends on state policies. Thus, differentiation also requires a comprehensive state-by-state assessment given various regulations and laws affecting electric power companies. Investor E summed up the difficulty in evaluating regulatory structure, stating that the utility sector is, “a complex area to invest in.” Thus, “it’s easy to exclude but fairly difficult to be proactive,” because “what companies can do in deregulated versus regulated markets are almost completely different and would have to be considered [in making investment decisions].”

Specific ESG Indicators Facilitate Investment Decisions

Investors like companies that have policies and programs that recognize sector-specific material ESG issues and have a comprehensive strategy for addressing those. They also want to see improvements in performance overtime. In order to obtain a better understanding, investors and/or analysts tend to benchmark companies by peer group and size or compare by averages, enabling identification of leaders and laggards across a variety of indicators. For example, Analyst A ranks sectors and subsectors based on overall ESG performance scores as well as thematic scores around specific ESG factors. This approach also facilitates more microscopic analysis on specific indicators enabling a deeper understanding of a

utility's performance. However, not all investors benchmark or rank companies, especially if they rely on analysts' rankings or utilize ESG screens, which can eliminate riskier companies from their portfolio. For example, several investors noted that rather than conduct their own rankings they utilize research firms or look at credible third party reports to see how traditional utilities are looking to expand into renewables and energy efficiency. Investor B, which does not rank or benchmark utilities shared, "We subscribe to an ESG research provider. We will get a full profile on the companies and we can look at their corporate governance, community indicators and environmental indicators." Alternatively, some investors supplement analyst rankings with their own assessments. Investor A relies on MSCI-supplied rankings and has guidelines to distinguish investable companies from non-investable companies: "MSCI does this and we rely on their ranking, but we also do an overlay on our own sometimes." During our interview, Investor A noted that their internal approach ranks utilities against their peers, specifically identifying "leaders and laggards relative to their peer groups, like grading on a curve."

Drilling down to specifics, there are hundreds of indicators that investors and analyst assess to determine ESG performance that factor into investment decisions. Those commonly mentioned during interviews included:

- ✓ Climate change/GHG management and mitigation;
- ✓ Air Quality;
- ✓ Water use and risks;
- ✓ Safety;
- ✓ Community engagement;
- ✓ Human capital development;
- ✓ Corporate governance; and
- ✓ Sustainable products and services.

Environmental indicators around climate change, GHG management and mitigation, air quality and water were consistently identified by investors and analysts as being key factors for assessment. Investor B noted, "For electric utilities, their greatest risk is in the area of environment." Similarly, Investor A shared, "Key factors are number one – GHG emissions and a close second is environmental footprint – air, water, etc." Analyst A also echoed this sentiment, noting that, "The electric power sector is a high impact sector, meaning it has many ESG issues in comparison with other sectors...By our approach we consider the following three to be important: GHG emissions and pollutants, community relations and sustainability products and services." With respect to GHG emissions, Analyst A provides clients with a sector average

relative to GHG performance but does not eliminate any companies from its ranking based on specific GHG thresholds. This allows investors to make that cut off determination based on their own criteria and preferences.

Safety and community engagement were two similarly related metrics that were raised by investors and analysts. While no interviews specifically teased out definitions of safety, EPRI's materiality assessment has defined "Public health and safety" and "Employee health and safety" as: (1) preventing accidents and minimizing the impact of electricity generation, transmission and distribution on long-term public health; and (2) maintaining the safety of utility employees and contractors. Safety can also refer to the adherence of international standards on health and safety protocols. One investor did provide some additional context, noting that they assess health and safety certifications, injury rates, lost time and fatalities. These factors are critical to electric sector performance given the public health and safety risks associated with exposure to air pollutants, hazardous waste and potential equipment failures -- all of which are naturally related to community engagement factors.

Investors and analysts spoke more comfortably around community engagement, sharing risks and opportunities. For example, Investor E shared that their firm examines, among other factors, "the track record with local communities," as they "want to avoid companies where there have been significant environmental spills, contamination or fines from EPA. If there is a pattern of poor behavior that would be a red flag for us." Investor B, for example, highlighted the importance of community-based advocacy against certain types of electric sector investments cautioning that, "For community related risks, there are areas where communities have prevented the opening of a coal-fired power plant." Similarly, Analyst A spoke at length about various facets of community engagement, emphasizing the "strength and depth" of community engagement efforts underway by utilities. Specifically, they are looking to see how the company is identifying the full range of potential impacts that can arise in a community and whether the company is relaying that information in an inclusive and understandable manner, recognizing that local stakeholders are not subject matter experts. As such, it is important to assess how utilities are managing knowledge gaps among stakeholders and how they will address potential negative impacts by establishing grievance mechanisms for instance. Analyst A also felt it was important to consider "empowerment programs" for community stakeholders.

Human capital development, corporate governance and the development of sustainability-products and services were also raised as important factors to assess within the electric power sector. With respect to human capital development, Investor A noted that, "replacing people and bringing new people on board is

a critical issue.” This is particularly true given that many in the utility workforce are nearing retirement age. As such, identifying opportunities for attracting and retaining new, skilled talent are important for long-term growth. Corporate governance was also identified as a key indicator for the sector but not discussed in depth. Some typical concerns regarding corporate governance tend to do with board level engagement and oversight of environmental metrics. Development of sustainable products and services did emerge as a key driver for investment. For example, Analyst A described how companies that are leveraging “their strengths to the advancement of sustainability” appear more attractive to investors and analysts. Investor B echoed this assessment, noting that they are “looking for opportunities to promote a low-carbon economy.” However, it is not just low carbon or clean energy solutions that can be leveraged in this arena, as Analyst A notes: “there is no one size fits all solution in terms of sustainability from this sector.”

Annual Disclosure is Critical for Sustainable Investment Analysis

Comprehensive corporate disclosure is critical to effectively assessing electric company materiality. In fact, it is considered unacceptable for a company to not participate in any form of disclosure beyond what is required by law. Investor B describes this sentiment: “If they are doing no disclosure what so ever, given their industry and given the risks they have, I think that is wholly inadequate.” Furthermore, investors and analysts will seek out the full range of available disclosure options, giving utilities flexibility in their approach to disclosure. Investors and analysts examine company websites, corporate sustainability reports (those that adhere to GRI reporting guidelines as well as those that do not), disclosures to CDP and other ranking organizations, integrated resource plans, annual 10-K reports, EPA’s Toxic Release Inventory (TRI) program data, third party reports and other relevant resources that disclose performance across a variety of metrics. For example, Investor D is also reviewing equal employment opportunity (EEO) and other disclosures to see if companies have lawsuits or evidence of discrimination against LGBTQ populations: “Human Rights Watch has a corporate quality index and companies get scored.” Lobbying and political spending, as previously noted, are also important disclosures. Additional examples of specific third party reports that investors have identified as helpful resources for comparing performance included:

- University of Massachusetts’ Political Economy Research Institute publishes three Top 100 Polluter Indexes using underlying data from EPA’s TRI program for its Air and Water polluters Indexes as well as data from EPA’s GHG Reporting Program for its GHG Polluters Index. All three resources can be found here: <http://www.peri.umass.edu/indexes/>

- Ceres' Benchmarking Clean Energy Deployment 2014¹⁴ report, which analyzed data from more than ten sources including state Renewable Portfolio Standard (RPS) annual reports, SEC 10-K filings and PUC reports. This report can be found here:
<http://www.ceres.org/resources/reports/benchmarking-utility-clean-energy-deployment-2014/view>
- MJ Bradley & Associate's Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States¹⁵ report, which uses public data reported to EPA and EIA. This report can be found here: <http://www.mjbradley.com/benchmarking-air-emissions>

GRI appears to be the preferred methodology for disclosure of material sustainability issues and CDP appears preferred for disclosure of material climate risks, while mixed reviews emerged on integrated reporting. Analyst B shared, "CDP and GRI are markedly different. If looking at environmental or carbon [factors] will look at CDP, but if looking at transparency, disclosure, or governance prefer GRI." Of note, Investor A details the dilemma with integrated reporting, which combines material financial and ESG factors into one common document for submission to the SEC, below:

Integrated reporting is a lovely concept and I want to say I prefer it but it is so rare at this point it is hard to be definitive about that...What I don't want to see from an integrated report is that a company says because this is about material things I am only going to report on those things that are demonstrably material. Materiality is a very slippery slope. It is defined, to the extent it is defined by the SEC and by the statute the SEC uses to define it, as essentially what a responsible prudent investor would think would affect the companies' financial performance. So it is officially a judgement call.

What companies think is material and what investors think is material those can be pretty far apart. What I don't want to see from integrated reporting is companies taking out things like work place practices, benefits, parental leave, flex time – reporting on things like that because they don't see them as material. I still see those things as relevant: how you motivate, train, and retain your best people is always important but it's really hard to demonstrate they have financial relevance. I like the idea of integrated reporting, but I have yet to figure out if it is actually the enemy of good reporting or the friend."

¹⁴ This report is described in further detail in the Electric Sector Analytics section.

¹⁵ This report is described in further detail in the Electric Sector Analytics section.

In contrast, Investor A affirmatively expressed strong support for the GRI framework: “I love GRI reporting.” Providing more detail, “We prefer GRI reporting, as you get higher up, you get a fairly comprehensive picture of a company.” Analyst A shared that they consider the “GRI G4 comprehensive option or full accordance to integrated reporting as a best practice.” More time appears to be needed to assess the pros and cons of integrated reporting and ensure that certain indicators are not eliminated as a result of a loose definition of materiality and financial performance.¹⁶ In fact, both Investor A and E expressed concern with the lack of sufficient disclosures around climate risks in corporate 10-K reports, despite interpretive guidance provided by the SEC.

Investors and analysts want to see measureable data and information not just anecdotes. Investor B describes this sentiment: “We are looking for information that is useable. If I see a CSR report that is full of anecdotes that’s nice but then I am going to ask the company for some year on year data that I can use.” This is particularly important when considering that many investors and analysts are ranking or benchmarking company’s performance based on disclosure. Analyst A notes that disclosure is a component of their ESG assessment and that there is “a strong correlation between the level of disclosure and the final assessment of a company.” This also leads to an additional observation or theme - disclosure is different from actual accountability. Analyst A clarifies that “it is important to distinguish that disclosure has little to do with accountability.” This is particularly true because disclosure of non-financial ESG information is not typically mandated by regulators. As such, Analyst A finds that companies with strong policies and programs that also honor their own commitments or pledges “tend to fair very well in relation to peer companies.”

Fuel Diversity, Clean Energy & Innovation are Transformative

Investors are generally trending away from companies with a high reliance on coal. Investor A stated, “If the company has GHG emissions, we are looking at other comparable companies with less than average dependence on coal.” Investor E pointed to potential regulations affecting coal that make it a riskier

¹⁶ According to the International Integrated Reporting Council (IIRC) (2015) an integrated report is: a concise communication about how an organization’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term. The IIRC is working collaboratively with numerous stakeholders to develop an international framework that can be used to govern integrated report. GRI, which is internationally renowned as the leading standard for disclosure, is also seeking to develop a framework that integrates financial and sustainability indicators. According to Michael Meehan, GRI's Chief Executive: “As a strong supporter of integrated reporting, GRI is working to bridge the gap between the value of integrated thinking for executives and the reality of sustainability and financial reporting practice for organizations (GRI, 2015).” The IIRC has signed a memorandum of understanding with GRI and numerous other organizations in order to “demonstrate a common interest in improving the quality and consistency of global corporate reporting to deliver value to investors and the wider economy (IIRC, 2015).”

investment, noting that “I would argue that carbon is going to be taxed in the future and as such avoiding exposure to that makes sense financially.” Investor E also noted that it is “hard to figure out how a large coal plant fits into a low carbon future in the absence of CCS [carbon capture and storage/sequestration].” As discussed earlier, Investor B has adopted a set of investment guidelines to eliminate exposure to domestic utilities that rely on coal for more than 75 percent of their fuel mix unless they have at least 10 percent of their portfolio from renewables.

In general, electric power companies moving more proactively towards renewables, energy efficiency, distributed generation and increased customer engagement are seen as more competitive by investors and analysts. In fact, decentralized supply of energy is seen as making the market more competitive by some. One investor emphasized that customer choice and more flexibility are essential when considering the future of the sector. This particular investor expressed interest in seeing how utilities are responding to the evolution of the industry – a common interest – but stressed that he does not look favorably upon companies that are fighting against clean energy regulations in the states or at the federal level.

Much of this discussion was framed within the context of risk mitigation as well as harnessing opportunities. Investor E for example, in seeking to limit exposure to carbon risks, shared “as we think about distributed generation and renewables, transmission and distribution companies will need to play an important role in the future.” Furthermore Investor E shared that his firm is “looking to see how traditional utilities are looking to expand into energy efficiency and renewable energy,” recognizing that “in most cases it continues to be a small part of their portfolio.” Similarly, Investor B noted, “in addition to looking for risk, another piece of that is what they are doing to promote renewables or find investments in renewables.”

Growth of renewables was a consistent theme but there was also recognition, as evidenced above and below, that renewables deployment by traditional utilities is still fairly limited. Investor D, which does not have any utility holdings, noted that for a utility to be considered it would have to have “a very high concentration of focus on renewables.” However, Investor A shared that “utilities are still not crazy about renewables,” noting that “some are more interested than others;” but further cautioning that this lack of investment “is actually going to hurt them in the long run.” Relatedly, energy storage is generally seen as a game changer by investors but it is unclear when this technology will become commercially available. Investor A noted that the bulk of research and development in this area is being done outside of the electric power sector, illustrating an opportunity for electric power companies to become more actively invested in energy storage solutions. Accordingly, those companies that can frame themselves as “solutions” driven may become more competitive investments for sustainable investors.

Analyst B noted that while adoption of policies that favor distributed generation are gaining traction the need for the grid will continue for some time. However, he cautioned that the issue is “can utilities be fully compensated for that change in their role?” Calling into question whether or not and how the current system could potentially evolve into being “just a distribution system for distributed generation.” Such questions and concerns are a critical part of the discussion around long-term electric sector performance and the future of the traditional utility model of electricity delivery. Additionally, it is important to clarify that definitions of “clean” energy vary by investor. Some investors may view nuclear power as a clean energy solution; while others will not invest in nuclear due to a variety of factors they deem make it an unsustainable investment. Natural gas, while viewed as a bridge fuel for renewables, is still a form of fossil and as such carefully framing its role in the clean energy economy is critical.

Shareholder Advocacy Enables Board Stakeholder Engagement

Investors engage in various forms of shareholder advocacy to encourage more sustainable performance. Advocacy can take on the form of one-on-one direct engagement or multi-party engagement, letter writing campaigns, the filing of shareholder resolutions and the use of proxy voting. Direct engagement facilitated through third party groups can also provide strength in numbers. For example, several investors pointed to organizations such as Ceres and the ICCR as facilitating opportunities for engagement. Of particular note, Investor A detailed how her firm joined with other investors in 2008 to petition the SEC to provide interpretive guidance on material climate risk. This effort, coordinated through Ceres, helped push the SEC to release guidance in 2010. Analyst A shared, “the way we intervene in public policy is in ways that level the playing field and make all companies more sustainable or at least make all companies report on sustainability.”

Investors find the threat of a shareholder resolution can facilitate robust stakeholder engagement. For example, one investor noted that they have filed resolutions to encourage companies to set GHG targets and goals which helped facilitate thoughtful dialogue and commitments. Investor E noted they will file resolutions to “get the issue addressed,” but cautioned that because they do not have utility assets they have not filed any within the sector. Investor B has not filed a resolution with a utility in the last four or five years, but did note that they will support efforts through their proxy vote: “There may be a shareholder resolution on a ballot of a utility to address GHGs or increase their fuel mix for renewables and we would tend to vote for those resolutions.” Investor D shared that his firm, “vote[s] proxies directly or through partnership arrangements with other groups that are interested in the same issues.” Electric power companies should be mindful that once a shareholder resolution is filed and voting on the issue occurs there

is a clear record of engagement. Rather than deal with voting, it appears that some companies may prefer to resolve the issue through dialogue, which has less of a visible public record among shareholders.

Participation in membership-based organizations and public policy positions are more appropriate in shaping investor engagement strategies rather than assessing performance. For example, Investor B shared that they do not evaluate public policy positions nor trade association participation as an investment decision, noting that those are “strictly engagement decision[s].” However, one investor did note that their sustainability team evaluates public policies positions for framing a company when in discussions with their traditional financial analysts – who may or may not factor that into their final company buy-sale decision. Ultimately, public policy positions help inform investors about how to shape or frame their advocacy and engagement strategies within the sector.

Additionally, participation in membership organizations and trade associations appears less important than a company’s public policy positions in evaluating opportunities for engagement. Only one investor indicated that they track participation in trade associations, particularly raising concern around issues with transparency and disclosure around lobbying and political spending. Investor E shared that his firm is “interested in the roles of trade associations in influencing public policy,” having noticed a “disconnect from a company on climate versus what their trade associations are doing.” He provided the example of the U.S. Chamber of Commerce suing EPA while some member companies publicly express that climate change is an issue that should be addressed.

Recognizing diversity of perspective, ESG research analysts tend to leave interpretation of public policy positions up to clients. Analyst B, in describing how public policy positions may affect ESG scoring shared: “Lots of weight is given to pronouncements of intent, but we have decided to focus not on what they have said but what they have done.” However, the firm is now “considering how to weigh positions on current and prospective issues in the next generation of the index.” While Analyst B “felt a factual basis was more important,” he has “began seeing that expressed policy is important as well.” Analyst A shared they “stay neutral” on public policy matters because there are “many different opinions about sustainability, interpretations and preferences.” He concluded that, “we consider our task to provide necessary intelligence for them [clients] to reach a conclusion.”

None of the investors I spoke with advocated for outright divestment of fossil resources, despite having some fossil-free portfolios under management for clients or not having electric power holdings at all. In general, there appeared to be a preference towards using ownership and related investor/shareholder

advocacy strategies as tools to improve electric sector sustainability performance. Investor C's website summarizes this idea: "divestment and engagement can therefore be complementary, mutually reinforcing strategies to advance the same objectives by combining outside and inside pressures and players." Thus, advocacy and the divestment movement may be complementary tools to foster a more rapid clean energy transition.

Conclusions & Recommendations

The analysis reveals that electric power companies can improve their long-term financial performance and risk-adjusted returns by taking strategic steps to position themselves as more sustainable investments in the eyes of a diverse range of ESG investors and analysts. By carefully evaluating material risks and opportunities and developing appropriate programs and policies to minimize identified risks and leverage opportunities for improvement and innovation, electric power companies can promote sustainable long-term value creation for their shareholders on a risk-adjusted basis. Thus consistent with the findings of Ellsworth & Spading (2014); Eccles, R. G., Ioannou, I., & Serafeim (2011); Husted, Allen and Kock (2015, 2012) as well as RobecoSAM (2014) and DB Climate Advisors (2012), case studies revealed that high-sustainability performers or leaders in the electric power sector should perform much better than low-sustainability performers or laggards over the long-term on a risk-adjusted basis.

Case studies also confirmed the findings of Ceres and CleanEdge (2014), which stressed that investors are becoming increasingly attuned to how investor-owned electric utilities are adapting to disruptive challenges facing the sector and the extent to which utilities are modernizing their business models to enhance profitability and minimize risk of financial loss. Accordingly, the analysis demonstrates that electric power companies can improve their credibility, brand value and reputation by embracing a long-term view and triple bottom line approach to their business operation. Thus, electric power companies that can successfully identify and analyze material ESG factors as well as traditional financial metrics should be well positioned to reap rewards in terms of long-term sustainable economic performance. This is consistent with RobecoSAM's (2014) assessment that the puzzle of corporate financial performance broadly encompasses both financial and extra-financial considerations.

The findings of this study also reveal that while market dynamics are naturally forcing a trend away from coal, electric power companies that remain overly reliant on fossil fuels should be particularly cautious about the implications of divestment coupled with traditional shareholder advocacy strategies. Given that it is easier to divest from coal than it is from oil and natural gas, coal-heavy electric power companies that are not trending towards more diverse fuel sources may want to reevaluate their long-term growth strategy.

While EPRI found a lack of consensus within the electric sector on how to identify and prioritize sustainability objectives, how to measure sustainability performance, and how to articulate and communicate the value of these efforts to stakeholders (Fox, 2013) – this analysis may help shed light on what ESG investors are looking for as they make investment decisions as well as what ESG analysts are assessing as they rank or benchmark electric power companies on multiple measures of performance. Importantly, electric companies should not take for granted the role ESG analysts play in helping investors make strategic and informed investment decisions.

Electric power companies that are looking to improve their sustainability performance should consider the following:

- ✓ Embrace a broad approach to stakeholder engagement that includes a comprehensive assessment of current investors. Identify which, if any, are ESG investors and consider engaging them as the company begins to conduct an internal materiality assessment. If unable to identify ESG investors, begin evaluating what the company can do differently to attract this class of investors and even consider proactive engagement with ESG analysts.
- ✓ Identification and disclosure of material ESG factors can be aided through tools and frameworks provided by the GRI. Recognizing that investors and analysts value the GRI framework for reporting material ESG information should help streamline the process. The Ceres Roadmap for Sustainability is also a helpful resource for electric companies seeking to differentiate themselves as sustainability leaders. Engagement with EPRI's Sustainability Interest Group could provide tremendous value to electric power companies seeking a collaborative forum for information sharing and best practices.
- ✓ In conducting an internal materiality assessment, companies should consider what aspects of their risk portfolio carry the greatest threat to long-term growth. This should include not only a clear assessment of fuel mix but also regulatory structure. In identifying these risks, potential solutions should be identified and assessed.
- ✓ While mixed views existed on how regulatory structure may affect performance, it was evident that IPPs in particular could benefit from being seen as more sustainable in order to attract investment capital from this class of investors. The inherent risk profile of the IPP due to the lack of guaranteed cost recovery means that leveraging capital dollars at a lower cost of equity will provide immediate benefits to shareholders. Furthermore, IPPs have the flexibility to offer innovative solutions for consumers that rate-regulated utilities may not naturally be inclined to offer.

- ✓ Alternatively, rate-regulated utilities must proactively assess how to adapt to changes in market dynamics that are driving trends towards a cleaner and more decentralized approach to electricity delivery. Efforts to undermine or delay regulations that may make clean energy deployment more favorable could attract negative attention from sustainable investors. Thus identifying opportunities to innovate are critical to sustaining a long-term value proposition.

While the above list of recommendations is by no means exhaustive, it can help serve as a conversation starter for electric power companies seeking to attract ESG investment and improve long-term growth by leveraging strengths and mitigating risks.

Limitations & Areas for Future Research

This analysis focused on sustainable investors and analysts, a subset of the market that is already committed to assessing the value ESG factors can contribute to a company's overall performance. Further analysis involving traditional (i.e., non-ESG) investors and financial analysts could be beneficial in facilitating a comprehensive picture of the broader financial community's perspectives on electric sector sustainability performance.

While, not included as a case study, I also had the opportunity to interview the Executive Director (ED) of Harvard University's Initiative for Responsible Investment (IRI). The IRI supports the social purpose of finance through research and multi-stakeholder dialogue, with the goal of catalyzing leadership and action that creates long-term, values-driven wealth (IRI, 2015). The ED noted that many mainstream or traditional investors are now offering more green products and services due to increased client demand and growing reputational pressures. However, he expressed caution about their real motives and even warned that while sustainable investors may "have the best of intentions" they are still playing within the confines of a relatively broken financial system (e.g., recall the 2007 financial crisis). This was particularly insightful in light of my research given that sustainable investors tend to believe that their investment decisions are helping to create a more sustainable society.

With respect to the electric power sector, sustainable investors believe that their investment decisions are helping to promote a low carbon economy and reduce the threat of climate change. Thus, given the nature of capital and financial markets it is important to understand how non-ESG investors and analysts view sustainability performance within the electric sector. In sum, can material ESG issues affecting the electric power sector become mainstream indicators of long-term growth and performance to traditional investors and analysts?

This analysis could also benefit from insights directly from electric power companies that operate in regulated and deregulated markets. Case studies from traditional rate-regulated utilities and IPPs would help shed light on how electric power companies are responding internally to growing investor pressure in the clean energy and sustainability space. Ideally, case studies should include a representative cross section of the industry such that companies with a high, moderate and low reliance on coal are profiled.

This analysis could further benefit from insights from state regulatory commissioners regarding their perspectives on disclosure, clean energy, resiliency and adaptation investments as well as other sustainability-oriented efforts that may be undertaken by electric utilities. Insight into cost recovery proceedings around significant capital investments in these areas would help provide guidance for other utilities seeking to modernize existing infrastructure and develop new and innovative energy solutions.

VI. APPENDIX

Results from M.J. Bradley & Associates (2014) Benchmarking Report

TABLE 2
Company Rankings for 100 Largest Power Producers (2012)
In alphabetical order

Owner	Ownership Type	By Generation			By Tons of Emissions				By Emission Rates											
		Total	Fossil	Coal	SO ₂	NOx	CO ₂	Hg	All Generating Sources			Fossil Fuel Plants			Coal Plants					
									SO ₂	NOx	CO ₂	SO ₂	NOx	CO ₂	SO ₂	NOx	CO ₂	Hg		
AEP	investor-owned corp.	5	2	1	1	1	1	2	14	20	27	12	34	31	17	51	61	29		
AES	investor-owned corp.	22	17	13	13	13	16	13	10	20	14	7	29	18	19	43	51	36		
ALLETE	investor-owned corp.	85	67	43	54	51	53	31	39	25	6	45	35	3	54	54	15	19		
Alliant Energy	investor-owned corp.	45	40	24	17	27	31	15	4	15	13	5	25	15	5	34	16	4		
Ameren	investor-owned corp.	17	12	8	9	12	9	7	18	40	19	16	50	9	27	64	26	34		
ArLight Capital	privately held corp.	63	65	71	71	81	76	73	72	81	77	72	78	73	52	74	8	72		
Arkansas Electric Coop	cooperative	60	49	40	27	33	46	23	11	11	20	11	22	35	12	17	29	7		
Associated Electric Coop	cooperative	49	41	32	29	19	36	34	24	3	24	30	4	47	32	6	57	48		
Austin Energy	municipality	84	82	67	73	68	71	52	71	57	51	71	59	40	73	65	4	16		
Avista	investor-owned corp.	95	88	68	67	73	88	70	61	64	82	60	46	57	62	27	18	67		
Basin Electric Power Coop	cooperative	42	39	19	15	18	24	14	3	4	3	4	5	4	8	16	14	6		
Big Rivers Electric	cooperative	83	64	44	33	38	50	42	17	6	1	21	12	5	30	15	27	41		
BP	foreign-owned corp.	65	69	-	76	87	81	-	75	87	83	75	87	91	-	-	-	-		
Brazos Electric Power Coop	cooperative	96	73	-	84	82	83	-	82	74	67	83	77	82	-	-	-	-		
Buckeye Power	cooperative	91	72	48	34	58	61	35	6	27	7	8	37	21	22	56	67	28		
Calpine	investor-owned corp.	8	4	-	74	48	13	-	77	79	70	77	79	85	-	-	-	-		
Centrica	foreign-owned corp.	99	77	-	85	79	84	-	80	70	64	81	75	79	-	-	-	-		
CLECO	investor-owned corp.	75	61	65	38	53	56	46	22	33	32	27	47	51	4	45	7	12		
CMS Energy	investor-owned corp.	39	31	23	20	24	29	19	8	21	25	9	33	41	11	32	37	10		
Dominion	investor-owned corp.	10	14	14	18	15	14	21	49	55	73	42	48	60	34	36	56	51		
Dow Chemical	investor-owned corp.	58	50	-	89	85	69	-	87	86	69	89	89	89	-	-	-	-		
DTE Energy	investor-owned corp.	20	19	12	7	11	17	9	2	14	18	1	18	11	3	30	30	13		
Duke	investor-owned corp.	1	1	2	3	2	2	11	36	43	52	34	45	50	28	47	65	57		
Dynegy	investor-owned corp.	21	16	17	23	37	18	43	40	58	38	48	68	59	46	69	24	64		
E.ON	foreign-owned corp.	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
East Kentucky Power Coop	cooperative	69	56	38	39	56	48	59	26	37	8	31	52	19	45	67	59	65		
EDF	foreign-owned corp.	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Edison International	investor-owned corp.	41	52	58	58	29	57	48	59	28	71	63	11	64	58	2	45	32		
Edison Mission Energy	privately held corp.	24	22	16	16	31	19	40	21	47	28	17	55	23	21	63	9	63		
EDP	foreign-owned corp.	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
El Paso Electric	investor-owned corp.	80	86	70	70	61	82	67	69	39	79	66	17	63	59	2	46	32		
Energy Capital Partners	privately held corp.	29	23	-	77	72	42	-	81	82	65	82	82	80	-	-	-	-		
Energy Future Holdings	privately held corp.	16	15	10	5	14	10	1	5	41	29	3	44	2	7	62	6	1		
Energy Northwest	municipality	77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Entegra Power	privately held corp.	64	51	-	80	84	70	-	79	84	62	80	85	77	-	-	-	-		
Entergy	investor-owned corp.	7	13	22	19	10	15	17	53	52	81	43	32	62	6	24	20	8		
Exelon	investor-owned corp.	2	20	42	36	28	25	45	64	77	87	56	57	68	35	12	74	44		
Exxon Mobil	investor-owned corp.	67	57	-	83	76	77	-	85	72	76	88	88	92	-	-	-	-		
FirstEnergy	investor-owned corp.	9	8	3	8	3	6	5	28	23	41	19	13	20	36	25	63	35		
GDF Suez	foreign-owned corp.	23	18	41	30	47	22	20	43	62	49	51	71	67	20	57	25	2		
General Electric	investor-owned corp.	27	21	36	11	36	30	24	1	46	45	2	61	66	1	37	60	9		
Grand River Dam Authority	state power authority	94	76	59	45	40	67	37	16	2	23	18	2	38	13	4	3	5		
Great Plains Energy	investor-owned corp.	28	26	15	28	26	20	25	37	35	21	39	38	14	51	58	54	49		
Great River Energy	cooperative	68	54	34	31	39	41	18	19	12	2	23	24	7	41	40	22	3		
Hoosier Energy	cooperative	97	75	52	46	66	64	56	20	44	10	24	58	26	39	70	62	53		
Iberdrola	foreign-owned corp.	50	91	-	91	92	92	-	91	92	92	86	80	83	-	-	-	-		
IDACORP	investor-owned corp.	52	81	54	56	52	65	38	50	42	63	40	23	17	50	33	31	20		
Integrus	investor-owned corp.	86	68	47	32	59	54	32	12	34	11	15	42	12	26	61	47	25		
Intermountain Power Agency	power district	76	62	39	59	23	51	72	54	1	9	62	1	25	70	11	73	73		
International Paper	investor-owned corp.	90	89	73	-	69	90	-	-	53	85	-	6	81	-	1	75	-		

A ranking of 1 indicates the highest absolute number or rate in any column; the highest generation (MWh), highest emissions (tons), or highest emission rate (lb/MWh). A ranking of 100 indicates the lowest absolute number or rate in any column.

Owner	Ownership Type	By Generation			By Tons of Emissions				By Emission Rates									
		Total	Fossil	Coal	SO ₂	NOx	CO ₂	Hg	All Generating Sources			Fossil Fuel Plants			Coal Plants			
									SO ₂	NOx	CO ₂	SO ₂	NOx	CO ₂	SO ₂	NOx	CO ₂	Hg
JEA	municipality	59	48	51	40	30	49	53	31	10	34	38	20	54	31	9	58	52
J-Power	foreign-owned corp.	73	60	74	75	77	75	74	74	73	59	74	76	75	68	68	36	74
Los Angeles City	municipality	53	55	66	68	65	60	55	67	59	57	69	65	65	71	38	69	26
Lower CO River Authority	state power authority	79	63	55	69	64	55	39	66	50	26	70	63	48	73	65	4	17
LS Power	privately held corp.	89	70	-	82	75	79	-	78	69	58	78	74	72	-	-	-	-
MidAmerican	privately held corp.	12	9	6	12	4	7	6	35	17	35	37	15	22	47	23	32	37
Municipal Elec. Auth. of GA	municipality	61	83	62	55	67	73	62	47	67	74	35	56	45	38	60	42	58
NC Public Power	municipality	66	90	69	64	78	89	69	63	75	86	32	28	8	48	49	33	61
NE Public Power District	power district	48	59	37	22	32	47	36	15	22	44	6	7	10	14	19	34	45
New York Power Authority	state power authority	35	85	-	87	89	86	-	89	90	89	79	83	78	-	-	-	-
NextEra Energy	investor-owned corp.	4	5	57	47	22	12	60	68	71	80	68	73	74	44	42	21	55
NiSource	investor-owned corp.	55	45	35	24	46	40	30	9	30	12	14	41	29	15	50	13	31
NRG	investor-owned corp.	11	6	7	4	7	4	4	13	31	31	13	39	36	9	48	35	18
NV Energy	investor-owned corp.	38	27	63	63	57	43	51	62	61	55	67	70	71	57	26	23	24
Occidental	investor-owned corp.	54	44	-	90	83	66	-	88	85	61	91	86	76	-	-	-	-
OGE	investor-owned corp.	31	24	25	21	16	23	27	23	7	30	25	10	42	16	10	12	30
Oglethorpe	cooperative	34	42	46	37	54	44	58	42	63	60	41	62	58	33	55	48	59
Omaha Public Power District	power district	57	47	28	25	34	39	22	7	13	4	10	27	13	24	46	55	21
PG&E	investor-owned corp.	25	78	-	86	90	85	-	90	91	90	87	91	86	-	-	-	-
Pinnacle West	investor-owned corp.	26	33	31	50	17	33	26	56	19	53	57	8	49	64	7	44	22
PNM Resources	investor-owned corp.	70	71	53	62	35	62	64	57	8	43	58	3	27	66	8	41	70
Portland General Electric	investor-owned corp.	81	79	64	51	63	72	66	34	45	54	29	43	56	18	31	28	69
PPL	investor-owned corp.	13	10	9	10	5	8	8	25	18	39	20	16	28	29	21	50	39
PSEG	investor-owned corp.	18	25	56	52	41	38	50	60	68	84	61	60	69	43	13	72	42
PUD No 1 of Chelan County	power district	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PUD No 2 of Grant County	power district	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Puget Holdings	privately held corp.	82	74	60	61	60	68	65	55	36	48	55	36	46	62	27	17	67
Riverstone	privately held corp.	51	43	50	43	44	45	61	38	32	37	46	49	55	37	29	19	66
Rockland Capital	privately held corp.	47	38	75	65	74	63	71	70	78	72	73	81	90	2	5	2	23
Sacramento Municipal Util Dist	municipality	98	84	-	88	91	87	-	86	89	78	90	92	84	-	-	-	-
Salt River Project	power district	32	30	21	57	20	26	28	58	16	42	64	14	37	69	14	40	43
San Antonio City	municipality	30	34	27	48	50	32	41	52	60	47	53	64	44	61	73	64	54
Santee Cooper	state power authority	37	29	20	42	49	27	44	46	56	36	50	66	39	56	72	71	60
SCANA	investor-owned corp.	36	32	29	26	42	34	54	30	48	46	28	53	53	23	53	66	62
Seattle City Light	municipality	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seminole Electric Coop	cooperative	71	58	45	41	70	52	57	27	65	22	33	72	43	40	75	68	56
Sempra	investor-owned corp.	62	53	-	81	88	74	-	84	88	75	85	90	87	-	-	-	-
Southern	investor-owned corp.	3	3	4	2	6	3	3	29	49	50	26	54	61	10	41	43	14
TECO	investor-owned corp.	43	36	33	49	55	35	63	48	54	33	54	67	52	55	71	53	71
Tenaska	privately held corp.	46	37	-	78	80	59	-	83	83	68	84	84	88	-	-	-	-
Tennessee Valley Authority	federal power authority	6	7	5	6	8	5	10	33	51	56	22	40	33	25	52	49	47
TransCanada	foreign-owned corp.	88	80	-	79	71	80	-	76	66	66	76	69	70	-	-	-	-
Tri-State	cooperative	56	46	30	53	25	37	33	45	5	5	52	9	16	65	18	38	50
UnlSource	investor-owned corp.	87	66	49	60	45	58	47	51	9	15	59	19	32	67	22	52	46
US Bureau of Reclamation	federal power authority	19	87	61	66	62	78	49	73	76	91	65	21	24	72	38	69	26
US Corps of Engineers	federal power authority	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waste Management	investor-owned corp.	100	92	72	72	86	91	68	65	80	88	44	31	1	49	20	1	11
Westar	investor-owned corp.	33	28	18	35	21	21	16	44	24	17	47	26	6	60	44	11	15
Wisconsin Energy	investor-owned corp.	40	35	26	44	43	28	29	41	38	16	49	51	30	53	59	10	40
Xcel	investor-owned corp.	15	11	11	14	9	11	12	32	26	40	36	30	34	42	35	39	38

Results from Ceres and Sustainalytics (2014)
Roadmap for Sustainability: Electric and Gas Utilities Progress

Governance for Sustainability: Companies will embed sustainability into core building blocks – management and board structures, goal-setting and strategic decision-making.

- Eighty-three percent of the companies evaluated (29 of 35 companies) are in Tiers 1 and 2, having adopted a governance structure that provides oversight of relevant social and/or environmental issues, compared to just 51 percent in 2012. There is also progress in the movement of companies out of Tier 4 (i.e., no disclosure of Board responsibility). Only 14 percent (5 companies) remain at this level compared to nearly 50 percent in 2012.
- Despite strong performance at the board level there has not been significant accountability at the management level. While 26 percent (9 companies) are in Tier 1 by virtue of having C-level participation on an executive committee with sustainability responsibilities, 54 percent (19 companies) do not disclose any management oversight of sustainability issues and remain in Tier 4. Performance relative to this expectation has in fact declined overall compared to 2012, when 57 percent of companies could report some form of accountability system compared to 43 percent that could (or did) not.

Stakeholder Engagement: Companies will proactively engage in robust dialogue with stakeholders across the whole value chain, and will integrate feedback into strategic planning and operational decision-making.

- Twenty-six percent (9 companies) are Tier 1 or 2 performers, characterized by clear explanations of who the company's stakeholders are and how the company engages with them, compared to 14 percent in 2012.
- Similarly, 26 percent use a variety of platforms to engage with stakeholders on an annual basis (placing them in Tier 1 or 2) compared to only six percent in 2012. However, 51 percent (18 companies) provide no evidence of stakeholder engagement on sustainability issues, the same rate of (non-) performance observed in 2012.
- Forty-six percent (16 companies) meet Tier 1 or 2 expectations for investor engagement by referring to sustainability risks and opportunities in at least two modes of investor communications and, in some cases, specifically addressing these issues in shareholder engagements. In 2012, by comparison, only 11 percent met Tier 1 or 2 investor engagement expectations.

Disclosure: Companies will regularly report on sustainability strategies and performance. Disclosure will include credible, standardized, independently verified metrics encompassing all material stakeholder concerns, and detailed goals and plans for future action.

- Consistent with the observed change in this sector’s level of overall engagement with the financial community, 49 percent (17 of 35 companies) now meet Tier 1 expectations by disclosing in financial filings at least two material sustainability issues that are not compliance-driven, compared to 26 percent in 2012. Eighty-nine percent (31 companies) meet the Tier 2 expectations by disclosing at least one such issue, compared to 63 percent in 2012. Only nine percent (3 companies) do not make any disclosures beyond compliance with applicable laws and regulations.

Performance: Operations – Companies will invest the necessary resources to achieve environmental neutrality and to demonstrate respect for human rights in their operations. Companies will measure and improve performance related to GHG emissions, energy efficiency, facilities and buildings, water, waste, and human rights.

- Fifty-seven percent of the companies in this sector (20 companies) have a program in place to reduce their GHG emissions, but only 31 percent (11 companies) set and disclose quantitative, time-bound targets. Two additional companies have established a target, but do not specify a date by which they plan or expect to reach the target. This profile is essentially unchanged from 2012.
- Forty percent (14 companies) have not completed any assessment of their exposure to water risks, 20 percent (7 companies) have done so in accordance with “best practice” by using generally accepted tools, such as those developed by the World Resources Institute (Aquaduct) or the World Business Council for Sustainable Development (the Global Water Tool). In 2012, only one company reached this level of performance.

Performance: Supply Chains – Companies will require their suppliers to meet the same environmental and social standards as the company has established for itself. Companies will establish sustainable procurement criteria, catalyze improved supplier performance, and facilitate disclosure of suppliers’ sustainability information.

- Eighty percent in this sector (28 companies) have some social standards in place for their supply chains (typically addressing health and safety, non-discrimination, and prevention of child and

forced labor), an improvement over 2012 when less than 50 percent addressed social standards in any form. However, only 14 percent (5 companies) have standards that address a majority of the core conventions established by the International Labor Organization (ILO). Only one company, Duke Energy, currently has a supplier code of conduct that addresses eight of the nine core conventions of the ILO, and is the only Tier 1 performer on the Policies and Codes expectation.

- The sector as a whole is not meeting expectations with respect to supplier engagement; 63 percent (22 companies) still do not appear to have any sustainable supply chain management system (Tier 4), though this is a slight improvement over 2012 when 72 percent of companies were in Tier 4.

Performance: Employees – Companies will make sustainability considerations a core part of recruitment, compensation, and training, and will encourage sustainable lifestyle choices.

- The number of companies that perform at a Tier 3 level or better by providing employees with at least basic sustainability information increased to 46 percent (16 of 35 companies) from 22 percent in 2012. Among these companies, nine meet Tier 2 expectations by offering some employees specific activities for engagement on sustainability issues, and two, including PG&E, systematically embed sustainability into company-wide training and education initiatives.

VII. WORKS CITED

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