

The Top 25 U.S. Electric Utilities: Climate Change, Corporate Governance and Politics

*Prepared by the Sustainable Investments Institute
for the Investor Responsibility Research Center Institute*



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April 2016

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Introduction

As the impact of climate change on businesses becomes more apparent, concerned investors seek boards equipped to deal with the risks and opportunities climate change presents. A growing number of large institutional investors, concerned about their portfolio risks, are focused on the climate change orientation of boards and directors: the degree to which board members bring to the table a demonstrated understanding of the climate change risks and opportunities their companies face, and how this may affect their companies' strategic orientation. Understanding the current climate orientation of boards can aid both investors and their agents as they respond to change. Utilities are amongst the most exposed industries. Moreover, the challenges associated with the recently released Clean Power Plan (CPP) make the utility sector a logical and important case example for evaluating boards. The lessons from how the utility sector handles the challenge of dealing with climate change may apply to other sectors.

PriceWaterhouseCooper's climate change analysts estimate global economies need to cut their energy-related carbon emissions by more than five times the current rate.¹ Corporate leadership, especially in the energy sector, will be key to achieving these goals. The United States' climate initiative relies heavily on reforms in the utility sector through the Environmental Protection Agency's (EPA's) Clean Power Rules to meet substantial carbon reduction goals.²

The CPP sets out a new regulatory framework that creates the opportunity for company transformation, led by boards of directors equipped with the appropriate skills and backgrounds. EPA's regulation of carbon emissions has the potential to produce higher performing and more consumer-focused utilities while reducing emissions. Business models based on advanced energy technologies and services make it possible to cut emissions while improving reliability, reducing costs, increasing competition, and creating new services for consumers. In this sector, boards can make different decisions about how to address climate change. For example, they can embrace new regulatory requirements and focus on long term business strategies that enable a low-carbon economy, they can take an approach that protects the status quo and pushes back against new requirements, or they can choose some mix of these disparate approaches. Examining the nature of utility boards' orientation and their reaction to new regulations therefore can inform assessments of how boards choose to respond to what may be new long term regulatory realities in a low-carbon scenario.

Board climate change orientation: Understanding current board climate orientation can uncover which strategic direction a specific utility is choosing, help evaluate current gaps in board expertise, focus nominating committees on the skills they need and allow

large investors to evaluate board refreshment needs when boards are not keeping up with their peers. A growing number of directors and leading shareholders recognize the need for such an assessment. For example, the National Association of Corporate Directors' recently released Handbook on Sustainability Activities asserts, "Value creation, long-term business resiliency, strategic risk management and stewardship represent the essence of the board's role in overseeing corporate sustainability activities." As an example of one perspective, after a 55 percent vote in favor of proxy access at Chevron in late May 2015, part of a push³ by New York City Comptroller Scott Stringer asserted, "Today's historic victory at Chevron is a vote for accountable and climate-competent directors."⁴

This study examines in depth the current climate orientation of the boards of the 25 largest U.S. investor owned utilities by revenue. It aims to help investors and others evaluate these boards. It also compares and contrasts the utilities and their boards using a variety of metrics designed by the Sustainable Investments Institute (Si2) with input from investors, governance experts and utility economists. The resulting body of data can be used by investors who want to assess how the sector is responding to the challenges posed by climate change and a changing regulatory landscape, with an eye to how these changes will affect portfolio companies. It also allows companies to compare their board members' orientation to peers. The project consolidates and integrates data derived from studies of company sustainability reporting, corporate political activity and lobbying expenditures and the extent of climate risk disclosure and performance.

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Findings

The U.S. utility sector faces steep challenges that are particularly apparent at several of the largest investor owned utilities. Studies are emerging that identify those facing the highest risks from changes mandated by the Clean Power Plan, the United States' plan to implement the Paris climate accord. The corporate governance response by utilities to climate change is muted, at best, however, with few formal mandates for boards of directors to oversee climate change risk, and even less evidence that board members have specific backgrounds on climate risk. Disclosed compensation incentives tied to climate and environmental performance in the utility sector also appear to be minimal. At the same time, utilities are highly active politically: In the last five years, they have spent more than \$400 million on federal lobbying and federal and state elections. With a few exceptions, most are involved in legal efforts to scuttle the Clean Power Plan. Investors seeking change by way of shareholder resolutions have filed scores of proposals encouraging more climate risk and political activity transparency and earned the most affirmation from other investors on the political transparency front, with less support for direct action on climate change policies.⁵

This study provides a snapshot of many, but not all, metrics by which utilities' climate change orientation can be evaluated. The findings should be viewed as a jumping-off point for investor engagement with companies, rather than the last word; pressure in the marketplace as a whole to deliver short-term results clearly remains biased towards status quo business plans for utilities.

Executive Summary

We examined twelve key areas to create a comparative analysis of the 25 companies in the study, with the following conclusions:

- **Energy mix:** Examination of companies' electric power generation mix gives investors a fairly clear sense of the scope of the challenge firms face if they are to become far less reliant on fossil fuel generation. Among the 20 companies that generate their own power, six rely on coal for more than 75 percent of their MWh of generation. In descending order of intensity, these are **AES**, **NiSource**, **DTE Energy**, **Ameren**, **CMS Energy** and **American Electric Power (AEP)**. Of these, **NiSource**, **Ameren** and **AEP** generate 1 percent or less from renewable energy. These six companies together generate 317.1 million MWh, more than 17 percent of the total generated by the companies studied. Conversely, coal makes up none of the fuel mix for two companies—**PG&E** and **Sempra Energy** (although these

two also account for only 45 MWh in total generation between them). **Exelon**, **Entergy** and **Public Service Enterprise Group** have a relatively low reliance on coal.

- **Advanced Metering Infrastructure (AMI) deployment:** Advanced metering infrastructure is an integrated system of smart meters, communications networks and data management systems that enables two-way communication between utilities and customers. Data on the extent to which utilities are deploying AMI provide some indication of a company's commitment to reducing energy consumption via demand-side management. It is not a perfect measure for comparison since deployment is heavily influenced by regulations that vary, state by state. Despite limits inherent in the available data, we identified leaders using this technology. For grid modernization, these are **CenterPoint Energy**, California's three biggest investor-owned utilities—**Edison International**, **PG&E** and **Sempra Energy**—alongside **Duke Energy** and **Consolidated Edison**. **PPL** also leads in AMI deployment in both Pennsylvania and Florida.
- **Return on capital relative to capital expenditures (RoC:CapEx):** Some investors question oil and gas companies' high capital expenditures deployed to fund and extract energy assets that scientists believe cannot be burned if the world is to avoid dangerous warming. In investment risk discussions, this concern translates into a comparison of capital expenditures relative to return on capital. In an attempt to explore how effectively utilities are deploying their capital, while considering climate risks, we therefore present this ratio for our utility universe, which shows that **CenterPoint Energy**, **Eversource Energy** and **DTE Energy** have the strongest ratios, while **Dominion Resources**, **Duke Energy**, **Exelon**, **FirstEnergy**, **NRG Energy** and **Southern** have the weakest ratios.
- **Stranded carbon asset risk:** Data from Oxford University researchers are available for 12 of the companies in our research universe on a range of climate-related risks, showing that, according to the researchers, **AEP**, **NRG Energy**, **Ameren** and **DTE Energy** face the highest average stranded carbon risk, while **Duke Energy**, **FirstEnergy**, **Southern** and **PPL** have the lowest average risk.
- **Emissions intensity:** Data on emissions measured in CO₂-equivalent (CO₂-e) metrics tons, collected by the U.S. Environmental Protection Agency (EPA), coupled with each company's electricity generation in million megawatt hours (MWh) reveal each firm's emissions intensity. This critical indicator shows each company's contribution to the U.S. carbon footprint. The most carbon-intensive

intensive utilities are, in descending order of intensity, **NiSource**, **NRG Energy**, **CMS Energy**, **Xcel Energy**, **DTE Energy**, **AEP** and **AES**. Of these most intensive emitters, two by themselves contribute more than 1 percent of all U.S. greenhouse gas emissions: 1.5 percent from NRG and 1.8 percent from AEP. Those with the lowest intensity (aside from those that do not themselves generate electricity) are **PG&E** and **Exelon**.

- **Emissions transparency:** Investors seeking to reform how companies approach their climate change impacts and management of risks and opportunities place high value on carbon accounting and transparency, and on the extent to which companies participate in voluntary disclosure initiatives to supplement regulatory compliance. While required EPA emissions disclosure rules cover all 25 utilities, many (15) also report voluntarily to CDP, the leading voluntary global effort encouraging carbon emissions reduction, accounting and management. Not all do, however.

ONEOK responds to CDP, but not publicly, and nine companies have not: **CenterPoint Energy**, **Dominion Resources**, **Edison International**, **FirstEnergy**, **NextEra Energy**, **Pepco Holdings**, **PPL**, **Public Service Enterprise Group** and **Southern**. Of those responding, just five reported direct (Scope 1) emissions (in descending order of amount: **Duke Energy**, **NRG Energy**, **AES**, **Exelon** and **Sempra**), while only the latter two also report on indirect emissions from electricity purchases (Scope 2).

Of the CDP responders, **AEP** and **Duke** are by far the biggest purchasers of coal fuel, measured by MWh. Signs of movement from large emitters were evident in a report from a consortium that included Ceres, in January 2015. That report found some signs of progress from **Duke**, **Exelon**, **Southern** and **NextEra**—which increased low and non-emitting generation, sold or closed coal plants, installed emissions controls and cut back on oil-fired generation. All CDP responders said they use an internal price of carbon—considered to be a central carbon risk management component if used in capital budgeting—but just four (**Ameren**, **NiSource**, **Sempra** and **Xcel**) were explicit about their price assumptions, illustrating that there is plenty of room for more transparency on this front.

- **Implied emissions limits:** New regulatory mandates are a key consideration affecting investment risk in the utility sector. The cornerstone of U.S. implementation of the climate treaty signed in Paris in December 2015 is the Clean Power Plan, despite the uncertainty raised by an unprecedented U.S.

Supreme Court stay of the plan granted in February 2016. A 2015 analysis from GNV GL Energy, a utility analyst firm, examined how the CPP would affect many of the firms in our universe, focusing on generation—providing one view on how the utility sector will be affected. Most at risk, it found, are **AES, PPL, DTE Energy, Ameren, AEP** and **CMS Energy**. Conversely, **Entergy, NextEra Energy, Exelon, Public Service Enterprise Group** and **PG&E** come out with the least risky prospects.

- **Potential legal liability:** Another important component of investment risk concerns legal liabilities, which the CPP may impose on utilities, as noted in a study from Michigan Technological University in late 2015. Its quantifications of GHG liabilities and the extent to which these may be mitigated by renewable energy, using different models, varies considerably for the companies we examined. On the high end sit **Southern, NextEra Energy** and **AEP**—and the liability calculation data the researchers made available make clear that the firms with the greatest absolute emissions (noted above) face the biggest potential liability. Integrating the findings for implied emissions limits and legal liability estimates show clear outliers, with **AEP** and **PPL** at the highest risk and, at the other end of the scale with the least risk, **PG&E, Exelon** and **PSEG**.
- **Board climate change oversight and expertise:** Previous Si2 research found relatively widespread formal board level sustainability oversight obligations, but limited discernible expertise among board members who sit on committees charged with these obligations.⁶ This underscores a clear corporate governance challenge but also suggests action that companies can take to address it.

Among the utilities examined in this study, just three firms—**Ameren, Exelon** and **PG&E**—currently have specifically articulated climate change board oversight responsibilities, although most have more general environmental obligations. **CenterPoint Energy** and **Pepco** have no board committee oversight mandates on the environment, climate change or political spending. Only **Duke Energy, Edison International** and **PG&E** have a board member with discernible climate change expertise, based on Si2’s analysis of board biographies. **Duke Energy** and **NRG Energy** have in the last year lost board members who exhibited clear climate change expertise. Investors who seek board members with robust backgrounds in climate change science are likely to find much room for improvement. On the other hand, those who are partial to broad expertise on the part of board members could conclude that these results simply call out for more board level training and study of climate change and its implications for utilities.

- **Environment and climate change management incentives:** An examination of the compensation incentives described by utilities suggests that few concern the environment and/or climate change. When these issues are mentioned in incentive discussions by the utilities we examined, there is a heavy emphasis on legal compliance, but little else. An exception is **Xcel Energy**, which has stronger and more specific disclosure on the subject.
- **Political activity spending and public policy position disclosure:** Shareholders concerned about the climate change orientation of utilities may want to examine the extent to which these companies participate in the political arena through campaign spending and/or lobbying. As a highly regulated sector, utilities can be expected to make their views known, and they do. Evaluating the precise nature of the influence these companies wield with respect to specific regulatory initiatives was beyond the scope of this report. But an analysis similar to carbon footprinting reveals comparative information on the dollar value of each company’s political activity; when normalized by revenue, we calculated a political spending intensity metric that shows which companies are the biggest and lowest spenders on federal lobbying and direct federal and state elections. Of particular importance to utilities are state regulatory mandates, and state lobbying efforts by companies. However, publicly discoverable state lobbying data are uneven at best and are not included in this study.⁷

The 25 utilities in this study have together spent more than \$400 million on federal lobbying and federal and state elections in the last five years. **NRG Energy** and **FirstEnergy** in 2014 had far and away the most intensive political activity spending, with FirstEnergy’s increasing considerably between 2013 and 2014. **Southern** stood out in 2013 and 2012, as well, and over the three years examined spent by far the most—more than \$64 million. In 2012, **AEP** was a particularly intensive spender, in addition. On the low end of the intensity scale are **AES**, **Consolidated Edison**, **ONEOK** and **PPL**.

Corporate reform campaigns concerned with political activity are largely focused on encouraging a board oversight and disclosure model, articulated by the Center for Political Accountability for election spending. To date, 152 companies have adopted the CPA approach, but not all apply it to their lobbying expenditures, which account for some 90 percent of corporate political expenditures, even setting state-level lobbying aside.⁸ Shareholder resolutions in the last three years about political activity also have sought to apply this model to lobbying, with

some uptake by companies. The emphasis on disclosure is relevant for analysis of utilities' climate change policy orientation, as well, and increasingly has been emphasized in the annual CDP survey. Si2 therefore examined each utility's response to CDP questions about public policy involvement and did further analysis for both CDP responders and non-responders of each firm's public policy positions on climate change which they articulate on their websites. We found that just seven companies offer detailed website position statements—**Consolidated Edison, Dominion Resources, DTE Energy, Exelon, NextEra Energy, NiSource and PG&E; AES, CMS Energy, Entergy, Eversource Energy, Sempra Energy and Xcel Energy** discuss their climate policy involvement to CDP. Five (**AEP, Ameren, Duke Energy, Pepco Holdings and PPL**) provide basic disclosure on their websites on their views. But six say nothing at all on their websites or in CDP responses—**CenterPoint Energy, Edison International, FirstEnergy, ONEOK, Public Service Enterprise Group and Southern**.

- **Corporate political activity governance:** Looking at political involvement from a governance perspective and comparative performance on the Center for Political Accountability's CPA-Zicklin Index that is concerned with election spending shows that **Edison International, Exelon, PG&E, Ameren and Entergy** score highly, while **CenterPoint Energy, AES, NRG Energy, FirstEnergy, Eversource Energy, ONEOK, NextEra Energy and NiSource** score poorly.
- **CPP litigation:** To examine the extent to which utilities support or oppose the Clean Power Plan, we looked at which utilities are involved in current litigation about it. Available evidence suggest that **NextEra Energy and PG&E** stand out for their legal support of the CPP, while **Southern** is the most active company in our research universe opposing the CPP on multiple fronts. **AEP, Ameren, DTE Energy, Duke Energy, Entergy, NRG Energy and PPL** are also active in their opposition to the CPP.
- **Shareholder resolutions:** The volume of shareholder resolutions provides one measure of investor discontent with corporate management on a range of issues, while support for proposals gives a sense of how many investors, as a whole, share proponents' views. Since 2010, investors have filed 176 proposals at the 25 utilities in our research universe, concerning energy topics and political involvement. There were 82 votes on these issues through the end of 2015, 42 proposals withdrawn by proponents (sometimes after agreements about the requests, but sometimes after company challenges at the Securities and Exchange Commission (SEC)) and 62 challenges lodged at the SEC in attempts to prevent consideration of the proposals

by other investors. **Dominion, Entergy, Exelon, Pepco Holdings, PG&E** and **Xcel Energy** have been the most likely to challenge resolutions at the SEC. While **AES, Exelon, PG&E, Public Service Enterprise Group** and **Xcel** were most likely to see proposals withdrawn, these withdrawals mostly came following challenges rather than because proponents reached agreements. Reflecting overall proxy season trends, a plurality of high-scoring proposals asked for more board oversight and disclosure of either lobbying or election spending. Four other high-scorers related to coal risks. General climate risk proposals so far have not earned high levels of support from utility shareholders, suggesting reform-minded investors have more work to do if they are to convince a greater number of their fellow utility investors.

Two dozen proposals have been filed for the 2016 proxy season at 14 of the utilities examined in this study, seeking an independent board member with environmental expertise, as well as information on how companies plan to strategically respond to different aspects of climate change, as well as data on political activity and oversight.

Rankings

The table below features the key findings for each climate-related issue we explored in our study, broken out by companies that are most at risk and least at risk on that issue. We call this a “ranking” because it is an effort to put the findings into an order; however, readers should recognize that the ranking is directional and not infer a level of numerical precision which is not possible given the variety of inputs.

Taken in the aggregate, **PG&E** seems to be particularly inclined to take an approach that adapts to climate change risk whereas **NRG Energy, Southern** and **American Electric Power** appear to be most committed to a status quo, business-as-usual approach. The summary table on page 15 shows a numerical ranking of our findings. Points were added for those areas where companies have taken steps to minimize exposure to risks stemming from climate change and subtracted where companies were particularly exposed. Essentially, it is a numerical representation of the summary findings table.

It is impossible to rank these utilities across all metrics that would reflect their stance and performance regarding climate change. There also is a risk of punishing companies for disclosure. It is possible that those companies that have kept a tight lid on their practices and policies suffer less in our rankings compared to those that disclose, simply because we have information to analyze in the latter case. An important element of a

level playing field would be improved transparency across the board.

Even as **NRG Energy** falls dead last in our rankings, the company historically has demonstrated a deep awareness of its impact on climate change, and a strong resolve to improve not only its own performance, but that of the industry as a whole. As discussed further in the section on board member expertise, its former CEO, David Crane, was effectively ousted by shareholders because of his strong stance on these issues. A similar shift appears to have taken place at **Duke Energy**. Investors who hope to use the information contained in this report to pressure companies for more aggressive action on climate change may want to take note of the apparent countervailing pressures. Thus far, it appears the marketplace tends to punish utilities for attempting to reduce their climate change risk.

Summary Rankings—Top 25 U.S. Investor-Owned Utilities		
Issue	Least at Risk	Most at Risk
Energy Mix	Sempra Energy and NextEra Energy have the highest proportion of renewable energy sources in their generation mix, while maintaining almost no reliance on coal. PG&E has no coal in its fuel mix, and Exelon , Entergy and PSEG have a relatively low reliance on coal.	AES , NiSource , DTE Energy , Ameren , CMS Energy and AEP rely on coal for at least 75 percent of their electricity.
Advanced Metering Infrastructure (AMI) Deployment	CenterPoint Energy , Edison International , PG&E , Sempra Energy , Duke Energy , Consolidated Edison and PPL are leaders in AMI deployment.	<i>Data for this topic do not lend themselves to identifying those most at risk, as explained in the corresponding section of this paper.</i>
Return on Capital relative to Capital Expenditures (RoC:CapEx)	CenterPoint Energy , Ever-source Energy , DTE Energy , CMS Energy , PSEG , Ameren , Pepco and Edison International have the strongest return on capital relative to their Capital Expenditures.	AEP , PG&E , PPL , Southern , Dominion Resources , Exelon , NRG Energy , Duke Energy and FirstEnergy have the weakest return on capital relative to their Capital Expenditures.
Stranded Carbon Asset Risk	Duke Energy , FirstEnergy , Southern and PPL are at least overall risk across a range of stranded carbon asset risk scenarios.	AEP , NRG Energy , Ameren and DTE Energy are at greatest overall risk across a range of stranded carbon asset risk scenarios.
Emissions Intensity	Entergy , NextEra Energy , PSEG , Edison International , PG&E and Exelon have the lowest emissions intensity among generating companies.	NiSource , NRG Energy , CMS Energy , Xcel Energy , DTE Energy , AEP and AES have the highest emissions intensity among generating companies.
Implied Emissions Limit under the CPP	PG&E , PSEG , Exelon , NextEra Energy and Entergy are well positioned to be able to comply with new emissions limits under the CPP.	AES , PPL , DTE Energy , Ameren , AEP and CMS Energy are at greatest compliance risk under the pending CPP.

Issue	Least at Risk	Most at Risk
Potential Legal Liability	Exelon, Sempra Energy, Consolidated Edison, PG&E, Edison International, ONEOK, Eversource Energy, CenterPoint Energy and Pepco have the lowest absolute emissions, and thus are least likely to face significant legal liability. CenterPoint and Pepco have significantly lower emissions than the next lowest emitters.	Duke Energy, AEP, Southern, NRG Energy, Xcel Energy, FirstEnergy, PPL and NextEra have the highest absolute emissions, and thus are most likely to face significant legal liability. Duke, AEP, Southern and NRG have significantly higher emissions than the next highest emitters.
Board Climate Change Oversight and Expertise	Ameren, Exelon and PG&E are the only companies that have board committee oversight mandates for climate change issues, while only Duke Energy, Edison International and PG&E have a board member with discernible climate change expertise.	CenterPoint Energy and Pepco have no board committee oversight mandates on environmental, climate change or political spending issues. Duke Energy and NRG Energy have exhibited declining overall board climate change competence in the last year.
Environment and Climate Change Management Incentives	Xcel Energy stands out for its stronger and more specific, quantifiable disclosure of its incentive structure targeted at environmental issues.	CenterPoint Energy, CMS Energy, DTE Energy, Duke Energy, Edison International, NextEra Energy, NiSource, Pepco, PPL, PSEG and Southern have no compensation incentives targeted at environmental issues.
Political Spending and Public Policy Positions Disclosure	NextEra Energy and Consolidated Edison have low political spending intensity and detailed disclosure of their public policy positions. NextEra and NRG Energy have also been recognized as supporting science-based policy. ONEOK, AES and PPL spend very little on political contributions, but do not provide strong disclosure of their public policy positions. Exelon and PG&E stand out for their detailed public policy position disclosure. AES offers relatively detailed disclosure in CDP.	NRG Energy, FirstEnergy and Southern and high political spending intensity and no disclosure about their public policy positions. CenterPoint Energy, Edison International, ONEOK and PSEG provide no disclosure of their public policy positions. Ameren's CDP disclosure suggests obstruction of climate-aware policy, and the company has a history of misrepresenting climate science. Exelon undermines its strong transparency with its opposition to wind subsidies, even as it actively pursues subsidies for its own nuclear plants.
Environmental Lawsuits	NextEra Energy and PG&E stand out for their legal support of the CPP.	Southern is the most active company in our research universe in opposing the CPP on multiple fronts. AEP, Ameren, DTE Energy, Duke Energy, Energy, NRG Energy and PPL are also particularly active in their opposition to the CPP.
Corporate Political Activity Oversight & Disclosure	Edison International, Exelon, PG&E, Ameren and Energy score highly on the CPA-Zicklin Index.	CenterPoint Energy, AES, NRG Energy, FirstEnergy, Eversource Energy, ONEOK, NextEra Energy and NiSource score poorly on the CPA-Zicklin Index.

The summary table below features the key findings for each climate-related issue we explored in our study, broken out by companies that are most at risk and least at risk on each issue. The table shows a ranking of our findings, allocating points according to companies' performance on each issue as described above, and at greater length in the detailed sections of this report. Points are added for those areas where companies have minimized their risk, and subtracted where companies are particularly exposed.

Rankings of Top 25 U.S. Investor-Owned Utilities' Climate Change Practices and Risk

Company	Energy Mix	AMI	RoC:CapEx	Stranded Carbon Asset Risk	Emissions Intensity	Implied CPP Emissions Limit	Legal Liability	Board Oversight & Expertise	Incentives	Political Spending & Public Policy Disclosure	Lawsuits	Political Activity Oversight & Disclosure	Total
PG&E	2	1	-1		1	1	1	2		1	1	1	10
Exelon	1		-1		1	1	1	1				1	5
NextEra Energy	2				1	1	-1		-1	3	1	-1	5
Consolidated Edison		1					1			2			4
Edison International		1	1		1		1	1	-1	-1		1	4
Sempra Energy	2	1					1						4
Entergy	1				1	1					-1	1	3
Public Service Enterprise Group	1		1		1	1			-1	-1			2
Eversource Energy			1				1					-1	1
ONEOK							1						1
Pepco Holdings			1				2	-1	-1				1
CenterPoint Energy		1	1				2	-1	-1	-1		-1	0
Xcel Energy					-1				1				0
Dominion Resources			-1										-1
Ameren	-1		1	-1		-1		1		-1	-1	1	-2
PPL		1	-1	1		-1	-1		-1	1	-1		-2
AES	-1				-1	-1				1		-1	-3
CMS Energy	-1		1		-1	-1			-1				-3
Duke Energy		1	-1	1			-1	-1	-1		-1		-3
FirstEnergy			-1	1			-1			-1		-1	-3
NiSource	-1				-1				-1			-1	-4
DTE Energy	-1		1	-1	-1	-1			-1		-1		-5
American Electric Power	-1		-1	-1	-1	-1	-2				-1		-8
Southern			-1	1			-2		-1	-3	-2		-8
NRG Energy			-1	-1	-1		-2	-1		-1	-1	-1	-9

This table is a numerical representation of the summary findings table on page 13 above. Points were added where companies have minimized their risk compared to the rest of the universe, and subtracted where they were particularly exposed—on each of the metrics explicated in the detailed summary sections below. Detailed descriptions of these findings are provided in the body of the report. For ease of reading, we have divided our study universe into thirds, shown above by color: green shows the companies least exposed to risk, red shows those most exposed and orange shows those in the middle of the pack.

Detailed Findings

A. Exposure to Carbon Asset Risk

Reliance on Coal Plants

Coal is the highest greenhouse gas emitting fuel source in the United States' current electric power generation mix, although utilities are gradually adding renewable sources including most prominently wind and solar to their portfolios. The table below (next page) shows the sources of electricity for each of the companies in our universe with generation activities. (Those companies without their own generation – **CenterPoint Energy, Consolidated Edison, Eversource Energy, ONEOK** and **Pepco** – do not report the fuel mix at the source of the power they buy.)

Duke Energy is the largest electric utility in the United States, as measured by Megawatt hours. **AES** has the highest percentage of coal in its generation mix, while **Sempra** counts the highest proportion of renewable energy sources in its mix. Coal as a percentage of each company's source of electricity by MWh represents more than half of the mix at 10 of the 25 utilities:

AES	DTE Energy	PPL
Ameren	FirstEnergy	Xcel Energy
American Electric Power	NiSource	
CMS Energy	NRG Energy	

Six of the companies—**Ameren, Edison International, NiSource, Southern, PPL** and **Public Service Enterprise Group**—have no renewables in their electricity generation mix. This illustrates the scope of the challenge for transformation of the industry to a more sustainable energy generation mix.

Distributed Generation and Advanced Metering Infrastructure

There is wide variation in our research universe in the deployment of Advanced Metering Infrastructure (AMI), an indication of companies' commitment to demand-side management of energy consumption. AMI is an integrated system of smart meters, communications networks and data management systems that enables two-way communication between utilities and customers. We see deployment variation not only by parent utility, but by state. Each state has its own regulatory structure governing utilities' AMI deployment. Some

Sources of Electricity for 2013, by MWh							
Company	Total Generation (million MWh)	Coal	Gas	Oil	Nuclear	Hydro	Renewable/ Other
AES	41.1	86%	7%	0.2%	0%	0%	7%
NiSource	14.2	82%	18%	0.0%	0%	0%	0%
DTE Energy	43.9	77%	3%	0.2%	15%	0%	4%
Ameren	43.8	76%	2%	0.0%	19%	3%	0%
CMS Energy	21.0	76%	14%	0.2%	0%	2%	7%
AEP	153.1	75%	13%	0.2%	11%	1%	1%
PPL Corporation	88.6	64%	11%	0.1%	19%	5%	0%
NRG Energy	99.4	63%	26%	0.4%	8%	0%	3%
FirstEnergy	96.5	63%	4%	0.1%	32%	0%	1%
Xcel Energy	68.8	60%	21%	0.0%	16%	1%	2%
Duke Energy	243.4	42%	27%	0.2%	27%	2%	2%
Southern	180.2	39%	40%	0.0%	16%	4%	0%
Dominion Resources	93.9	26%	24%	0.3%	47%	1%	1%
Edison International	17.2	25%	33%	0.2%	29%	13%	0%
PSEG	54.4	12%	32%	1.6%	54%	0%	0%
Entergy	129.4	11%	28%	0.0%	60%	0%	1%
Exelon	195.1	5%	11%	0.1%	81%	1%	2%
NextEra Energy	175.7	3%	53%	0.2%	28%	0%	16%
PG&E	31.7	0%	19%	0.0%	57%	23%	1%
Sempra Energy	13.3	0%	83%	0.0%	0%	0%	17%
Universe Average	90.22	44.25%	23.50%	0.20%	25.95%	2.80%	3.30%

utilities have aggressive targets, while others make no provisions whatsoever—which must be viewed in the context of each state in which they are active; indeed, some states have laws and regulations that inhibit AMI deployment. High levels of AMI deployment in states with stringent targets may only indicate compliance, whereas high levels of deployment in states with limited targets may indicate that the utility is going beyond its legal obligations in rolling out demand-side management programs. The three tables on the following pages present this information by company for the three electricity markets: Industrial, commercial and residential. Because our source data are not comprehensive, and only include the largest five electricity providers in each

state that are attributable to our research universe, we cannot use our results to identify laggards in our study. Rather, we can use this information to call out leaders.

In January, GridWise Alliance released its third annual [Grid Modernization Index](#) in collaboration with the energy research and analysis firm Clean Edge.⁹ The report credits **CenterPoint Energy**, California's three biggest investor-owned utilities (**Edison International**, **PG&E** and **Sempra Energy**), **Duke Energy** and **Consolidated Edison** with making important advances in grid modernization. Each of these companies show significant deployment in the tables on the following pages, with the exception of Consolidated Edison, whose initiatives are more recent than the available data. The company [announced](#) in February 2016 that it had partnered with IBM to install more than 3.9 million electric meters in its New York service area, and is awaiting regulatory approval for further deployment. **PPL** is another standout, not only for its strong AMI deployment in Pennsylvania as shown in the following tables, but also for its efforts in Florida. A February 2016 report from GTM Research, [Grid Edge 100](#), highlights PPL's continuous improvement of its reliability in Florida with distribution automation technology.

Industrial Advanced Metering Infrastructure Deployment by State

Company	CA	DC	FL	GA	IL	IN	LA	MA	MI	MN	MO	NC	NJ	NY	OH	OK	PA	TX	VA
AES						99.9%									0.0%				
Ameren					0.0%						0.0%								
American Electric Power						1.1%	0.0%		0.0%						3.1%	3.9%		42.8%	0.0%
CenterPoint Energy																		0.0%	
CMS Energy									1.5%										
Consolidated Edison														0.0%					
Dominion Resources												0.0%							3.0%
DTE Energy									0.0%										
Duke Energy			71.2%			0.0%						17.9%			0.0%				
Edison International	86.6%																		
Entergy							0.0%											0.0%	
Eversource Energy								0.0%											
Exelon					3.8%													0.0%	
FirstEnergy													0.0%		0.0%		0.0%		
NextEra Energy			100.0%																
NiSource						0.0%													
NRG Energy																			
ONEOK																			
Pepco Holdings		0.0%												0.0%					
PG&E	100.0%																		
PPL Corporation																	100.0%		
Public Service Enterprise Group													89.0%						
Sempra Energy	57.5%																		
Southern			100.0%	100.0%															
Xcel Energy										0.0%									0.1%
Universe Average	81.4%	0.0%	90.4%	100.0%	1.9%	25.3%	0.0%	0.0%	0.5%	0.0%	0.0%	11.9%	29.7%	0.0%	0.6%	3.9%	25.0%	10.7%	1.5%

Source: Energy Information Agency

Commercial Advanced Metering Infrastructure Deployment by State

Company	CA	DC	FL	GA	IL	IN	LA	MA	MI	MN	MO	NC	NJ	NY	OH	OK	PA	TX	VA
AES						2.8%									0.0%				
Ameren					0.0%						0.0%								
American Electric Power						2.1%	0.0%		0.0%						6.5%	5.0%		82.0%	0.0%
CenterPoint Energy																		100.0%	
CMS Energy									5.6%										
Consolidated Edison														0.0%					
Dominion Resources												0.0%							10.4%
DTE Energy									100.0%										
Duke Energy			37.7%			0.0%						3.9%			68.3%				
Edison International	95.3%																		
Entergy							0.4%											0.0%	
Eversource Energy								0.0%											
Exelon					2.7%													11.1%	
FirstEnergy													0.0%		0.0%		0.0%		
NextEra Energy			100.0%																
NiSource						0.0%													
NRG Energy																			
ONEOK																			
Pepco Holdings		85.3%												0.0%					
PG&E	100.0%																		
PPL Corporation																		100.0%	
Public Service Enterprise Group													3.7%						
Sempra Energy	99.6%																		
Southern			100.0%	100.0%															
Xcel Energy										0.0%									0.1%
Universe Average	98.3%	85.3%	79.2%	100.0%	1.3%	1.2%	0.3%	0.0%	35.2%	0.0%	0.0%	2.6%	1.2%	0.0%	15.0%	5.0%	27.8%	45.5%	5.2%

Source: Energy Information Agency

Residential Advanced Metering Infrastructure Deployment by State

Company	CA	DC	FL	GA	IL	IN	LA	MA	MI	MN	MO	NC	NJ	NY	OH	OK	PA	TX	VA
AES						1.0%									0.0%				
Ameren					0.0%						0.0%								
American Electric Power						2.1%	0.0%		0.0%						9.2%	6.0%		99.8%	0.0%
CenterPoint Energy																		100.0%	
CMS Energy									9.5%										
Consolidated Edison														0.0%					
Dominion Resources												0.0%							7.6%
DTE Energy									100.0%										
Duke Energy			0.0%			0.0%						0.5%			99.8%				
Edison International	99.2%																		
Entergy							2.1%												0.0%
Eversource Energy								0.0%											
Exelon					4.8%													56.4%	
FirstEnergy													0.0%		2.4%		1.9%		
NextEra Energy			100.0%																
NiSource						0.0%													
NRG Energy																			
ONEOK																			
Pepco Holdings		98.0%												0.0%					
PG&E	100.0%																		
PPL Corporation																		100.0%	
Public Service Enterprise Group													0.0%						
Sempra Energy	100.0%																		
Southern			100.0%	100.0%															
Xcel Energy										0.0%									0.0%
Universe Average	99.7%	98.0%	66.6%	100.0%	2.4%	0.8%	1.6%	0.0%	36.5%	0.0%	0.0%	0.3%	0.0%	0.0%	22.8%	6.0%	40.1%	50.0%	3.8%

Source: Energy Information Agency

Carbon Asset Risk

The concept of stranded carbon assets has taken center stage in the climate change narrative. While climate activists continue to emphasize goals to cut carbon, they also now are putting more emphasis on keeping carbon-producing assets in the ground and undeveloped. According to International Energy Agency, holding the increase in average global temperatures to no more than 2°C — a temperature increase that would still cause significant effects on precipitation patterns, abnormal weather events and crop yields — means most of the world’s proven reserves of oil, gas and coal must not be exploited.

In January 2015, the science journal *Nature* published a study showing that globally, one-third of oil reserves, half of gas reserves and more than 80 percent of *current* coal reserves

must remain unused from 2010 to 2050 to meet the target of 2°C.¹⁰

Some climate activists contend that energy companies should keep an even higher proportion—80 percent—of *all* their current reserves underground, since this would make it less likely that temperatures will increase more than 2°C.

Investors who factor environmental, social and governance issues into their investment decisions have recently been filing shareholder resolutions to push companies to take greater account of the risk of carbon asset stranding. Among the companies in our research universe, **American Electric Power**, **FirstEnergy** and **Southern** face such resolutions in the upcoming 2016 proxy season. **Ameren** faces a resolution that, while calling for greater renewable energy adoption, cites stranded carbon asset stranding risk as part of its basis.

2014 Capital Expenditures and Returns			
Company	CapEx (million)	RoC	RoC:CapEx*
CenterPoint Energy	\$1,372.00	5.03%	36.67%
Eversource Energy	\$1,603.74	4.71%	29.39%
DTE Energy	\$2,049.00	5.98%	29.18%
CMS Energy	\$1,577.00	4.48%	28.41%
Public Service Enterprise Group	\$2,820.00	7.80%	27.65%
Ameren	\$1,785.00	4.91%	27.53%
Pepco Holdings	\$1,223.00	2.80%	22.90%
Edison International	\$3,906.00	8.71%	22.29%
Entergy	\$2,119.19	4.39%	20.69%
NiSource	\$2,028.50	3.93%	19.38%
NextEra Energy	\$3,216.00	5.87%	18.25%
Median RoC:CapEx Ratio	17.05%	5.87%	18.25%
ONEOK	\$1,779.15	3.11%	17.49%
Sempra Energy	\$3,123.00	5.18%	16.60%
AES	\$2,016.00	3.31%	16.44%
Xcel Energy	\$3,199.79	4.99%	15.59%
PPL	\$4,090.00	5.25%	12.85%
AEP	\$4,134.00	4.96%	12.01%
PG&E	\$4,833.00	5.36%	11.09%
Southern	\$5,977.00	4.94%	8.27%
Dominion Resources	\$5,345.00	4.23%	7.91%
Exelon	\$6,077.00	3.89%	6.40%
NRG Energy	\$909.00	0.53%	5.81%
Duke Energy	\$5,384.00	2.37%	4.40%
FirstEnergy	\$3,312.00	1.04%	3.13%
Consolidated Edison	\$0.00	4.80%	

Source: 2014 company 10-Ks

Taking up the baton, conventional investors recently also have begun to express concerns about stranded assets, arguing that in the pursuit for new energy deposits, the easy and cheap sources have largely been found already. What remains are deposits that are increasingly difficult and expensive to exploit. Conventional investors have noted a cycle of increased expenditures by fossil fuel companies that are finding fewer resources with consequent poor financial results. Energy analysts have expressed concerns over companies' increasing capital expenditures and coinciding limited return on capital, which has contributed to generally poor recent financial results.

Return on Capital and Capital Expenditures

To provide potential insight into each utility company's risk of carbon asset stranding, comparative metrics about capital expenditures and rates of return on capital therefore are noted in the table on page 22. The table shows 2014 capital expenditures (CapEx) and return on capital (RoC) for our research universe. It also shows the ratio of RoC to CapEx, which may indicate how effectively companies are deploying their capital.

Stranded Asset Risk

In a January 2016 report, "[Stranded Assets and Thermal Coal: An analysis of environment-related risk exposure](#)," the University of Oxford's Smith School of Enterprise and the Environment found that "the environment-related risks facing the thermal coal value chain are substantial and span physical environmental impacts, the transition risks of policy and technology responding to environmental pressures, and new legal liabilities that may arise from either of the former." The report specifically evaluated the top 100 global utilities by coal-fired generation capacity for their risks related to asset stranding. The strongest takeaway from the researchers' exhaustive analysis was that current disclosure mechanisms are not sufficient for consistent evaluation of stranded carbon asset risk.

[I]t is noteworthy that very little of our analysis has actually depended on existing corporate reporting or data disclosed through voluntary disclosure frameworks. This is both a cause for hope and concern. It demonstrates that significant strides can be made to understand company exposure to environment-related risks even in the absence of consistent, comprehensive, and timely corporate reporting on these issues. But it also highlights how existing frameworks on environment-related corporate disclosure might be asking the wrong questions – they generally attempt to support and enable top down analysis, but might not do enough to support a bottom up, asset-specific approach. Reporting needs to link back to a fundamental understanding of risk and opportunity and to specific assets within company portfolios, especially for companies with portfolios of large physical assets (e.g. power stations, mines, oil and gas fields, processing plants, and factories). In the absence of that, what is reported may not be actionable from an investor perspective.

The researchers also note that the cost of accessing and processing the data they used for their study is prohibitive for most investors.

The report captured 12 of the utilities in our research universe among the world's largest 100 utilities, and ranked their risk along a variety of scenarios associated with asset stranding:

Carbon Dioxide Intensity: The more carbon-intensive a coal-fired power station, the more likely it is to be negatively affected by climate policy, whether through carbon pricing, emissions performance standards or similar measures.

Plant Age: Older power stations create risk for utilities in two ways: they are more vulnerable to regulations that might force their closure, and they increase the likely cost of site remediation requirements.

Local Air Pollution: Coal-fired power stations in locations with high population density and serious local air pollution are more at risk from regulation and emission abatement technology requirements, or even operation cessation.

Water Stress: Power stations located in areas with higher physical baseline water stress, or in areas characterized by water conflict or regulatory uncertainty, are at higher risk of forced operational reduction or cessation, or of profit impairment by water pricing.

Coal Quality: Coal-fired power stations that use lignite—which emits the most carbon dioxide of any coal type—are more at risk than those that use other forms of coal.

CCS Retrofitting: Coal-fired power stations that are not suitable for carbon capture and storage (CCS) technology retrofit might be at greater risk of premature closure.

Future Heat Stress: Climate change will exacerbate heat stress on power stations, as higher ambient local temperatures decrease power station efficiency and exacerbate water stress.

The following table shows the 12 companies covered in the Oxford study, along with their risk ranking from 1 to 100. Note that for the purposes of our study, we have transposed the ranking from its original scale—where 1 constituted the highest risk—to the reverse, where 1 constitutes the lowest risk. This is to allow alignment across the rest of the rankings in our study, where the lowest number value can be seen as indicating the highest level of climate risk awareness.

Stranded Carbon Asset Risk Ranking

Company	CO2 Intensity Risk Rank	Plant Age Risk Rank	Local Air Pollution Risk Rank	Water Stress Risk Rank	Coal Quality Risk Rank	CCS Retrofitability Risk Rank	Future Heat Stress Risk Rank	Average Risk Rank
AEP	65	87	20	1	62	100	83	59.7
NRG Energy	70	92	22	1	69	100	58	58.9
Ameren	74	96	26	1	1	100	100	56.9
DTE Energy	71	97	27	1	1	100	100	56.7
AES	64	71	31	62	1	100	32	51.6
Entergy	52	72	11	1	1	100	100	48.1
Xcel Energy	40	59	5	73	1	100	54	47.4
Dominion Resources	57	94	24	1	1	100	33	44.3
Duke Energy	49	83	29	1	59	33	50	43.4
FirstEnergy	66	86	19	1	1	32	80	40.7
Southern	51	79	13	1	60	31	47	40.3
PPL	32	56	4	1	1	20	65	25.6

Source: University of Oxford Smith School of Enterprise and the Environment.

B. Carbon Emissions

Investors seeking to compare the different climate risk profiles of utilities can look at their absolute emissions, the extent to which they cooperate with robust voluntary disclosure initiatives such as CDP and the extent to which these firms will be affected by coming regulatory changes. This section examines EPA data to determine the largest emitters and shows the relatively limited degree of transparency about emissions and carbon pricing proffered by U.S. utilities. The cornerstone of U.S. implementation of the historic climate treaty signed in Paris in December 2015 is the Clean Power Plan, despite the uncertainty raised by an unprecedented U.S. Supreme Court stay granted in February 2016.¹¹ Two reports in the last year present findings about implied carbon emissions limits required by the CPP and the potential liabilities companies face from their emissions—taking into account past performance and potential future challenges.

Disclosure

Mandatory

All of the companies in our universe are legally required to report their greenhouse gas emissions to the U.S. Environmental Protection Agency's Facilities-Level Information on Greenhouse Gases Tool (FLIGHT). The data do not represent a company's total emissions,

as companies are only required to report emissions from facilities emitting 25,000 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year. Still, the reporting ultimately covers 85 to 90 percent of total U.S. emissions. As highlighted in the table, four companies—**NRG Energy, American Electric Power, Southern and Duke Energy**—each by themselves account for more than 1 percent of all reported U.S. GHG emissions, and together contribute 6.8 percent of the U.S. total. Emissions intensity is calculated as a ratio of absolute emissions to generation. Those companies with blank emissions intensity fields do not generate electricity.

2013 Emissions Reported through EPA's FLIGHT				
Company	Emissions Intensity %*	Absolute Emissions (metric tons CO _{2e})	Generation in million MWh	% U.S. GHG Emissions
NiSource	114.41	16,192,919	14.15	0.24%
NRG Energy	100.86	100,224,829	99.37	1.50%
CMS Energy	98.29	20,619,534	20.98	0.31%
Xcel Energy	82.09	56,506,228	68.83	0.85%
DTE Energy	80.91	35,491,147	43.86	0.53%
AEP	79.10	121,098,420	153.10	1.81%
AES	74.78	30,758,320	41.13	0.46%
Ameren	69.81	30,564,382	43.79	0.46%
Southern	60.30	108,671,229	180.22	1.63%
PPL Corporation	58.87	52,174,283	88.63	0.78%
FirstEnergy	58.09	56,050,031	96.48	0.84%
Duke Energy	50.33	122,474,576	243.35	1.84%
Dominion Resources	37.48	35,205,416	93.92	0.53%
Sempra Energy	33.39	4,427,357	13.26	0.14%
Entergy	25.82	33,413,928	129.40	0.50%
NextEra Energy	22.78	40,023,063	175.68	0.60%
PSEG	18.76	10,206,360	54.41	0.15%
Edison International	14.73	2,529,018	17.16	0.08%
PG&E	9.55	3,023,726	31.68	0.09%
Exelon	3.54	6,905,705	195.05	0.22%
Consolidated Edison		3,146,418	0	0.10%
ONEOK		1,822,300	0	0.06%
Eversource Energy		1,660,130	0	0.05%
CenterPoint Energy		498,125	0	0.02%
Pepco Holdings		173,743	0	0.01%
* Emissions intensity percentage is calculated by dividing generation in MWh into absolute emissions in metric tons CO _{2e}				
Source for emissions data: University of Massachusetts Political Economy Research Institute				

Voluntary

CDP: Not all of the U.S. utilities in our universe cooperate with voluntary carbon emissions disclosure. Of the 25 utilities, 15 companies responded publicly to CDP's most recent annual climate change survey, and one, **ONEOK**, responded privately so its answers are not included. Nine companies did not respond to CDP. **Pepeco** stopped responding to CDP in 2015.

Companies respond to each individual question in the CDP survey entirely at their own discretion. Thus, when CDP responses are presented in subsequent sections of this report, they will not necessarily include information from all the companies shown in the table below.

CDP Response Status in 2015		
Company	Status	Transparency
AES	Yes	Public
Ameren	Yes	Public
American Electric Power	Yes	Public
CMS Energy	Yes	Public
Consolidated Edison	Yes	Public
DTE Energy	Yes	Public
Duke Energy	Yes	Public
Entergy	Yes	Public
Eversource Energy	Yes	Public
Exelon	Yes	Public
NiSource	Yes	Public
NRG Energy	Yes	Public
PG&E	Yes	Public
Sempra Energy	Yes	Public
Xcel Energy	Yes	Public
ONEOK	Yes	Private
CenterPoint Energy	No	
Dominion Resources	No	
Edison International	No	
FirstEnergy	No	
NextEra Energy	No	
Pepeco Holdings	No	
PPL	No	
PSEG	No	
Southern	No	

Only five companies in our research universe reported their Scope 1 (direct) emissions to CDP. Among those reporting, **Duke Energy** is by far the heaviest emitter of those reporting to CDP, although (as shown on the table below), its emissions are nearly equaled by those from **American Electric Power**. Only two companies in our research universe report their Scope 2 (indirect from electricity purchases) emissions: **Exelon** and **Sempra Energy**.

Nine companies in our research universe break down their annual fuel purchase by fuel type in their voluntary reporting to CDP. The table below shows these companies' total purchase of coal products – bituminous coal, sub-bituminous coal and lignite – in Megawatt hours. **American Electric Power** is the heaviest buyer of coal fuel products in our universe, followed closely by **Duke Energy**.

Coal Fuel Products Purchases in 2014	
Company	Coal Fuel Purchase*
AEP	303,257,500
Duke Energy	296,818,858
NRG Energy	209,527,346
AES	181,570,363
Xcel Energy	141,369,478
DTE Energy	105,658,000
Entergy	46,947,257
Exelon	26,072,133
CMS Energy	90,185
*MWh Source: CDP	

2014 Scope 1 and 2 Emissions*		
Company	Scope 1	Scope 2
Duke Energy	122,316,000	
NRG Energy	74,727,000	
AES	36,492,650	
Exelon	18,564,422	6,267,174
Sempra Energy	6,062,860	263,646
* tons CO ₂ e Source: CDP		

Ceres emissions assessment: A January 2015 report prepared by M.J. Bradley & Associates for a consortium that includes Bank of America, The Natural Resources Defense Council, **Exelon** and Ceres – [Benchmarking Air Emissions 2015](#) – compares power production and emissions of several pollutants for the nation's 100 largest power producers. The report focused particular attention on four companies in our study: **Duke Energy**, **Exelon**, **Southern** and **NextEra**. Key findings were:

- **Duke Energy** ranked first in carbon emissions in the nation in 2013, second in 2012 and third in 2011. Still, the report sees encouraging news in Duke's figures. "Despite significantly higher CO₂ emissions, Duke's CO₂ emission rate has only risen 10% thanks in part to an increase in low and non-emitting generation," the report states. The company's SO₂ emissions dropped significantly since 2000 after it completed scrubber retrofits at ten plants.
- **Exelon** has a significant low- and non-emitting generation mix, which accounts for its low total emissions and emission rates. The company recently divested its shares of two coal plants as well.
- **Southern** reduced its coal-fired generation by nearly half between 2000 and 2013 while increasing its gas-fired generation by more than a factor of twelve, thus reducing its total emissions and rates over the same period. The company also installed emissions controls at numerous coal plants. Yet Southern remains one of the largest emitters in the United States.
- **NextEra** has cut back on its oil-fired generation since 2000, leading to a decline in SO₂ and NO_x emissions. The company's CO₂ emissions increased 13 percent between 2000 and 2013, but its total electricity generation more than doubled over the same period.

Internal price of carbon: All of the CDP responding companies in our research universe report using an internal price of carbon, with two exceptions. **AES** does not, but anticipates doing so in the next two years. **PG&E** did not answer the question. Among the companies that use an internal carbon price, all report doing so because of their assumption that eventually, there will be a legally imposed price. They integrate carbon price assumptions into forecasting models to inform resource planning and business strategy. Some companies do so because they face an existing carbon price within their state regulatory frameworks.

Only four companies disclosed their actual price assumptions:

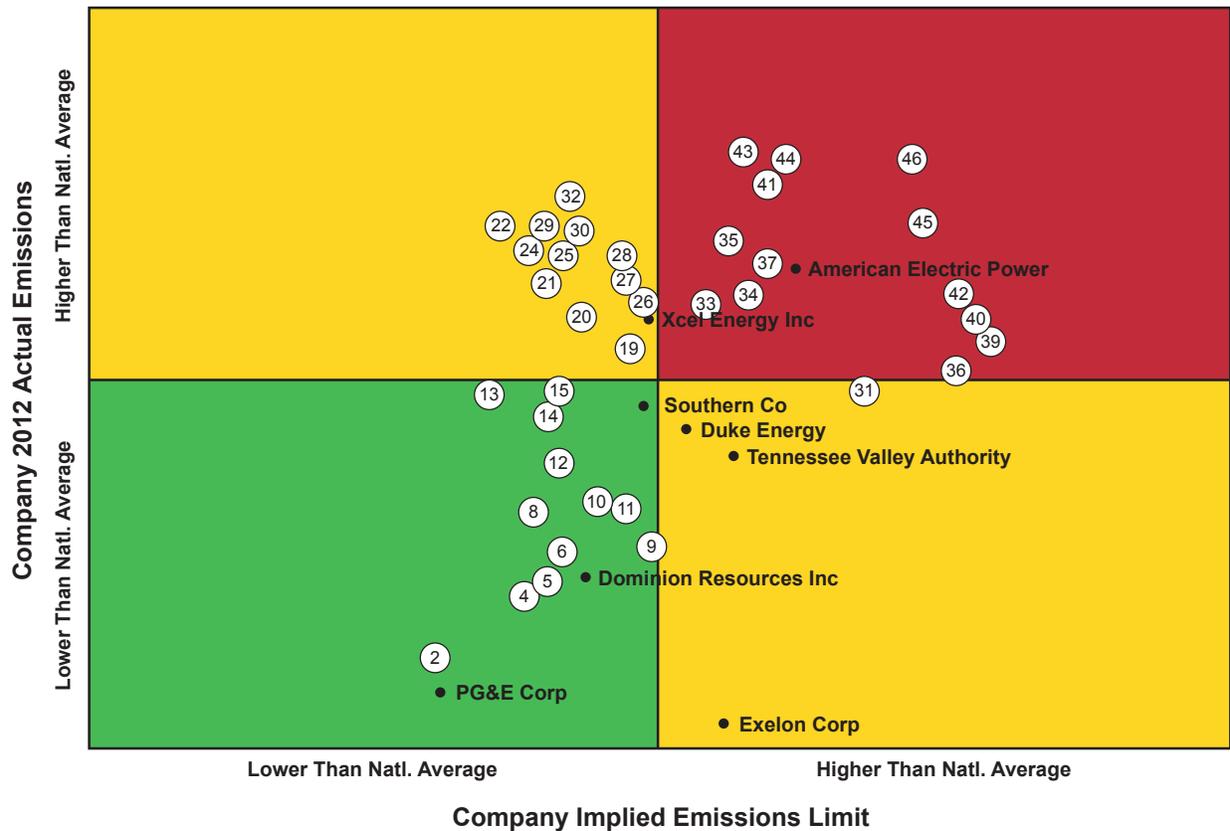
- **Ameren** uses a base price of \$34 per ton starting in 2025 and escalating at approximately 8.5 percent per year, with a low price scenario starting at \$23 per ton and a high scenario starting at \$53 per ton, both starting in 2025.
- **NiSource** projects a starting cost of carbon of \$20 per ton beginning in 2025.
- **Sempra** uses a "Forecast Proxy Price" for 2015 of \$13.06 per ton.
- **Xcel Energy** uses a starting assumption of \$21.50 per ton as a regulatory cost, starting in 2019 and escalating at inflation. The company tests variations down to a low of \$9 per ton and up to \$34 per ton, both beginning in 2019, as established by the State of Minnesota, and tests "late implementation" sensitivity cases of \$9 and \$24 starting in 2024. Xcel says it includes the societal value of carbon as an externality in its sensitivity case.

Implied Emissions Limits

GNV GL Energy, energy experts who deliver testing and expertise for the energy sector including renewables and energy efficiency, in 2015 produced a [report](#), “Working towards compliance: Impact of EPA’s 111(d) on State Regulators and Utilities.” It sought to analyze the impact of the Clean Power Plan (CPP) on electric utilities. Because the stringency of emissions reductions requirements varies from state to state, and individual utilities’ carbon footprints are also highly variable, the analysis took care to account for the emissions profile of each company’s generation fleet as related to the unique emissions constraints of their states of operation. The following image (next page) shows GNV GL Energy’s risk analysis for the 25 largest U.S. utilities¹². The Y (vertical) axis represents utilities’ actual emissions in 2012, graphed against their implied emissions limit under the CPP on the X (horizontal) axis.

Because GNV GL analyzed the largest utilities operating in the United States, regardless of ownership structure—whereas our research universe is confined to investor-owned utilities—three companies in our study were not large enough to figure in GNV GL’s analysis: **NiSource**, **Edison International** and **Sempra Energy**. Additionally, because the analysis was focused on generation, the five companies in our research universe without a generation portfolio were not included. The remaining companies rank as follows, in order of highest to lowest risk:

1. AES
2. PPL
3. DTE Energy
4. Ameren
5. American Electric Power
6. CMS Energy
7. FirstEnergy
8. NRG Energy
9. Xcel Energy
10. Duke Energy
11. Southern
12. Dominion Resources
13. Entergy
14. NextEra Energy
15. Exelon
16. PSEG
17. PG&E



- | | |
|-----------------------------------------|---------------------------------------------------------|
| 1. PG&E Corp | 25. CPS Energy |
| 2. Public Service Enterprise Group Inc. | 26. NRG Energy Inc |
| 3. Exelon Corp | 27. OGE Energy Corp |
| 4. Pinnacle West Capital Corp | 28. Cleco Corp |
| 5. NextEra Energy Inc | 29. Energy Investors Funds Group |
| 6. Entergy Corp | 30. Santee Cooper |
| 7. Dominion Resources Inc | 31. FirstEnergy Corp |
| 8. Calpine Corp | 32. Lower Colorado River Authority |
| 9. LS Power Group | 33. Los Angeles Dept of Water & power |
| 10. Entegra Power Group LLC | 34. CMS Energy Corp |
| 11. Tenaska Inc | 35. Dynegy Inc |
| 12. SCANA Corp | 36. Nebraska Public Power District |
| 13. Carlyle Group (The) | 37. Berkshire Hathaway Inc |
| 14. GDF SUEZ SA | 38. American Electric Power Co Inc |
| 15. Energy Capital Partners | 39. Ameren Corp |
| 16. Southern Co | 40. Westar Energy Inc |
| 17. Duke Energy Corp | 41. DTE Energy Co |
| 18. Tennessee Valley Authority | 42. PPL Corp |
| 19. General Electric Co | 43. Tri State Generation & Transmission Association Inc |
| 20. Energy Future Holdings Corp | 44. Wisconsin Energy Corp |
| 21. JEA | 45. Associated Electric Coop Inc |
| 22. Salt River Project | 46. AES Corp (The) |
| 23. Xcel Energy Inc | |
| 24. TECO Energy Inc | |

Source: GNV GL Energy

Potential Liabilities

Researchers at Michigan Technological University published a [paper](#) in *Renewable and Sustainable Energy Reviews* in November 2015, analyzing the extent to which utilities might face legal liability as a result of such regulations as the CPP. The study, “A Review of Greenhouse Gas Emission Liabilities as the Value of Renewable Energy for Mitigating Lawsuits for Climate Change Related Damages,” sought to quantify potential liabilities for the top greenhouse gas emitters in the United States. The researchers used seven methods found in the scientific literature to assign emissions liability, based on an assumed price of \$80 per ton of emissions. The potential liability among energy companies varied widely, depending on which method was used.

Under models that assign responsibility solely to companies, for example, **DTE Energy**’s Monroe Power Plant in southeast Michigan could be liable for up to \$1.2 billion. The country’s highest emitting plant — the Scherer Power Plant in Georgia, jointly owned by several companies, including **NextEra Energy** and **Southern**— has a \$1.7 billion liability under the same models. Liability may fall more heavily on consumers¹³ or emitters, or feature shared responsibility. The polluter-pays principle places liability on the emitter.

The table below shows the top ten emitting plants in the United States, along with their owners and potential liability under two different models. Those plants shown in grey do not belong to companies in our research universe.

Top 10 Emitting U.S. Power Plants and Potential Liabilities				
Top U.S. GHG Emitting Facilities in 2012	Parent Company	Emissions (metric tons)	Liability by Polluters Pay Theory (millions)	Liability by Shared Responsibility Approach (millions)
Scherer	Southern (29%); NextEra Energy (19%)	21,809,922	\$1,744	\$872
James H Miller Jr	Southern	18,552,161	\$1,484	\$742
Rockport	AEP	17,890,085	\$1,431	\$715
Gibson	Duke Energy	16,900,459	\$1,352	\$676
Gen J M Gavin	AEP	16,634,356	\$1,330	\$665
Bruce Mansfield	FirstEnergy	16,271,444	\$1,301	\$650
Martin Lake	Energy Future Hldgs	15,548,912	\$1,243	\$621
Navajo Generating Stn	SRP	15,474,761	\$1,237	\$618
Monroe	DTE Energy	15,212,909	\$1,217	\$608
Paradise	Tennessee Valley Authority	14,932,724	\$1,194	\$597

Source: Michigan Technological University

The researchers did not publish the liability calculations for their full data set. However, we can see from the table above that in both scenarios where the emitter bears liability, the value of that liability correlates with the level of absolute emissions, and varies by magnitude. The researchers used EPA’s FLIGHT data—presented on page 26 of this report for each of our study companies—as their source for absolute emissions figures. It can thus be inferred that those companies with greatest absolute emissions face the greatest potential liability. Our research universe is shown in the table below in descending order of absolute emissions, along with their liability rank shown in the Implied Emissions Limits section on page 30.

Between the two analyses—implied emissions limit risk and legal liability estimation—a few correlations appear, particularly on the low risk/liability end of the spectrum. We can see from the table below that among the electricity generating companies, **PG&E**, **Exelon** and **PSEG** face the lowest risk under the CPP, and also are at the bottom of the liability projections. On the high risk/liability end of the spectrum, **AEP** and **PPL** rank in the highest risk grouping by both measures.

Still, it is important to keep in mind the differences between the two types of analysis. Liability estimates address companies’ past behavior, whereas the risk ranking evaluates the implications of companies’ future behavior. Liability estimates consider the social harm resulting from companies’ activities irrespective of how well or poorly they complied with their legal obligations, while the risk ranking examines how challenging future legal compliance will be without considering the relative cost of non-compliance. As such, the two approaches illuminate distinct elements of companies’ climate change risk profiles.

Emissions as Reported through EPA's FLIGHT and Climate Risk Ranking

Company	Risk Rank under Implied Emissions Limits	Absolute Emissions (CO ₂ e)
Duke Energy	10	122,474,576
AEP	5	121,098,420
Southern	11	108,671,229
NRG Energy	8	100,224,829
Xcel Energy	9	56,506,228
FirstEnergy	7	56,050,031
PPL Corporation	2	52,174,283
NextEra Energy	14	40,023,063
DTE Energy	3	35,491,147
Dominion Resources	12	35,205,416
Entergy	13	33,413,928
AES	1	30,758,320
Ameren	4	30,564,382
CMS Energy	6	20,619,534
NiSource	--	16,192,919
PSEG	16	10,206,360
Exelon	15	6,905,705
Sempra Energy	--	4,427,357
Consolidated Edison*	n/a	3,146,418
PG&E	17	3,023,726
Edison International	--	2,529,018
ONEOK*	n/a	1,822,300
Eversource Energy*	n/a	1,660,130
CenterPoint Energy*	n/a	498,125
Pepco Holdings*	n/a	173,743

Sources: University of Massachusetts Political Economy Research Institute and GNV GL Energy
* Non-generating companies

C. Director Sustainability Obligations and Qualifications

Leading U.S. companies in general increasingly are responding to requests for more oversight of a wide range of sustainability issues, and the extent of corporate reporting on environmental, social and governance (ESG) issues continues to expand. Some pressure on boards has shown up in the shareholder resolution process with requests for specific types of board member expertise to implement the new (mostly voluntary) oversight mandates that are emerging. These types of requests to date have occurred most commonly at energy companies but among the utilities examined in this report is a pending 2016 resolution at **Dominion Resources** that asks for the nomination of a board member with environmental expertise.

Board Obligations and Discernible Expertise

Discernible climate change expertise among the board members across our research universe is sparse. Several members whose environmental experience is noted in company proxy statements seem to specialize most often on legal compliance. Company descriptions of those few members with robust backgrounds in environmental or climate change issues do not particularly highlight this aspect of their skill sets. Additionally, among those board members with notable experience in the environmental or climate change arena, many of them have additional elements of their profiles that suggest they may not be advocates for business models which mitigate climate change risk.

There is some evidence to suggest that aggressive advocacy for such climate-change risk-aware practices has proven to be a liability for corporate executives, as discussed in the section below on recent developments. Readers seeking to promote more change-oriented climate management at investor-owned electric utilities will want to recognize a strong bias toward the status quo that these companies appear to face.

Board sustainability oversight and expertise in the S&P 500 as context: Building upon earlier research that examined formal board sustainability oversight obligations (*Board Oversight of Sustainability*, March 2014, IRRC Institute), late in 2014, Si2 analyzed board members more specifically. We assessed the sustainability credentials of nearly 800 directors who sit on the boards of 184 S&P 500 companies that have board-level committees that require some degree of sustainability oversight. We found, for the index as a whole, limited specified expertise. Specific sustainability expertise among board members appears to be rare, at least as described in the biographies offered by

companies on their websites and in their nominating discussion in proxy statements. Discernible, specified sustainability-oriented expertise existed for 149 board members, or 19 percent of those who sat on sustainability committees.

Utility sector: The table below shows current explicit board committee obligations for the 25 largest U.S. utilities, articulated in one or more committee charters. While most have some kind of explicit environmental oversight obligation, just three—**Ameren**, **Exelon** and **PG&E**—have climate change-specific board oversight responsibilities. Even these three only mention climate change once in their board oversight documentation, and do not elaborate further.

Explicit Board Committee Oversight Mandates on Sustainability				
Company	Environment	Climate Change	Political Spending	Other Issues
AES	X	X	X	Nominating, governance and corporate responsibility
Ameren	X		X	Policy
AEP	X			Waste, policy
CenterPoint Energy			X	
CMS Energy				Policy, philanthropy, ethics
Consolidated Edison	X		X	
Dominion Resources	X		X	Ethics, policy
DTE Energy	X		X	Community relations, customer relations, charitable contributions
Duke Energy	X		X	Policy, charitable contributions
Edison International			X	Security
Entergy	X			
Eversource Energy	X	X	X	
Exelon	X		X	Policy, community relations
FirstEnergy	X			
NextEra Energy	X		X	
NiSource	X			Contractors, policy
NRG Energy	X		X	
ONEOK				
Pepco Holdings		X	X	
PG&E	X			Hazardous waste, policy, charitable contributions
PPL	X		X	Community relations, policy
PSEG	X		X	Community relations, policy
Sempra Energy	X		X	Policy, security, contractors
Southern	X		X	Policy, stakeholder relations, contractor safety, plant closures
Xcel Energy	X			Policy

Source: S12

Board Expertise at the Largest 25 U.S. Electric Utilities

Si2's review of the current biographies of board members at the 25 largest U.S. electric utilities examines the extent to which there is discernible board expertise about environmental issues and climate change. Showing that the utility sector is largely in sync with the S&P 500 as a whole, the analysis shows that just three companies—**Duke Energy**, **Edison International** and **PG&E**—have a board member with discernible climate change expertise, although companies note some more general environmental expertise. In the last year, **Duke** and **NRG Energy** have seen the departure of board members that did exhibit clear climate change expertise.

Si2 examined the most recent proxy statement nominating language and website biographies of board members, augmenting this research with additional searches for climate experts associated with the 25 utilities in our universe, as of late 2015. We found:

AEP: One member, Oliver Richard, is Chair of Cleanfuel USA, an alternative vehicular fuel company, and a former commissioner of the Federal Regulatory Energy Commission. Another, Sandra Beach Lin, had a year-and-a-half tenure as CEO of a solar silicon company, which may have conferred some environmental experience.

CMS Energy: The company identifies board member Stephen Ewing as having “environmental experience related to exploration, production, drilling, mid stream operations and hybrid vehicles,” and board member William Harvey as having “long term experience with public utility operations and publicly traded companies, knowledge of customer perspectives, utility and environmental regulations and safety and diversity initiatives” derived from his tenure as CEO of Alliant Energy Corporation. CMS Energy also highlights board member David Joos’ “solid foundation in utility regulation, governmental affairs, corporate governance, human resources and environmental expertise.” Mr. Joos was the company’s CEO from 2004 to 2010, holds a master’s degree in nuclear engineering and has worked extensively in the nuclear power industry.

Duke Energy: One member, Richard Meserve, is president Emeritus of Carnegie Institute for Science, whose purview includes ecology and therefore climate change. Dr. Meserve also has 28 years of experience as an attorney focusing on environmental, scientific and energy issues at the law firm of Covington & Burling, LLP. Duke Energy specifically highlights Dr. Meserve’s environmental and climate change expertise. Dr. Meserve also serves on PG&E’s board of directors. Duke Energy also notes board member John H. Forsgren’s prior management and financial experience as Vice

Chairman and Chief Financial Officer of a large utility company, saying he has “extensive knowledge of the energy industry and insight on renewable energy,” but does not elaborate further as to the basis for that insight. Duke Energy notes that two other board members—Harris DeLoach, Jr. and Daniel Dimicco—have knowledge of environmental regulations, but this does not necessarily align with the type of environmental expertise relevant to the strategic focus of this study.

Edison International: Board member Linda Stuntz is a partner in the law firm Stuntz, Davis & Staffier, where she specializes in energy and environmental regulation. Edison International briefly notes Ms. Stuntz’ “environmental law and public policy experience” in its 2015 proxy statement, but does not elaborate further. According to her biography on her law firm’s website, Ms. Stuntz also helped to develop the Clean Air Act Amendments of 1990, and was active in the implementation of these amendments, particularly the acid rain and alternative fuels programs. She did this in her capacity as Deputy Secretary of the U.S. Department of Energy under President George H.W. Bush. In addition, she worked extensively on issues related to potential global climate change and energy-related measures to minimize greenhouse gas emissions. Ms. Stuntz currently serves on the boards of directors of Royal Dutch Shell and Raytheon International, as well.

Exelon: Nicholas DeBenedictis has served on Exelon’s board of directors since 2002. He was the CEO of Aqua America, a water utility, from 1992 until his retirement in 2015. He previously served as Secretary of the Pennsylvania Department of Environmental Resources, and worked for EPA for eight years. Mr. DeBenedictis holds a master’s degree in environmental engineering and science. A second board member, Paul Joskow, was the director of the MIT Center for Energy and Environmental Policy Research from 1999 to 2007. Mr. Joskow also served on EPA’s Acid Rain Advisory Committee and the Environmental Economics Committee of EPA’s Science Advisory Board. From 2004 to 2013, Mr. Joskow served on the board of directors of TransCanada, the company behind the controversial Keystone XL Pipeline. His stated reason for leaving TransCanada’s board was that the company’s fledgling forays into markets in which Exelon operated raised the potential for conflicts of interest.

Pepco Holdings: Board member Barbara Krumsiek was the CEO of Calvert Investments, a responsible investment firm, from 1997 to 2014. In this capacity, Ms. Krumsiek accumulated significant experience in environmental and social responsibility issues, although Pepco touches on this only briefly in its most recent proxy statement, instead focusing on Ms. Krumsiek’s financial and business qualifications.

PG&E: Board member Richard Kelly is a former member of the National Advisory Council of the National Renewable Energy Laboratory. PG&E highlights his specific expertise in clean energy and renewable power. The company also counts Richard Meserve among its board members, whose environmental and climate change expertise are described above under Duke Energy’s entry: Dr. Meserve serves on the boards of directors of both companies. A third member, Anne Shen Smith, previously served on the Coalition for Clean Air’s board of directors, and PG&E counts clean energy as a specific element of her expertise.

PPL: Board member Frederick Bernthal served from 1990 to 1994 as Deputy Director of the National Science Foundation, and from 1988 to 1990 as Assistant Secretary of State for Oceans, Environment and Science. Dr. Bernthal was nominated to both positions, by George H.W. Bush and Ronald Reagan.

Public Service Enterprise Group: PSEG describes board member Hak Cheol Shin’s skills as “important” as the company “seek[s] operational excellence and invest[s] in renewable energy technology, while satisfying customer expectations and maintaining reliability.” The company does not elaborate as to what aspect of Mr. Shin’s background relates to renewable energy, nor is this evident from other public records. Mr. Shin is currently the Executive Vice President of International Operations for 3M, and may have some exposure to renewable energy technology in that capacity.

Southern: One member, Stephen Specker, was formerly CEO of the Electric Power Research Institute, a nonprofit that conducts research on electricity issues including climate and renewables.

Xcel Energy: Board member David Westerlund was previously responsible for environmental health and safety, corporate compliance, security and real estate activities at Ball Corporation.

Summary of Expertise

The table below shows the largest 25 U.S. electric utilities and the percentage of board directors with environmental and climate change expertise.

Explicit Board Member Environmental and/or Climate Change Experience					
Company	# of Directors	# w/ Environmental Expertise	% w/ Environmental Expertise	# w/ Climate Change Expertise	% w/ Climate Change Expertise
AES	10	0	0%	0	0%
Ameren	11	0	0%	0	0%
AEP	12	2	17%	0	0%
CenterPoint Energy	9	0	0%	0	0%
CMS Energy	11	3	27%	0	0%
Consolidated Edison	10	0	0%	0	0%
Dominion Resources	10	0	0%	0	0%
DTE Energy	12	0	0%	0	0%
Duke Energy	14	2	14%	1	7%
Edison International	10	1	10%	1	10%
Entergy	12	0	0%	0	0%
Eversource Energy	12	0	0%	0	0%
Exelon	13	2	15%	0	0%
FirstEnergy	13	0	0%	0	0%
NextEra Energy	13	0	0%	0	0%
NiSource	8	0	0%	0	0%
NRG Energy	13	0	0%	0	0%
ONEOK	10	0	0%	0	0%
Pepco Holdings	9	1	11%	0	0%
PG&E	13	3	23%	1	8%
PPL	13	1	8%	0	0%
PSEG	10	1	10%	0	0%
Sempra Energy	13	0	0%	0	0%
Southern	15	0	0%	0	0%
Xcel Energy	11	1	9%	0	0%

Source: S&P

Significant Developments in Board Climate Qualifications

The following details further reflect on the current state of overall climate change and environmental qualifications among the boards of directors at the largest 25 U.S. electric utilities.

AES: Roger Sant is co-founder and chairman emeritus of AES. Prior to starting AES in 1981, Mr. Sant was assistant administrator for Energy Conservation and the Environment at the Federal Energy Administration. Mr. Sant currently serves on the board of directors of the World Wildlife Fund. He left AES in 1986, and at present the company has no one on its board of directors with comparable environmental expertise.

Duke Energy: In the 2014 proxy voting season, two major Duke Energy investors urged shareholders to reject four board directors over the company's coal ash spill that same year. The California Public Employees' Retirement System and the New York City Pension Funds wrote fellow shareholders, asking that they not re-elect four members of the Duke Energy board's regulatory policy and operations committee. The committee members – Alex Bernhardt, James Hylar, James Rhodes and Carlos Saladrigas – had oversight of Duke Energy's environmental, safety and health compliance. The letter cited the February 2, 2014 ash spill into the Dan River, saying Duke Energy had “forewarning of the public risk” from environmental groups that had intended to sue Duke Energy over ash contamination. None of the targeted committee members had coal industry or other relevant experience, CalPERS and New York City Comptroller Scott Stringer wrote.

Three of the targeted board members continue to serve on Duke Energy's board of directors. Mr. Bernhardt retired in 2015. While he does not have much in the way of environmental expertise, Mr. Bernhardt is a trustee of the North Carolina Chapter of The Nature Conservancy. Another board member from that time period, Phil Sharp, departed at the end of 2014 as part of a planned retirement. Sharp has a strong background in environmental issues, and is the president of Resources for the Future, an environmental think tank. Sharp's environmental and climate change credentials are substantial. He was appointed to the National Academies' Committee on America's Climate Choices, and served from 2008 to 2011. During his 20-year congressional tenure, Sharp took key leadership roles in the development of landmark energy legislation. He was a driving force behind the Energy Policy Act of 1992, which led to the restructuring of the wholesale electricity market, promoted renewable energy, established more rigorous energy-efficiency standards, and encouraged expanded use of alternative fuels. He also helped to develop a critical part of the 1990 Clean Air Act Amendments, providing for a market-based emissions allowance trading system. Mr. Sharp's departure notably diminished Duke Energy's board-level

climate risk awareness capacity. Duke Energy highlights the appointment to the board in 2015 of Dr. Meserve, who does have environmental and climate change expertise.

Jim Rogers, Duke Energy's CEO until his retirement in 2013, has become a prominent advocate for universal energy access. In a new book, *Lighting the World*, Rogers calls for new steps by governments, financial institutions and entrepreneurs to bring light to remote areas of the world. The book lays out a vision that eschews the traditional electrification approach of constructing large coal, gas and nuclear power plants, and promotes instead a reliance on local production, small-scale connections and alternative forms of energy, such as solar panels, the costs of which are coming down. Mr. Rogers has also emerged as a strong advocate for solar energy. Industry observers have speculated about the fact that Mr. Rogers' personal stance on our energy future appears to be more progressive and climate-aware than that of the company he left behind, leaving many to wonder if Mr. Rogers had been unable to steer Duke Energy fully in the direction he publicly espouses.

Entergy: Rod West, Entergy's Chief Administrative Officer, serves on the board of directors for the Center for Climate and Energy Solutions, the successor to the Pew Center on Global Climate Change, which says, "ensuring safe, reliable, affordable energy – while protecting the global climate – is a paramount challenge of the 21st century."

Eversource Energy: William B. Ellis, Eversource Energy's CFO until 1995, serves on the board of directors for the Center for Climate and Energy Solutions. Dr. Ellis is also a resident fellow at the Yale School of Forestry and Environmental Studies, and has been involved in several renewable energy initiatives. Eversource Energy does not currently have anyone on its board of directors with comparable environmental expertise.

NiSource Energy: In 2015, NiSource Energy separated its natural gas pipeline and related businesses into a stand-alone, publicly traded company called Columbia Pipeline Group (CPG). Six of NiSource's original board members, including Deborah Parker, resigned and joined the board of directors of CPG as part of that process. Ms. Parker was Alstom Power's Senior Vice President of Quality and Environmental, Health and Safety until her 2014 retirement. In NiSource's most recent proxy statement, written before the split, the company described Ms. Parker's expertise as valuable to the company as it executed on its "commitment to increase our investment in environmental projects." NiSource does not currently have anyone sitting on its board of directors with Ms. Parker's environmental qualifications.

NRG Energy: In December 2015, NRG Energy's then CEO, David Crane, resigned from his position at the company in response to investor pressure. Mr. Crane had distinguished

himself as a champion of distributed energy as a key strategy in combatting climate change. Crane [wrote in a 2014 op-ed](#):

There is no energy company that the consumer can partner with to combat global warming without compromising the prosperous ‘plugged-in’ modern lifestyle that we all aspire to - not just for those of us who are so blessed to live a prosperous life in the United States, but for the billions of people who live in the developing world and aspire to what we already have... NRG is not that energy company either, but we are doing everything in our power to head in that direction, as fast as we can.

As the company invested heavily in distributed energy through various solar acquisitions, it missed some of its rooftop solar installation targets and spent far more on marketing than it had projected. NRG Energy’s solar businesses grew more slowly than expected, which was in keeping with the trend at the national level. Investors balked, and the company’s stock price dropped by more than 30 percent from the spring of 2014 through that December. Ultimately, Mr. Crane succumbed to intense investor pressure and left his post. His [farewell letter](#) to employees suggests the extent to which his strong environmental vision could not withstand the relentless pressure for short-term profits.

Incentives

In their CDP disclosures, companies provided information on the types of incentives they use for climate change issue management and target attainment, as shown in the following table. **CMS Energy** and **Duke Energy** report that they do not provide any climate-change issue management incentives. Additionally, several companies in our universe report environmental or climate change issue management incentives in their annual proxy statements. The information below features company-reported information from both CDP responses and proxy statements.

The 25 largest U.S. electric utilities generally feature few incentive mechanisms for environmental and climate change management, or at least thin disclosure of the incentives on offer. Many appear to reward legal compliance, but little beyond that. **Xcel Energy** stands out for its stronger and more specific, quantifiable disclosure. However, it also joins **Duke Energy** and **Pepco** in what appears to be a recent slackening of previously stronger practices in this area. **NiSource** and **DTE Energy** state that they provide incentives related to environmental management, but do not provide specifics.

AES: In its CDP response, AES says that its performance incentive plan for its corporate

Incentives for Climate Change Issue Management/Target Attainment (2014 CDP Responses)

Company	All employees	Board chairman	Business unit managers	CEO	Corporate executive team	Energy managers	Environment/Sustainability managers	Executive officer	Facility managers	Management group	Other: All plant employees	Other: Environment/sustainability managers	Other: Union employees involved w/ GHG emission regulation	Public affairs managers
AES ^ *	R		M		M									
Ameren ^					M	M	M			M			M	
AEP ^ *	M						M							
Consolidated Edison ^	M													
Dominion Resources *					M									
DTE Energy ^	M													
Entergy ^	M				M							M		
Eversource Energy ^	R, O		R		M		M		M	M				M
Exelon ^	R		M		M		M							
FirstEnergy *					M									
NiSource ^	M													
NRG Energy ^ *	M									M	M			
ONEOK *					M									
Pepco Holdings														
PG&E ^	R									M				
Sempra Energy ^					M					M				
Xcel Energy ¹⁴ ^ *		M	M	M				M						

R = Recognition (non-monetary); O = Other non-monetary reward; M = Monetary reward
 ^ Provided information in CDP response * Provided information in proxy statement

executive team includes a measure of power plant efficiency in one of its key performance indicators, referring to similar language in its most recent proxy statement. Given that the efficiency measure is embedded in a broader measure that also includes targets, it is not possible to evaluate how influential this incentive may be on its employees. In its CDP response, the company also notes that business unit managers receive unspecified monetary rewards for meeting all environmental compliance requirements. Given that this reward only aims for meeting legal obligations, it will not carry weight for investors looking to understand companies' strategic plans vis à vis climate risks. Finally, AES says in its CDP response that it offers an annual, non-monetary environmental award, open to all employees, to an individual "for their personal commitment to environmental leadership."

Ameren: In its CDP response, Ameren reports that various employee categories receive

monetary rewards for targets related to carbon emissions, energy efficiency and climate initiatives, defining these targets in keeping with the employee's level of responsibility for each. The company does not elaborate, so we cannot assess the strength of the incentive.

AEP: American Electric Power uses broad language in its CDP response to say that it uses monetary rewards and recognition to incentivize such things as emissions reduction and energy efficiency among all of its employees, but offers no specifics. Regarding its employees in Environmental Services, Legal, Sustainability, Governmental Affairs and Public Policy, the company says they “have specific performance goals related to climate change management written into their annual performance plans. Execution of these goals, through analysis, business development, stakeholder engagement and/or lobbying efforts directly impacts their annual compensation.”

In its most recent proxy statement, AEP notes that environmental measures, including, “for example, emissions, project completion milestones, regulatory/legislative/cost recovery goals, and notices of violation,” are included in employees’ “performance goals upon which the payment or vesting of an award” are based. Here again, the company does not elaborate, and it is thus not possible to evaluate how strong these incentives may be.

Consolidated Edison: In its CDP response, the company says that it has an environmental index that is tied directly to variable pay for all employees. The index comprises various key performance indicators related to natural resource use, specific emission reduction targets and more. The relative weight of these measures to overall pay determinants is not provided.

Dominion Resources: While the company does not respond to CDP, it reported in its most recent proxy statement that Dominion Resources includes several environmental compliance metrics in its annual incentive plan. While climate-focused investors will not consider strictly compliance-based incentives to be remarkable on their own, it is interesting to note that Dominion identifies by name in its proxy statement any non-executive officers who do not meet their individual goals.

DTE Energy: The company reports in its CDP response on several different reward schemes within its operations, some of which are monetary. However, none of these rewards specifically targets climate change management. The company observes that recipients have sometimes been recognized because of environmental initiatives.

Duke Energy: The company seems to have taken a step back from a previously stronger position on climate change management incentives. Duke Energy's 2013 short-term incentive plan included an objective for all employees to encourage greater wind and solar

generation, and for its staff responsible for end-use energy efficiency programs to promote customer adoption of the company's energy efficiency products and services. According to Duke Energy's most recent CDP response and proxy statement, the company has eliminated both incentives, and no longer provides any rewards for climate change management. Its most recent proxy statement only says that its management "may" grant performance awards based on "reportable environmental events," among myriad additional factors. This would appear to be strictly compliance-based.

Entergy: In its CDP response, Entergy says that it awards monetary bonuses "as deemed appropriate by supervisors for employee activities in the climate change and environmental area." The company also says that it recognizes employees for their environmental/climate-related activities. Entergy's compensation program for executive officers includes awards for contributions to the company's environmental objectives, including those embedded in its climate strategy and greenhouse gas stabilization commitment. Additionally, the company's environmental and sustainability management staff have performance goals tied to those areas, and are rewarded in part on the basis of their successful attainment of those goals. No details are available regarding the allocation or weight of these incentives.

Eversource Energy: The company's CDP response in this area is lengthy, yet thin on detail. Eversource lists a number of functions within its company—the corporate executive team, management group, environment/sustainability managers, facility managers, public affairs managers, energy managers and business unit managers—and describes the environmental aspects of their jobs, saying that these are tied to monetary rewards. Presumably, the inference is that employees' compensation is set on the basis of established performance indicators, including environmental ones where appropriate. Eversource Energy describes one aspect of its management group incentives thus:

All Eversource management employees are eligible to receive incentive payments based on performance. Performance goals for certain employees may include environmental targets, support for emerging and existing environmental laws, regulations and policy (including climate-change related); stewardship and sustainable business practices such as energy efficiency, and other GHG mitigation measures; and supporting strategic initiatives related to energy efficiency, natural gas expansion, electric vehicle infrastructure, distributed generation, Smart Grid and renewable energy. [emphasis added]

The only incentives extended to all employees are in the form of benefits: preferential parking for carpoolers and hybrid drivers at "various corporate office locations," and a system that tracks employee mileage savings by way of various commuting options, the latter of which confers non-monetary recognition.

Exelon: In its response to CDP, Exelon says that it provides non-monetary recognition to all employees through “various contests and initiatives which help to communicate climate change issues and lifestyle changes that can result in a reduced carbon footprint for employees at home.” Its most recent award winners recognized teams for energy use reduction within Exelon, and projects that helped the company’s customers “develop climate change plans” and consume less electricity. Regarding its corporate executive team, the company says that its “compensation highlights” included solar- and wind-capture efficiency and distributed generation growth. The company’s business unit managers are held to internally established greenhouse gas emissions reduction goals as part of their performance evaluations, and thus their annual bonuses. Exelon’s environment/sustainability managers are evaluated and compensated in part against a variety of environmental and climate change metrics. The company gives no information regarding the relative weights of these factors.

FirstEnergy: While the company does not respond to CDP, it reports in its most recent proxy statement that FirstEnergy’s incentive compensation plan includes environmental performance goals among numerous others, although the company notes that these goals “may be selected by the Committee in its sole discretion.” No further information is offered as to the relative weight of these potential incentives.

NiSource: NiSource says it provides monetary rewards to its management group for the management of climate change issues, but its explanation is limited. The company describes its overall infrastructure modernization plan, saying that “NiSource employees will benefit from results in line with company-set earnings targets, which rely upon successful execution of the plan.” The company goes on to note, “Monetary awards are not specifically tied to greenhouse gas emission reductions, but our modernization programs result in emission reductions.”

NRG Energy: The company reports on its climate change management incentives both in its CDP response and in its proxy statement. The company notes in its CDP response that its management group has monetary incentives in place to help meet goals associated with renewable generation, CCS development, smart energy solutions and more. However, NRG’s proxy statement also says that its compensation committee will base performance goals under the annual incentive plan on “any one or more” of a long series of factors, among which are environmental criteria. This is consistent with the other companies that report any such information in their proxy statements, which when they mention climate-related criteria do not necessarily insist that they be taken into account.

A stand-out element of NRG’s incentives appears in the company’s CDP response as follows:

Compensation of NRG’s power plant personnel is, in part, based on environmental key performance indicator (E-KPI) scores. Factors that affect the E-KPI are performance, environmental reporting and the econrg [internal company program] projects that can reduce GHGs in the community or plant. For example, the scores take into account the accuracy of continuous emissions monitoring systems (CEMS) and whether a plant has complied with regulatory requirements such as the EPA’s Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98).

Finally, the company offers monetary rewards to employees who reduce their private carbon footprints, including one grand prize of a paid eco-vacation.

ONEOK: The company provides information in its most recent proxy statement regarding financial incentives tied to environmental factors. While ONEOK’s internally defined metric—the Agency Reportable Environmental Event Rate (AREER)—is largely compliance-focused, it is still noteworthy as the company describes specifically how much weight it carries. In 2014, the AREER carried a 10 percent weight in the short-term cash incentive plan measures. ONEOK is the only company in our research universe to provide such quantification.

Pepco: The company declined to respond to CDP’s most recent survey, and its proxy statement shows no evidence of any climate-related incentives in its compensation structure. The company’s decision no longer to respond to CDP is particularly noteworthy in light of its 2014 response to the incentive questions:

Completing and submitting the CDP Questionnaire is a target in PHI’s Sustainability/Environment Team’s Annual Incentive Plan (AIP) Balanced Scorecard, therefore all individual managers and employees within PHI’s Environmental Services Group receive monetary incentives for this action. The AIP scorecard is based upon three pillars of performance indicators— employee, customer and financial – with specific metrics tied to each pillar... For example, one of PHI’s Environmental Services Group performance target [sic] is to establish a greenhouse gas emissions baseline across all PHI business units and establish achievable GHG emissions target reductions...

PHI’s Director of Environmental Services, an executive leader of the company that receives monetary incentives through the Executive Incentive Compensation Plan (EICP) [sic]... It encourages and rewards excellent performance that will help PHI achieve its business objectives, including performance related to environmental and climate change objectives, in a manner consistent with the company’s values. Under theEICP, a weighted 5 percent of the executive leader’s compensation is tied to driving improvement of the company brands through accurate and effective environmental disclosure and reporting. Measurement is based on the

company's scoring in the annual Carbon Disclosure Project, and the monetary incentive is met if the company achieves its goal to score in the first quartile among S&P 500 utilities and to be named to the Carbon Leadership Index.

Indeed, Pepco received CDP's highest disclosure and performance scores for its 2014 response, and was included in CDP's leadership indexes that year. This surprising shift in one year seems to be a significant change in direction for the company.

PG&E: The company's CDP response in this area suggests thin incentives for climate change management, relative to our research universe. The only incentive available to all employees is non-monetary recognition, in the form of awards that provide charitable contributions to the environmental non-profits of their choice. The company describes its only other incentive as follows:

Management employees at all levels with responsibilities over environmental matters are eligible for pay raises and monetary rewards based on their performance against their individual operating plans. These may consider achievement towards the company's key metrics and targets that relate to climate change, such as the amount of renewable energy delivered to customers; the number of therms, kW, and kWh reduced through energy efficiency programs; and employees' success in advancing climate change policy in line with PG&E's policy goals.

Sempra Energy: In its CDP response, Sempra says that employees whose positions include managing environmental and climate impacts "are incentivized to achieve annual goals and targets related to these areas." The company notes that its collective bargaining agreements preclude incentive-based compensation of non-supervisory union members. Additionally, Sempra Energy included a measure of advanced meter installation progress in its 2014 performance-based annual bonus plan for its corporate executive team. The company provides no information as to the weight of these factors in overall compensation.

Xcel Energy: In its CDP response, Xcel Energy reports that it provides non-monetary rewards to its board chairman, CEO and business unit managers. For the purposes of this report, we revised this to monetary rewards, as the incentive is in the form of stocks, which have a cash value.

Long-Term Incentives for the 2014-2016 grant cycle have a performance-based vesting schedule based on carbon emissions reduction. Specifically, the goal is measured by achievement of carbon emission reductions below 2005 levels over the three-year period with the % performance share payout beginning at 18% reduction and increasing to a maximum payout at 24% by implementing clean energy initiatives, including development of new wind and solar resources, efficiency programs, and system modernization. For the 2015-2017 grant cycle, the

goal is measured by achievement of carbon emission reductions below 2005 levels over the three-year period with the % performance share payout beginning at threshold reductions of 19% and increasing to a maximum payout for carbon emissions reductions over 26%.

The company provides further detail in its most recent proxy statement:

Long-term incentive compensation is approximately 66 percent and 50 percent of the CEO’s total direct compensation and the other NEOs’ total direct compensation, respectively, and is primarily performance-based. . . 37.5 percent (or 30 percent of total long-term incentive target value) of performance share awards are subject to the achievement of specified reductions in carbon emissions over the three-year performance cycle ending on December 31, 2016. The GCN selected reduction in carbon emissions as a performance measure as it directly supports our environmental strategy. . . Payout of performance shares may range from 0 percent to 200 percent of target grant (see below) based on level of achieved performance. Each performance share represents one share of Xcel Energy common stock. . .

Percent of Target Performance Shares Earned	Percent of Target Performance Shares Earned
24% or above	200%
21% (Target)	100%
18%	50%
Less than 18%	0%

Xcel Energy provides significantly more detail in this area than any other company in our research universe. However, its actual stance on climate-based incentives slackened from the previous reporting year, when the company included an environmental metric in its annual bonus program for all eligible (exempt, non-bargaining) employees. Also, Xcel noted that the 2013 annual incentives for its CEO:

were based entirely on attainment of corporate goals, which included an environmental metric based upon achievement of a goal related to energy savings. These objectives are critical to our performance and align with our long-term strategy as an environmental leader. 20% of the company performance portion of the annual incentive award was based on achieving the company’s annual Demand Side Management goals.

This provision was not present in reporting post-2013.

D. Political Activity and Climate Change Policy Involvement

Spending Intensity

Longstanding public concern about the extent and nature of corporate political influence on elections and regulations is reflected in shareholder campaigns urging more board oversight and disclosures of expenditures. Election spending oversight and disclosure of direct expenditures from the corporate treasury has substantially increased since the turn of the decade, spurred on by concern about the loosening of campaign finance laws by the 2010 *Citizens United* Supreme Court decision. More companies have begun to follow suit when it comes to direct lobbying oversight and transparency, as well. Transparency about

3-Year Political Spending Intensity (Ranked by 2014 figure) and Five Year Spending Total (2011-15)				
Company	2014	2013	2012	Spending Total
NRG Energy	1.46%	-0.58%	1.30%	\$12,242,642.22
FirstEnergy	1.08%	0.70%	0.51%	\$14,708,586.00
Southern	0.65%	0.78%	0.67%	\$64,464,600.00
Duke Energy	0.56%	0.25%	0.50%	\$36,045,186.63
Pepco Holdings	0.54%	-0.63%	0.46%	\$6,259,580.00
AEP	0.46%	0.55%	0.72%	\$34,239,756.95
Ameren	0.44%	0.71%	-0.31%	\$11,704,035.69
Entergy	0.40%	0.59%	0.55%	\$20,452,936.21
Exelon	0.36%	0.31%	0.79%	\$33,764,804.00
CMS Energy	0.30%	0.35%	3.58%	\$19,166,893.85
PG&E	0.30%	0.55%	0.44%	\$17,747,952.72
DTE Energy	0.25%	0.29%	2.37%	\$21,045,957.73
Dominion Resources	0.24%	0.20%	1.06%	\$14,213,492.06
NiSource	0.24%	0.21%	0.23%	\$5,022,522.90
Sempra Energy	0.24%	0.21%	0.26%	\$10,463,150.00
PSEG	0.23%	0.30%	0.30%	\$17,596,027.54
NextEra Energy	0.21%	0.24%	0.27%	\$21,319,375.00
Xcel Energy	0.21%	0.25%	0.23%	\$10,336,950.93
CenterPoint Energy	0.17%	0.67%	0.55%	\$5,867,350.54
Edison International	0.17%	0.28%	-2.99%	\$11,582,214.90
Eversource Energy	0.11%	0.15%	0.25%	\$5,367,000.00
Consolidated Edison	0.08%	0.07%	0.09%	\$4,236,631.00
PPL	0.07%	0.12%	0.12%	\$6,470,861.35
AES	0.04%	0.37%	0.04%	\$2,197,385.60
ONEOK	0.03%	0.05%	0.05%	\$506,280.00

* Political expenditures divided by net revenue

indirect spending remains a key point of contention, however.

It is difficult to obtain consistent, complete and reliable data on companies' political activity spending. The data are available in various, often incomparable forms in some states, and are not disclosed in others. Si2 compiled currently available data on the election spending of our research universe companies at the federal level and in the states, and federal lobbying. Parsing the nature of each line item for its relevance to climate policy exceeds the scope of this project, but using these data we calculated each company's political spending intensity for the most recent three years for which complete data are available, dividing the company's political expenditures by its net revenues in the same year. Results also are available using the same approach for companies' aggregate spending by party, incumbency, state and type of expenditure.

The intensity figures in the table here are based on reported spending figures in a variety of categories, delineated in more detail below in this report. Individual companies' spending figures, by categories such as political party, type of spending and jurisdiction, are provided in the table starting on page 68. (For comparison purposes, the total amount of reported spending on lobbying and elections is included here, although the absolute rankings for dollar spending fall into different categories than the intensity rankings; see p. 75 for a comparison of which companies spend, overall, the most and the least.)

As the table above shows, **NRG Energy** and **FirstEnergy** in 2014, the most recent year for which whole-year data were available, have far and away the most intensive political activity spending, with FirstEnergy's bumped up considerably between 2013 and 2014. **Southern** stood out in 2013 and 2012, as well, and over the three years examined spent by far the most—more than \$64 million. In 2012, **AEP** was a particularly intensive spender, in addition. On the low end of the intensity scale are **AES**, **Consolidated Edison**, **ONEOK** and **PPL**.

Public Policy Positions Disclosure

Si2 analyzed the websites of each company in the utilities universe, including all disclosed political contributions and lobbying policies, for information on each firm's climate change public policy positions as directly related to political spending or lobbying. General policy positions were not included in this review. Disclosures were then categorized into three groups (see table on next page).

Seven companies provide specific, climate change-related public policy positions, some of which references individual projects, regulations or government agencies. Five more

proffer public policy positions that include some language on the issue and 13 do not.

Among the companies providing detailed public policy information, two (**Exelon** and **PG&E**) stand out in the amount of information and detail they provide:

- Exelon gives extensive information on its policy advocacy and issues and goals at the federal and state level, as well as specific federal and state-level legislation on which it actively advocates.
- PG&E lists specific efforts at both the state and federal level, including specific, state-level legislation upon which it has engaged in advocacy efforts. It provides more general information on its federal advocacy, but it does identify two climate-related areas (new energy legislation and infrastructure investments) about which it actively participates in the public policy process.

Of the companies shown above that provide no public policy disclosure, **AES**, **CMS Energy**, **Entergy**, **Eversource Energy**, **Sempra Energy** and **Xcel Energy** provide such information in their CDP disclosures.

Website Disclosure of Public Policy Positions on Climate Change			
Detailed (7)	Consolidated Edison Dominion Resources DTE Energy	Exelon NextEra Energy NiSource	PG&E
Basic (5)	AEP Ameren	Duke Energy Pepco Holdings	PPL
None (13)	AES* CenterPoint Energy CMS Energy* Edison International Entergy*	Eversource Energy* FirstEnergy NRG Energy ONEOK PSEG	Sempra Energy* Southern Xcel Energy*
*Public policy positions discussed in CDP responses but not on website			

While **Southern** makes no public disclosures of its public policy positions, the company has a long history of promoting research that seeks to undermine established scientific consensus on climate change. [The company provided](#) at least \$409,000 in funding to Dr. Wei-Hock “Willie” Soon, an astrophysicist who claims that variations in the sun’s energy can largely explain recent trends in global warming. Despite the fact that the vast majority of the scientific community has dismissed Dr. Soon’s work, politicians seeking to block climate change legislation have repeatedly pointed to his publications to support their arguments. Southern allowed Dr. Soon’s contract with the company to [expire](#) at the end of 2015.

CDP Responses on Public Policy

The companies in our research universe that responded to CDP provided information regarding the extent to which they support various public policies related to climate change, as well as their financial support for and alignment with major trade associations. These are shown in the tables on the following pages. Below is a summary of each company's position. Stand-outs include **AES**, **NRG Energy** and **NextEra Energy** for detailed disclosure and external recognition for supporting science-based policy, and **PG&E** for its broad support of climate-change aware policies. **Ameren's** CDP disclosure suggests obstruction of climate-change aware policy, and the company has a history of misrepresenting climate science. Exelon undermines its strong transparency with its opposition to wind subsidies, even as it actively pursues subsidies for its own nuclear plants.

AES: The company opposes a carbon tax and favors market-based mechanisms such as cap and trade. AES advocates for a reliability safety valve, provisions for cost containment and trading options. The company is fairly detailed in its accounting of meetings with government officials and other lobbying activities. In May 2012, the Union of Concerned Scientists (UCS) published a report¹⁵ on companies' influence on its climate policy debate. The report included AES among the companies in its study universe that had "taken many actions in support of climate science and science-based policy."

Ameren: The company supports adaptation resilience as long as investment recovery is possible, which is fairly typical of the utility industry as a whole. Ameren is generally concerned with cost recovery and compliance impact on customer rates, as well as reliability during extreme weather conditions. The company also reports support for delays in implementation of emissions limitations on new and existing power plants until carbon capture and storage (CCS) technology becomes a viable option, which is by no means a foregone conclusion. This can therefore be construed as impeding emissions control measures. Some aspects of the company's reporting are so vague as to prevent any real gauge of their impact. Ameren's public policy positions should be considered in the context of its previous inconsistency on climate change issues. The 2012 UCS report found Ameren to be one of several companies that had "misrepresented some element of established climate science in their public communications."

CMS Energy: The company opposes EPA's regulations on power plants under the CPP and other mandates on several grounds. CMS Energy argues that much of the coverage of these new rules exceeds EPA's jurisdiction. The company also points out that the rules depend on CCS, despite the uncertainty of its viability, placing its position in stark contrast with that of Ameren. CMS Energy also advocates for recognition under any new regulation of carbon reduction efforts plants undertook prior to the rulemaking.

DTE Energy: The company generally supports market-based solutions, and is concerned with having enough time for transitions of existing power plants to new requirements, cost impact on customers and preserving flexibility in keeping with regional differences. The company prefers state-level clean energy policies, and has supported clean energy generation efforts in Michigan. While not an aspect of its CDP disclosure, it is noteworthy to use the company’s self-declared policy positions in the context of the company’s history of misrepresenting climate science. The 2012 UCS report found DTE Energy to be one of several companies that had “misrepresented some element of established climate science in their public communications.” The UCS characterized DTE Energy as playing both sides of the field, describing the company as “notable in that while it supports several trade groups that undermine climate science and policy proposals, DTE is recognized as an industry leader on climate action.”

Duke Energy: The company discusses only one public policy position in its CDP response: its opposition to the CPP. Duke Energy objects to the rule in part on procedural grounds, and also out of a stated concern that the timeline is too aggressive and would put grid reliability at risk. The company says it finds “comprehensive national legislation addressing CO₂ emissions” preferable to EPA regulation under the Clean Air Act. Duke Energy surely holds and pursues other public policy positions, so the company’s disclosure on this subject seems to be incomplete.

Entergy: The company publicly supports various climate-change aware policies, such as cap-and-trade, a carbon tax and energy efficiency initiatives. Entergy also reports supporting clean energy generation, although its efforts appear to be focused on nuclear and natural gas generation. This would comport with the company’s existing energy mix.

Eversource Energy: The company reports supporting various climate change aware policies in support of clean energy generation and energy efficiency, particularly at the state level. Regarding Connecticut’s comprehensive energy plan, Eversource reports supporting the plan with major exceptions, but does not explain its reservations.

Exelon: The company reports supporting a variety of market-based approaches to reducing emissions and improving energy efficiency, such as cap-and-trade. Exelon opposes the federal wind production tax credit, saying that it does not see any need to provide subsidies for proven technologies. This is perhaps unsurprising, given that Exelon’s primary fuel source is nuclear, with only 2 percent coming from non-hydro renewables. It is not clear if Exelon holds similar opposition to federal subsidies of fossil fuels. Meanwhile, Exelon has been [actively courting subsidies](#) for its nuclear plants in New York and Illinois.

NiSource: The company reports supporting emissions reduction regulations so long as they apply targets to all sources of greenhouse gases, are “realistically achievable” and are “consistent with projected availability of commercial technology.” The company is also concerned about consumer rate increases, particularly if they are regionally or demographically disproportionate. NiSource also explicitly predicates its support on the recognition of the “environmental benefits” of natural gas.

NextEra Energy: While the company does not respond to CDP, the 2012 UCS report included NextEra Energy among the companies in its study universe that had “taken many actions in support of climate science and science-based policy.”

NRG Energy: The company reports broad support for clean energy generation and greenhouse gas regulation, and says it “believes in straightforward and innovation-driving policies to support competitive clean energy generation.” The 2012 UCS report included NRG Energy among the companies in its study universe that had “taken many actions in support of climate science and science-based policy,” and noted that the company “was affiliated only with groups supporting climate science or science-based policy.” Concerned investors will want to follow how and if the company modifies its positions in the coming year, in light of its recent change in management.

PG&E: The company reports its support for various climate-aware policies, including cap-and-trade, clean energy generation, energy efficiency and low-carbon fuel standards.

Sempra Energy: The company reports support for various climate-aware policies with some exceptions. For instance, it supports cap-and-trade so long as the transportation sector bears its “fair share” of the cost and responsibility for emissions reductions. Sempra supports clean energy generation policies so long as they are transparent, and climate finance initiatives so long as they include rate-payer protections. The remainder of its disclosed exceptions have to do with offering parity to natural gas and alternative fuels, and in some cases to actively promoting natural gas as a part of a clean energy future. Natural gas comprises 83 percent of Sempra’s energy mix.

Xcel Energy: The company reports general support for a variety of climate-aware policies, noting its concerns around cost-effectiveness and existing regulatory disincentives to the broad adoption of distributed generation. Xcel expresses strong support for mandatory carbon reporting, including emissions from purchased power. (Readers will note the lack of emissions data for five companies in our study universe because as non-generators, they are not bound by existing emissions reporting requirements.) Xcel expresses support for the CPP with major exceptions, particularly surrounding what the company sees as penalties in the existing rule for early action on the part of states and utilities.

Companies' Support for Public Policies (1 of 4)

Company	Adaptation resiliency	Cap and trade	Carbon tax	Clean energy generation	Climate finance	Energy efficiency	Mandatory carbon reporting	Other: 18-a	Other: Alternative fuel transportation	Other: Carbon Dioxide Emissions Regulations
AES				Support						
Ameren	Support	Support (major exceptions)				Support				
AEP		Support (minor exceptions)	Oppose	Support (minor exceptions)		Support (minor exceptions)				
CMS Energy				Support						
Consolidated Edison								Oppose		
DTE Energy		Support (minor exceptions)	Undecided	Support (minor exceptions)		Undecided				
Duke Energy										
Entergy	Support	Support	Support	Support		Support				
Eversource Energy				Neutral		Support				
Exelon		Support			Support	Support				
NiSource						Support				Undecided
NRG Energy				Support						
Pepco Holdings	Support									
PG&E		Oppose								
Sempra Energy		Support (minor exceptions)		Support (minor exceptions)	Support (major exceptions)	Support (minor exceptions)			Support (minor exceptions)	
Xcel Energy		Neutral		Support		Support	Support			

Companies' Support for Public Policies (2 of 4)

Company	Other: Central Assessments	Other: Climate-related legislation that has the potential to imp	Other: Competitive Markets with a value on carbon	Other: Comprehensive Energy Plan	Other: Cyber Security	Other: Disaster Relief Funding	Other: Dividend Tax Rate	Other: Efficiency Tax Credits	Other: Emissions regulations on power plants	Other: Energy management plans for ports	Other: GHG Regulation
AES											
Ameren											
AEP											
CMS Energy									Oppose		
Consolidated Edison	Support				Support	Support	Support	Support			
DTE Energy											
Duke Energy											
Entergy											
Eversource Energy				Support (major exceptions)							
Exelon			Support								
NiSource		Support									
NRG Energy											Support
Pepco Holdings											
PG&E											
Sempra Energy										Support	
Xcel Energy											

Companies' Support for Public Policies (3 of 4)

Company	Other: Joint Bidding	Other: LIHEAP Funding	Other: Limit transmission projects that can have expedited process	Other: Market-Based National Climate Change Policy	Other: Methane Emission Regulations	Other: Missouri Department of Natural Resources variance language	Other: Natural gas modernization infrastructure bill	Other: Natural gas policy	Other: Net Metering	Other: NSPS legislation	Other: NYS Energy Highway/Transco
AES											
Ameren			Oppose			Support	Support			Support	
AEP											
CMS Energy											
Consolidated Edison	Support	Support							Oppose		Support
DTE Energy											
Duke Energy											
Entergy											
Eversource Energy											
Exelon											
NiSource					Undecided						
NRG Energy											
Pepco Holdings				Support							
PG&E											
Sempra Energy								Support			
Xcel Energy											

Companies' Support for Public Policies (4 of 4)

Company	Other: Oil to gas conversions	Other: Phase-in	Other: Power Plant GHG Regulation	Other: Regulation of GHG emissions under the Clean Air Act (CAA)	Other: Research	Other: Retrofit CCS Technology	Other: Solar/NY Sun	Other: STEM/P-Tech	Other: Testimony to USEPA	Other: US EPA regulation of CO2 emissions from existing fossil-f	Other: Utility of the Future
AES				Support (minor exceptions)							
Ameren					Support				Support		
AEP											
CMS Energy											
Consolidated Edison	Support	Support					Support (minor exceptions)	Support			Support
DTE Energy											
Duke Energy										Undecided	
Entergy						Support					
Eversource Energy											
Exelon			Support (major exceptions)								
NiSource											
NRG Energy											
Pepco Holdings											
PG&E											
Sempra Energy											
Xcel Energy											

Company Funding of Trade Associations (beyond membership)
Table body indicates consistency of company's climate position with that of the organization
(C=Consistent; M=Mixed; u=undisclosed)

Organization	AES	Ameren	AEP	CMS Energy	Consolidated Edison	DTE Energy	Entergy	Exelon	NiSource	Eversource Energy	NRG Energy	OGE Energy	Pepco Holdings	PG&E	Sempra Energy	Xcel Energy
Alliance to Save Energy														C		
American Coalition for Clean Coal Electricity		C	C			M										
American Council for an Energy Efficient Economy										U						
American Gas Association				C	C	C		C	u	U			C	C	C	M
Americas Energy Coast							C									
Business Council for Sustainable Energy														C		
Business Council of NYS					M											
Business Roundtable	M															
California Chamber of Commerce														M	M	
California Council for Environmental and Economic Balance														C	C	
California Electric Transportation Coalition															C	
California Natural Gas Vehicle Coalition															C	
Center for Clean Air Policy							C									
Center for Climate and Energy Solutions							C							C		
Center for LNG															C	
Ceres										U						
Clean Energy Group							C									
Climate Action Reserve											C					

Company Funding of Trade Associations (beyond membership)
Table body indicates consistency of company's climate position with that of the organization
(C=Consistent; M=Mixed; u=undisclosed)

Organization	AES	Ameren	AEP	CMS Energy	Consolidated Edison	DTE Energy	Entergy	Exelon	NiSource	Eversource Energy	NRG Energy	OGE Energy	Pepco Holdings	PG&E	Sempra Energy	Xcel Energy
Colorado Association of Commerce and Industry																M
Consortium for Energy Efficiency										U						
Edison Electric Institute	M		C	C	M	C	M	C	u	U		M	M	M		M
Electric Power Research Institute										U						M
Electric Power Supply Association											C				C	
Electric Storage Association	C															
Environmental Business Council of New England										U						
Environmental League of Massachusetts										U						
Greater Baltimore Committee								C								
Independent Power Producers of NY								C								
International Emissions Trading Association			C													
Interstate Natural Gas Association of America									u						C	
Michigan Manufactures Association				M												
Mobile Area Chamber of Commerce															M	
National Association of Manufacturers						M									M	
National Climate Coalition	M															
New England Clean Energy Council										U						

Company Funding of Trade Associations (beyond membership)
Table body indicates consistency of company's climate position with that of the organization
(C=Consistent; M=Mixed; u=undisclosed)

Organization	AES	Ameren	AEP	CMS Energy	Consolidated Edison	DTE Energy	Energy	Exelon	NiSource	Eversource Energy	NRG Energy	OGE Energy	Pepco Holdings	PG&E	Sempra Energy	Xcel Energy
New England Women in Energy and the Environment										U						
Northeast Energy Efficiency Partnerships										U						
Northeast Gas Association										U						
Nuclear Energy Institute						C		C						C		
Partnership for New York City					C											
Retail Energy Supply Association								C								
Silicon Valley Leadership Group														C		
Solar Energy Industries Association											C					
The Business Council for Sustainable Energy															C	
U.S. Chamber of Commerce			C													
U.S. Climate Action Partnership	M															

Federal Lobbying

Si2 reviewed each company's latest quarterly federal Lobbying Disclosure Report for the 2011-2014 time periods for specific, climate-related lobbying activity. Quarterly lobbying reports filed with the U.S. Congress are available on the [U.S. House of Representatives Office of the Clerk](#) website and from the [U.S. Senate](#) disclosure website. Federal disclosures provide information on the issues and legislation companies lobby about as well as which federal legislators or committees are contacted.

Of the companies included in the study, 20 listed extensive climate-related lobbying activities at the federal level while four (**Ameren**, **Edison International**, **Eversource Energy** and **NRG**) disclosed some related advocacy. Only one, **ONEOK**, did not disclose any federal lobbying on these or any other issues during the time period reviewed.

While all the companies filing federal Lobbying Disclosure Reports released information on specific issues and bill numbers, a few provided additional information. The most prolific disclosers were **CenterPoint Energy** and **CMS Energy**, which gave extensive descriptions of legislation on which they lobbied. For example,

- “H.R. 2081, the No More Excuses Energy Act of 2013 provisions to prohibit regulation of emissions of greenhouse gases under the Clean Air Act;”
- “H.R. 621, the Ensuring Affordable Energy Act to prohibit funding for EPA to be used to implement or enforce a cap-and-trade program for greenhouse gases;”
- “H.R. 2127, to prohibit EPA from finalizing NSPS for CO₂ emissions from fossil-fueled EGUs until CCS is found to be technologically and economically feasible;” and
- “H H.R. 3042, the Taking Hold of Regulations to Increase Vital Employment in Energy Act to prohibit the use of the social cost of carbon in any regulatory impact analysis until authorized by federal law.”

While actual positions taken by the companies are not disclosed, the descriptions make clear that many of the bills lobbied on are designed to retard or halt any additional GHG-related regulations.

Litigation and the Clean Power Plan

Southern and several of its subsidiaries joined a coalition of states in 2015 to [sue the EPA](#) over the Clean Power Plan (CPP) in the U.S. District Court of Appeals for the District of Columbia. The suit argues that EPA overstepped its authority in several

areas, and requested a judicial stay, which would have paused implementation until litigation was resolved. The court rejected the request. In a very uncommon move, the plaintiffs took their motion to the U.S. Supreme Court, which surprised observers on both sides of the issue when it granted the judicial stay in a five-to-four vote in early February 2016.¹⁶ The ruling was unprecedented: there has never been another case in which the Supreme Court overruled a lower court on a judicial stay without the lower court first hearing the merits of the case.

The judicial stay covers both the D.C. Circuit Court and the Supreme Court. Arguments in the D.C. Circuit Court will proceed in June, and the court will render a decision in late summer or fall. Previous CPP cases against EPA in which the plaintiffs were **Entergy**, **PPL**, **NRG Energy** or their subsidiaries have all been consolidated under the one now pending in the D.C. Circuit Court. The same is true of an earlier suit lodged by the American Coalition for Clean Coal Electricity (ACCCE), which counts **AEP** and **Southern** among its members. Whichever party loses that case is likely to appeal to the Supreme Court, asking that it make the final decision on the case. If the Supreme Court agrees to hear the case, it would do so sometime in 2017. The recent death of Supreme Court Justice Antonin Scalia, after the stay, complicates this step. If his seat remains vacant and there is a four-to-four tie on the case, it will mean that the lower court's decision stands.

The primary non-state challenger of the CPP at the U.S. Supreme Court is the Utility Air Regulatory Group (UARG). This organization is opaque. We were unable to find even a basic website for the group. As such, its membership is not consistently verifiable. The group has been compelled in the past to disclose its membership in association with its legal and lobbying activities. The most recent membership list uncovered in our research was filed in December 2014, as part of UARG's public comments to EPA in opposition to the CPP. Additionally, a [December 2014 filing](#) **American Electric Power** submitted to the EPA Docket Center said the company was also a member of UARG. The table on page 67 shows the UARG member companies as of that time. The Edison Electric Institute (EEI) was also listed as a member of UARG, so its membership—available on its website—is also included in the table. If the UARG's membership remains the same today, then every company in our research universe except for **ONEOK** and **Sempra Energy** is at least indirectly participating in the legal challenge to the CPP, despite many of their public statements that they will not fight the legislation. **Dominion Resources** and **FirstEnergy** have publicly stated that they will not challenge the CPP in court, for instance. The EEI has also said that it will stay out of legal contests.

Additionally, companies [fund law firms](#) known to be working against the CPP, according to research compiled by Republic Report, a project of Ralph Nader-founded Essential Information. This is consistent with the long history of some corporations playing both sides of the fence on contentious public policy issues. For instance, **Duke Energy** was pressured to leave the ACCCE after the company was revealed in 2009 to be publicly supporting the American Clean Energy and Security Act (known by as the Waxman-Markey bill, the stillborn climate legislation which failed to pass the U.S. Senate). This occurred even as Duke was a paying member of ACCCE, which was working to kill the legislation. Duke Energy also quit the National Association of Manufacturers for similar reasons.

Here are the companies in our universe that fund law firms known to be working against the CPP, based on Republic Report data:

Bracewell & Giuliani's [Electric Reliability Coordinating Council](#):

- [Ameren](#)
- [DTE Energy](#)
- [Duke Energy](#)
- [Southern Company](#)

Troutman Sanders:

- [Southern Company](#)

PG&E and **NextEra Energy** [co-authored a brief](#) filed in court in support of the CPP, even though their membership in the EEI may be working at cross-purposes, and NextEra's membership in UARG almost certainly is. Clearly, utilities have many reasons to be involved with the EEI, and given that the EEI has many strong initiatives related to energy efficiency and climate-aware practices, it is inappropriate to draw too strong a connection between EEI membership and opposition to the CPP. Direct membership in UARG, however, appears to be stronger indicator.

Affiliation with CPP Legal Challengers/Supporters						
Company	UARG	EI	ACCCE	Direct Plaintiffs	Law Firms	Direct Legal Support for CPP
AEP	X	X	X		X	
AES		X				
Ameren		X			X	
CenterPoint Energy		X				
CMS Energy		X				
Consolidated Edison		X				
Dominion Resources	X	X				
DTE Energy	X	X			X	
Duke Energy	X	X			X	
Edison International		X				
Entergy		X		X		
Eversource Energy		X				
Exelon		X				
FirstEnergy	X	X				
NextEra Energy	X	X				X
NiSource	X	X				
NRG Energy				X		
ONEOK						
Pepeco Holdings		X				
PG&E		X				X
PPL Corporation		X		X		
PSEG		X				
Sempra Energy						
Southern	X	X	X	X	X	
Xcel Energy		X				

Company Political Activity Expenditures and Governance

The table below provides information on how much each of the 25 largest U.S. utilities spent in the political arena—from either the corporate PAC or the company treasury, on federal lobbying, national 527 political committees, state ballot initiatives, state candidates and state political committees. In all, the 25 companies spent a total of \$407 million over the five years examined. Note that full data for 2015 were not yet available at the time of writing, so calculations for that year may not be comprehensive.

The expenditure data are immediately followed by a table providing key metrics on board oversight and political activity disclosure—election spending and lobbying—for the universe under study. The data come from the Center for Political Accountability’s [CPA-Zicklin Index](#), used by investors and companies to benchmark political spending (but not lobbying) governance oversight and disclosure.

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
AEE – Ameren	\$ 2,542,724	\$ 3,065,988	\$2,101,831	\$2,627,493	\$1,366,000	\$11,704,036
Corporate	\$ 2,124,791	\$ 2,286,247	\$1,790,051	\$2,181,223	\$1,366,000	\$ 9,748,313
527		\$ 10,000	\$10,000	\$10,000		\$ 30,000
Federal Lobbying	\$ 1,810,000	\$ 1,833,538	\$1,424,046	\$1,720,000	\$1,340,000	\$ 8,127,584
State Ballot Initiative				\$5,000		\$ 5,000
State Candidate	\$224,791	\$364,958	\$233,990	\$313,523		\$ 1,137,262
State Committee	\$ 90,000	\$ 77,751	\$122,016	\$132,700	\$26,000	\$448,467
PAC	\$417,933	\$779,740	\$311,780	\$446,270		\$ 1,955,723
Federal Candidate	\$116,500	\$102,000	\$74,000	\$98,000		\$390,500
Federal Committee			\$5,000	\$1,000		\$ 6,000
Federal other		\$ 10,000		\$1,000		\$ 11,000
State Candidate	\$221,433	\$479,740	\$197,880	\$246,770		\$ 1,145,823
State Committee	\$ 80,000	\$188,000	\$34,900	\$99,500		\$402,400
AEP – Amer. Elec. Power	\$ 5,198,816	\$ 9,007,596	\$8,083,829	\$7,447,269	\$4,502,248	\$34,239,757
Corporate	\$ 4,692,848	\$ 8,063,201	\$7,586,185	\$6,677,084	\$4,500,748	\$31,520,066
527	\$ 95,000	\$135,000	\$15,000	\$57,000	\$15,000	\$317,000
Federal Lobbying	\$ 4,485,498	\$ 7,529,135	\$7,456,485	\$6,511,567	\$4,485,498	\$30,468,183
State Ballot Initiative		\$300,000	\$10,000			\$310,000
State Candidate	\$ 89,850	\$ 66,099	\$61,200	\$63,250	\$250	\$280,649
State Parties	\$ 22,500	\$ 32,968	\$43,500	\$45,267		\$144,234
PAC	\$505,968	\$944,395	\$497,644	\$770,185	\$1,500	\$ 2,719,691
Federal Candidate	\$168,500	\$173,250	\$174,500	\$145,500		\$661,750
State Candidate	\$298,968	\$698,145	\$287,894	\$561,185	\$1,500	\$ 1,847,691
State Party Committee	\$ 38,500	\$ 73,000	\$35,250	\$63,500		\$210,250
AES	\$857,561	\$370,300	\$423,900	\$310,625	\$235,000	\$ 2,197,386
Corporate	\$850,000	\$370,000	\$420,025	\$287,600	\$235,000	\$ 2,162,625
527	\$ 50,000	\$ 50,000	\$50,000	\$75,000	\$25,000	\$250,000
Federal Lobbying	\$800,000	\$320,000	\$370,000	\$210,000	\$210,000	\$ 1,910,000
State Candidate			\$25	\$2,600		\$ 2,625
PAC	\$ 7,561	\$ 300	\$3,875	\$23,025		\$ 34,761
Federal Candidate		\$-	\$3,500	\$20,750		\$ 24,250
State Candidate	\$ 7,561	\$ 300	\$375	\$2,275		\$ 10,511
CMS – CMS Energy	\$ 1,391,005	\$13,745,558	\$1,605,457	\$1,424,874	\$1,000,000	\$19,166,894
Corporate	\$ 1,220,000	\$13,506,429	\$1,350,000	\$1,141,000	\$1,000,000	\$18,217,429
527		\$ 20,000	\$10,000			\$ 30,000
Federal Lobbying	\$ 1,220,000	\$ 1,270,000	\$1,290,000	\$1,141,000	\$1,000,000	\$ 5,921,000
State Ballot Initiative		\$12,216,429	\$50,000			\$12,266,429
PAC	\$171,005	\$239,129	\$255,457	\$283,874		\$949,465
Federal Candidate	\$ 86,000	\$ 86,500	\$97,000	\$97,000		\$366,500
Federal Committee	\$ 5,000	\$ 5,000	\$5,000	\$10,000		\$ 25,000
Federal other				\$5,000		\$ 5,000
State Candidate	\$ 52,505	\$108,129	\$96,457	\$127,374		\$384,465
State Committee	\$ 27,500	\$ 39,500	\$57,000	\$44,500		\$168,500

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
CNP – CenterPoint Energy	\$315,559	\$ 2,307,375	\$2,078,050	\$1,056,367	\$110,000	\$ 5,867,351
Corporate	\$ 99,000	\$ 2,068,075	\$1,896,500	\$867,724	\$110,000	\$ 5,041,299
527	\$ 20,000	\$ 25,000	\$25,000	\$50,000	\$50,000	\$170,000
Federal Lobbying	\$ 60,000	\$ 2,021,825	\$1,850,000	\$783,000	\$60,000	\$ 4,774,825
State Ballot Initiative			\$10,000	\$10,000		\$ 20,000
State Candidate	\$ 500	\$ 4,750	\$1,500	\$1,000		\$ 7,750
State Committee	\$ 18,500	\$ 16,500	\$10,000	\$23,724		\$ 68,724
PAC	\$216,559	\$239,300	\$181,550	\$188,643		\$826,052
Federal Candidate	\$ 75,010	\$ 98,585	\$73,955	\$45,000		\$292,550
Federal Committee	\$ 12,500	\$ 12,500	\$5,000			\$ 30,000
State Candidate	\$128,299	\$128,215	\$102,595	\$143,643		\$502,752
State Committee	\$ 750					\$ 750
D – Dominion Resources	\$ 2,459,365	\$ 3,191,482	\$3,435,776	\$3,194,619	\$1,932,250	\$14,213,492
Corporate	\$ 1,580,561	\$ 2,300,013	\$2,453,776	\$2,209,178	\$1,930,000	\$10,473,527
527	\$ 75,000	\$165,000	\$180,000	\$185,000	\$100,000	\$705,000
Federal Lobbying	\$ 1,470,000	\$ 2,070,000	\$2,230,000	\$2,000,000	\$1,830,000	\$ 9,600,000
State Ballot Initiative		\$ 1,000				\$ 1,000
State Candidate	\$ 24,250	\$ 18,799	\$22,776	\$8,000		\$ 73,825
State Committee	\$ 11,311	\$ 45,213	\$21,000	\$16,178		\$ 93,702
PAC	\$878,804	\$891,470	\$982,000	\$985,441	\$2,250	\$ 3,739,965
Federal Candidate	\$235,225	\$251,500	\$246,200	\$307,000		\$ 1,039,925
Federal Committee	\$ 70,000	\$ 50,000	\$35,000	\$40,000		\$195,000
State Candidate	\$456,579	\$408,070	\$567,800	\$397,441	\$2,250	\$ 1,832,140
State Committee	\$117,000	\$181,900	\$133,000	\$241,000		\$672,900
DTE – DTE Energy	\$ 1,456,960	\$14,449,898	\$1,926,500	\$2,272,600	\$940,000	\$21,045,958
Corporate	\$990,000	\$13,920,123	\$1,495,000	\$1,685,000	\$940,000	\$19,030,123
527	\$ 50,000	\$ 25,000	\$75,000	\$125,000		\$275,000
Federal Lobbying	\$940,000	\$ 1,450,000	\$1,420,000	\$1,480,000	\$940,000	\$ 6,230,000
State Ballot Initiative		\$12,445,123		\$50,000		\$12,495,123
State Committee				\$30,000		\$ 30,000
PAC	\$466,960	\$529,775	\$431,500	\$587,600		\$ 2,015,835
Federal Candidate	\$172,000	\$179,500	\$144,750	\$236,000		\$732,250
Federal Committee	\$105,000	\$ 60,000	\$60,000	\$45,000		\$270,000
State Candidate	\$119,960	\$220,275	\$156,750	\$233,100		\$730,085
State Committee	\$ 70,000	\$ 70,000	\$70,000	\$73,500		\$283,500
DUK – Duke Energy	\$ 5,289,909	\$ 8,781,773	\$6,727,239	\$10,494,265	\$4,752,000	\$36,045,187
Corporate	\$ 4,881,509	\$ 8,083,430	\$6,169,839	\$9,537,110	\$4,752,000	\$33,423,889
527	\$385,500	\$505,000	\$60,000	\$3,350,000	\$290,000	\$ 4,590,500
Federal Lobbying	\$ 4,462,000	\$ 7,250,000	\$5,990,000	\$5,870,000	\$4,462,000	\$28,034,000
State Ballot Initiative		\$250,000				\$250,000
State Candidate	\$ 5,250	\$ 20,305	\$13,650	\$13,700		\$ 52,905
State Committee	\$ 28,759	\$ 58,125	\$106,189	\$303,410		\$496,484

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
PAC	\$408,400	\$698,343	\$557,400	\$957,155		\$ 2,621,298
Federal Candidate	\$188,600	\$154,000	\$250,500	\$394,000		\$987,100
Federal Committee	\$115,000	\$ 61,000	\$45,000	\$36,000		\$257,000
Federal other				\$10,000		\$ 10,000
State Candidate	\$ 86,300	\$453,343	\$223,900	\$456,655		\$ 1,220,198
State Committee	\$ 18,500	\$ 30,000	\$38,000	\$60,500		\$147,000
ED – Consolidated Edison	\$831,531	\$ 1,065,500	\$783,500	\$866,100	\$690,000	\$ 4,236,631
Corporate	\$829,031	\$ 1,051,000	\$780,000	\$850,000	\$690,000	\$ 4,200,031
Federal Lobbying	\$829,031	\$ 1,051,000	\$780,000	\$850,000	\$690,000	\$ 4,200,031
PAC	\$ 2,500	\$ 14,500	\$3,500	\$16,100		\$ 36,600
Federal Candidate	\$ 2,500	\$ 11,500	\$3,000	\$1,500		\$ 18,500
Federal Committee		\$ 2,500				\$ 2,500
State Candidate		\$ 500	\$500	\$4,600		\$ 5,600
State Committee				\$10,000		\$ 10,000
EIX – Edison International	\$ 1,638,122	\$ 2,751,115	\$2,831,878	\$2,904,100	\$1,457,000	\$11,582,215
Corporate	\$ 1,498,972	\$ 2,556,600	\$2,737,378	\$2,793,600	\$1,457,000	\$11,043,550
Federal Lobbying	\$ 1,457,000	\$ 2,496,000	\$2,644,000	\$2,573,000	\$1,457,000	\$10,627,000
State Candidate	\$ 41,972	\$ 60,600	\$93,378	\$40,600		\$236,550
State Committee				\$180,000		\$180,000
PAC	\$139,150	\$194,515	\$94,500	\$110,500		\$538,665
Federal Candidate	\$113,150	\$187,515	\$74,500	\$98,500		\$473,665
Federal Committee	\$ 16,000		\$20,000			\$ 36,000
State Candidate	\$ 5,000	\$ 7,000		\$12,000		\$ 24,000
State Committee	\$ 5,000					\$ 5,000
ES – Eversource Energy	\$ 1,200,000	\$ 1,295,500	\$1,169,000	\$897,500	\$805,000	\$ 5,367,000
Corporate	\$ 1,140,000	\$ 1,235,000	\$1,140,000	\$855,000	\$805,000	\$ 5,175,000
527		\$ 65,000	\$80,000	\$75,000	\$75,000	\$295,000
Federal Lobbying	\$ 1,140,000	\$ 1,170,000	\$1,060,000	\$780,000	\$730,000	\$ 4,880,000
PAC	\$ 60,000	\$ 60,500	\$29,000	\$42,500		\$192,000
Federal Candidate	\$ 60,000	\$ 60,500	\$29,000	\$42,500		\$192,000
ETR – Entergy	\$ 5,498,875	\$ 4,775,190	\$4,287,959	\$3,822,960	\$2,067,952	\$20,452,936
Corporate	\$ 5,002,250	\$ 4,199,500	\$4,006,750	\$3,381,000	\$2,010,250	\$18,599,750
527	\$ 50,000	\$100,000		\$115,000		\$265,000
Federal Lobbying	\$ 4,900,000	\$ 4,070,000	\$3,967,500	\$3,240,000	\$2,010,000	\$18,187,500
State Ballot Initiative			\$5,000			\$ 5,000
State Candidate	\$ 7,250	\$ 4,500	\$2,250	\$5,000	\$250	\$ 19,250
State Committee	\$ 45,000	\$ 25,000	\$32,000	\$21,000		\$123,000
PAC	\$496,625	\$575,690	\$281,209	\$441,960	\$57,702	\$ 1,853,186
Federal Candidate	\$128,800	\$227,500	\$126,500	\$188,500	\$2,500	\$673,800
Federal Committee	\$100,000	\$ 75,000	\$15,000	\$10,000		\$200,000
Federal other		\$ 6,000	\$4,000			\$ 10,000
State Candidate	\$254,825	\$257,940	\$131,209	\$233,310	\$55,202	\$932,486
State Committee	\$ 13,000	\$ 9,250	\$4,500	\$10,150		\$ 36,900

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
EXC – Exelon	\$10,038,704	\$ 8,490,150	\$5,334,250	\$5,781,400	\$4,120,300	\$33,764,804
Corporate	\$ 9,570,654	\$ 8,064,350	\$5,022,500	\$5,356,400	\$4,115,000	\$32,128,904
527	\$275,000	\$195,000	\$170,000	\$150,000	\$75,000	\$865,000
Federal Lobbying	\$ 9,273,154	\$ 7,779,350	\$4,780,000	\$5,135,000	\$4,030,000	\$30,997,504
State Ballot Initiative		\$ 5,000				\$ 5,000
State Committee	\$ 22,500	\$ 85,000	\$72,500	\$71,400	\$10,000	\$261,400
PAC	\$468,050	\$425,800	\$311,750	\$425,000	\$5,300	\$ 1,635,900
Federal Candidate	\$312,100	\$322,000	\$234,000	\$335,000	\$2,500	\$ 1,205,600
Federal Committee	\$120,000	\$ 75,000	\$75,000	\$60,000		\$330,000
Federal other	\$ 6,000			\$2,500		\$ 8,500
State Candidate	\$ 2,500					\$ 2,500
State Committee	\$ 27,450	\$ 28,800	\$2,750	\$27,500	\$2,800	\$ 89,300
FE - FirstEnergy	\$ 3,175,808	\$ 3,916,151	\$2,759,635	\$3,216,747	\$1,640,245	\$14,708,586
Corporate	\$ 2,616,000	\$ 3,145,000	\$2,400,000	\$2,485,864	\$1,634,245	\$12,281,109
527	\$250,000	\$ 10,000	\$200,000	\$480,000		\$940,000
Federal Lobbying	\$ 2,365,000	\$ 2,850,000	\$2,200,000	\$1,995,864	\$1,634,245	\$11,045,109
State Ballot Initiative		\$260,000				\$260,000
State Candidate	\$ 1,000					\$ 1,000
State Committee		\$ 25,000		\$10,000		\$ 35,000
PAC	\$559,808	\$771,151	\$359,635	\$730,883	\$6,000	\$ 2,427,477
Federal Candidate	\$182,000	\$240,000	\$173,250	\$217,850		\$813,100
Federal Committee		\$ 27,500	\$7,600	\$250		\$ 35,350
State Candidate	\$320,158	\$439,651	\$160,085	\$448,750	\$1,500	\$ 1,370,144
State Committee	\$ 57,650	\$ 64,000	\$18,700	\$64,033	\$4,500	\$208,883
NEE – NextEra Energy	\$ 3,181,000	\$ 5,230,250	\$4,553,928	\$5,214,197	\$3,140,000	\$21,319,375
Corporate	\$ 2,912,500	\$ 4,895,000	\$4,211,128	\$5,041,447	\$3,135,000	\$20,195,075
527	\$410,000	\$215,000	\$131,128	\$464,947	\$20,000	\$ 1,241,075
Federal Lobbying	\$ 2,500,000	\$ 4,680,000	\$3,980,000	\$4,570,000	\$1,840,000	\$17,570,000
Federal other			\$100,000		\$1,275,000	\$ 1,375,000
State Candidate	\$ 2,500			\$1,500		\$ 4,000
State Committee				\$5,000		\$ 5,000
PAC	\$268,500	\$335,250	\$342,800	\$172,750	\$5,000	\$ 1,124,300
Federal Candidate	\$177,500	\$245,250	\$297,800	\$126,000	\$1,000	\$847,550
Federal Committee	\$ 90,000	\$ 90,000	\$45,000	\$35,000		\$260,000
Federal other					\$4,000	\$ 4,000
State Candidate	\$ 1,000			\$10,000		\$ 11,000
State Committee				\$1,750		\$ 1,750
NI - NiSource	\$ 1,080,725	\$955,843	\$1,127,375	\$1,284,080	\$574,500	\$ 5,022,523
Corporate	\$822,750	\$524,050	\$823,050	\$731,400	\$570,000	\$ 3,471,250
527	\$250,000		\$60,000	\$20,000		\$330,000
Federal Lobbying	\$570,000	\$470,000	\$760,000	\$700,000	\$570,000	\$ 3,070,000
State Ballot Initiative		\$ 50,000				\$ 50,000
State Candidate	\$ 2,750	\$ 4,050	\$3,050	\$11,400		\$ 21,250

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
PAC	\$257,975	\$431,793	\$304,325	\$552,680	\$4,500	\$ 1,551,273
527		\$ 10,000	\$5,000	\$5,000	\$2,500	\$ 22,500
Federal Candidate	\$ 96,925	\$157,249	\$116,125	\$228,750		\$599,049
Federal Committee	\$ 12,500	\$ 15,000	\$15,000	\$30,000		\$ 72,500
State Candidate	\$139,750	\$232,544	\$165,300	\$278,930		\$816,524
State Committee	\$ 8,800	\$ 17,000	\$2,900	\$10,000	\$2,000	\$ 40,700
NRG – NRG Energy	\$ 3,127,550	\$ 3,833,684	\$2,253,700	\$1,954,359	\$1,073,350	\$12,242,642
Corporate	\$ 3,010,600	\$ 3,675,584	\$2,148,200	\$1,724,609	\$1,073,350	\$11,632,342
527	\$ 50,000	\$ 60,000	\$45,000	\$50,000		\$205,000
Federal Lobbying	\$ 2,920,000	\$ 3,520,000	\$2,020,000	\$1,468,020	\$1,070,000	\$10,998,020
Federal other	\$ 5,000	\$ 20,000				\$ 25,000
State Ballot Initiative			\$20,000	\$10,000		\$ 30,000
State Candidate	\$ 30,600	\$ 49,584	\$63,200	\$174,850	\$3,350	\$321,584
State Committee	\$ 5,000	\$ 26,000		\$21,739		\$ 52,739
PAC	\$116,950	\$158,100	\$105,500	\$229,750		\$610,300
Federal Candidate	\$ 64,250	\$ 43,500	\$24,500	\$68,000		\$200,250
Federal Committee	\$ 10,000	\$ 30,000	\$5,000	\$10,000		\$ 55,000
State Candidate	\$ 42,700	\$ 84,600	\$76,000	\$151,750		\$355,050
OKE - OneOK	\$ 72,400	\$180,630	\$133,360	\$109,890	\$10,000	\$506,280
Corporate	\$ 35,200	\$ 21,800	\$21,100	\$16,900	\$10,000	\$105,000
Federal Lobbying	\$ 35,000	\$ 20,000	\$20,000	\$15,000	\$10,000	\$100,000
State Candidate	\$ 200	\$ 1,800	\$1,100	\$1,350		\$ 4,450
State Committee				\$550		\$ 550
PAC	\$ 37,200	\$158,830	\$112,260	\$92,990		\$401,280
Federal Candidate	\$ 16,000	\$ 58,000	\$54,000	\$31,700		\$159,700
State Candidate	\$ 21,200	\$100,830	\$58,260	\$61,290		\$241,580
PCG – PG&E	\$ 2,881,212	\$ 3,615,449	\$4,527,245	\$4,362,047	\$2,362,000	\$17,747,953
Corporate	\$ 2,691,712	\$ 3,351,784	\$4,261,850	\$4,047,250	\$2,360,000	\$16,712,595
527			\$2,500			\$ 2,500
Federal Lobbying	\$ 2,360,000	\$ 2,340,000	\$3,150,000	\$2,940,000	\$2,360,000	\$13,150,000
Federal other	\$ 15,000	\$ 10,000		\$10,000		\$ 35,000
State Ballot Initiative		\$ 25,000		\$10,000		\$ 35,000
State Candidate	\$128,150	\$307,400	\$375,850	\$285,900		\$ 1,097,300
State Committee	\$188,562	\$669,384	\$733,500	\$801,350		\$ 2,392,795
PAC	\$189,500	\$263,665	\$265,395	\$314,797	\$2,000	\$ 1,035,357
Federal Candidate	\$107,000	\$181,665	\$191,381	\$279,497		\$759,543
Federal Committee	\$ 75,000	\$ 78,000	\$66,000	\$30,000		\$249,000
Federal other		\$ 4,000	\$6,114	\$1,000	\$2,000	\$ 13,114
State Candidate	\$ 7,500		\$1,900	\$4,300		\$ 13,700
PEG – Public Svc Ent. Grp	\$ 4,223,596	\$ 3,879,550	\$3,766,699	\$3,519,320	\$2,206,863	\$17,596,028
Corporate	\$ 4,085,250	\$ 3,810,950	\$3,636,000	\$3,426,000	\$2,180,000	\$17,138,200
527	\$ 32,500	\$ 98,200	\$75,000	\$150,000	\$10,000	\$365,700
Federal Lobbying	\$ 4,050,000	\$ 3,710,000	\$3,560,000	\$3,270,000	\$1,920,000	\$16,510,000
Federal other					\$250,000	\$250,000
State Candidate	\$ 2,750	\$ 2,750	\$1,000	\$6,000		\$ 12,500

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
PAC	\$138,346	\$ 68,600	\$130,699	\$93,320	\$26,863	\$457,828
Federal Candidate	\$ 68,000	\$ 40,100	\$52,249	\$81,820		\$242,169
Federal Committee	\$ 20,000		\$15,000	\$2,000		\$ 37,000
Federal other		\$ 1,000			\$5,000	\$ 6,000
State Candidate	\$ 50,346	\$ 27,500	\$63,450	\$9,500	\$21,863	\$172,659
POM – Pepco Holding	\$ 1,295,025	\$ 1,306,950	\$1,342,725	\$1,309,380	\$1,005,500	\$ 6,259,580
Corporate	\$ 1,268,000	\$ 1,270,250	\$1,303,750	\$1,254,000	\$999,000	\$ 6,095,000
527	\$ 30,000	\$ 25,000	\$75,000	\$75,000	\$35,000	\$240,000
Federal Lobbying	\$ 1,230,000	\$ 1,210,000	\$1,210,000	\$1,160,000	\$960,000	\$ 5,770,000
State Candidate		\$ 250	\$1,750		\$4,000	\$ 6,000
State Committee	\$ 8,000	\$ 35,000	\$17,000	\$19,000		\$ 79,000
PAC	\$ 27,025	\$ 36,700	\$38,975	\$55,380	\$6,500	\$164,580
Federal Candidate	\$ 13,000	\$ 26,500	\$19,100	\$22,250		\$ 80,850
Federal Committee	\$ 5,000					\$ 5,000
Federal other	\$ 1,500					\$ 1,500
State Candidate	\$ 7,525	\$ 9,400	\$19,875	\$33,130	\$6,500	\$ 76,430
State Committee		\$ 800				\$ 800
PPL – PPL Corp.	\$ 1,764,659	\$ 1,787,420	\$1,312,027	\$1,204,255	\$402,500	\$ 6,470,861
Corporate	\$ 1,366,000	\$ 1,286,000	\$955,000	\$870,000	\$395,000	\$ 4,872,000
527	\$ 15,000	\$ 25,000	\$25,000	\$30,000	\$5,000	\$100,000
Federal Lobbying	\$ 1,350,000	\$ 1,260,000	\$930,000	\$840,000	\$390,000	\$ 4,770,000
State Candidate	\$ 500	\$ 1,000				\$ 1,500
State Committee	\$ 500					\$ 500
PAC	\$398,659	\$501,420	\$357,027	\$334,255	\$7,500	\$ 1,598,861
527			\$2,500			\$ 2,500
Federal Candidate	\$147,500	\$105,000	\$139,500	\$137,500		\$529,500
Federal Committee	\$ 65,000	\$ 51,500	\$60,000	\$30,000		\$206,500
Federal other	\$ 10,000			\$2,500		\$ 12,500
State Candidate	\$132,359	\$265,170	\$148,277	\$130,255	\$500	\$676,561
State Committee	\$ 43,800	\$ 79,750	\$6,750	\$34,000	\$7,000	\$171,300
SO - Southern	\$13,244,500	\$16,086,000	\$13,408,500	\$13,100,600	\$8,625,000	\$64,464,600
Corporate	\$13,060,000	\$15,865,000	\$13,277,000	\$12,850,000	\$8,625,000	\$63,677,000
527	\$340,000	\$285,000	\$427,000	\$510,000	\$235,000	\$ 1,797,000
Federal Lobbying	\$12,720,000	\$15,580,000	\$12,850,000	\$12,340,000	\$8,390,000	\$61,880,000
PAC	\$184,500	\$221,000	\$131,500	\$250,600		\$787,600
Federal Candidate	\$124,500	\$176,000	\$84,500	\$203,000		\$588,000
Federal Committee	\$ 60,000	\$ 45,000	\$45,000	\$45,000		\$195,000
State Candidate			\$2,000	\$2,600		\$ 4,600

Election Spending and Federal Lobbying, 2011-2015

Company/Spending Type	2011	2012	2013	2014	2015*	Grand Total
SRE – Sempra Energy	\$ 1,659,200	\$ 2,231,650	\$2,076,350	\$2,740,950	\$1,755,000	\$10,463,150
Corporate	\$ 1,489,450	\$ 2,060,650	\$1,944,450	\$2,520,800	\$1,755,000	\$ 9,770,350
527		\$ 2,500	\$2,500	\$2,500	\$5,000	\$ 12,500
Federal Lobbying	\$ 1,210,000	\$ 1,480,000	\$1,550,000	\$1,840,000	\$1,750,000	\$ 7,830,000
Federal other	\$ 2,500	\$ 5,000	\$2,500	\$12,500		\$ 22,500
State Ballot Initiative				\$77,000		\$ 77,000
State Candidate	\$141,450	\$223,150	\$205,450	\$313,800		\$883,850
State Committee	\$135,500	\$350,000	\$184,000	\$275,000		\$944,500
PAC	\$169,750	\$171,000	\$131,900	\$220,150		\$692,800
Federal Candidate	\$ 53,750	\$131,500	\$93,500	\$194,650		\$473,400
Federal Committee	\$ 20,000	\$ 10,000	\$30,000	\$15,000		\$ 75,000
State Candidate	\$ 1,000	\$ 1,000	\$8,400	\$10,500		\$ 20,900
State Committee	\$ 95,000	\$ 28,500				\$123,500
XEL – Xcel Energy	\$ 2,333,585	\$ 2,108,890	\$2,350,076	\$2,163,900	\$1,380,500	\$10,336,951
Corporate	\$ 2,143,500	\$ 1,828,590	\$2,166,776	\$1,972,250	\$1,371,000	\$ 9,482,116
527	\$ 45,000	\$ 55,000	\$212,000	\$200,000	\$200,000	\$712,000
Federal Lobbying	\$ 2,090,000	\$ 1,770,000	\$1,950,000	\$1,750,000	\$1,170,000	\$ 8,730,000
Federal other					\$1,000	\$ 1,000
State Candidate				\$250		\$ 250
State Committee	\$ 8,500	\$ 3,590	\$4,776	\$22,000		\$ 38,866
PAC	\$190,085	\$280,300	\$183,300	\$191,650	\$9,500	\$854,835
527	\$ 5,000					\$ 5,000
Federal Candidate	\$124,050	\$186,000	\$119,000	\$116,750		\$545,800
Federal Committee	\$ 16,000	\$ 37,500	\$30,000			\$ 83,500
Federal other	\$ 1,000					\$ 1,000
State Candidate	\$ 19,035	\$ 30,100	\$21,200	\$30,100		\$100,435
State Committee	\$ 25,000	\$ 26,700	\$13,100	\$44,800	\$9,500	\$119,100
Grand Total	\$76,758,389	\$118,429,890	\$80,400,790	\$83,279,897	\$48,153,208	\$407,022,174

*2015 data are incomplete given a lag in reporting
Sources: Compiled by SI2 from data presented by the Center for Responsive Politics (www.opensecrets.org) and National Institute on Money in State Politics (www.followthemoney.org).

Summarizing the data shown above, the table below shows the total 5-year expenditures for the 25 largest U.S. electric utilities in descending order.¹⁷

Total Political Expenditures, 2011-2015	
Company	Total 5-Year Spending
Southern	\$64,464,600.00
Duke Energy	\$36,045,186.63
American Electric Power	\$34,239,756.95
Exelon	\$33,764,804.00
NextEra Energy	\$21,319,375.00
DTE Energy	\$21,045,957.73
Entergy	\$20,452,936.21
CMS Energy	\$19,166,893.85
PG&E	\$17,747,952.72
Public Service Enterprise Group	\$17,596,027.54
FirstEnergy	\$14,708,586.00
Dominion Resources	\$14,213,492.06
NRG Energy	\$12,242,642.22
Ameren	\$11,704,035.69
Edison International	\$11,582,214.90
Sempra Energy	\$10,463,150.00
Xcel Energy	\$10,336,950.93
PPL Corporation	\$6,470,861.35
Pepco Holdings	\$6,259,580.00
CenterPoint Energy	\$5,867,350.54
Eversource Energy	\$5,367,000.00
NiSource	\$5,022,522.90
Consolidated Edison	\$4,236,631.00
AES	\$2,197,385.60
ONEOK	\$506,280.00

There are two significant outliers at the top and bottom of the range. **Southern** spent almost double the next highest spender's outlays. **ONEOK** spent one-quarter that of the next lowest political contributor.

Corporate Political Activity Oversight and Disclosure Key Performance Indicators in 2015

Company	Political Activity policy?	Election spending governance disclosed?	Board oversight of election spending?	Discloses election spending?	Lobbying in policy?	Lobbying governance disclosed?	Board oversight of lobbying?	Discloses lobbying spending?	Policy on trade groups?	Policy on other non-profits?	Discloses trade group memberships?	Discloses payments to non-profits?	CPA-Zicklin Index Score
Edison International	yes	yes	yes	yes	yes	yes	no	no	yes	yes	partial	yes	95.7
Exelon	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	partial	yes	94.3
PG&E	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	partial	partial	94.3
Ameren Corp	yes	yes	yes	no	no	no	no	no	yes	no	partial	partial	85.7
Entergy	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	partial	partial	84.3
Sempra Energy	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	partial	yes	61
Amer. Electric Power	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	partial	partial	58.6
Dominion Resources	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	partial	partial	57
Southern	yes	yes	yes	yes	yes	yes	yes	no	yes	no	partial	no	49
CMS Energy	yes	yes	yes	no	yes	yes	no	no	yes	no	partial	partial	34
PPL	yes	yes	no	no	yes	no	no	no	yes	no	partial	partial	34
Xcel Energy	yes	yes	yes	yes	yes	yes	yes	no	yes	no	partial	partial	33
Duke Energy	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	partial	30
DTE Energy	yes	yes	yes	no	yes	yes	yes	no	yes	no	no	partial	25
Consolidated Edison	yes	yes	no	yes	yes	yes	no	no	yes	no	no	no	23
Public Service Ent. Grp	yes	yes	yes	no	yes	yes	no	no	yes	no	no	no	23
Pepco Holding	yes	yes	no	no	yes	yes	yes	no	yes	yes	partial	no	22
NiSource	yes	yes	yes	no	yes	no	no	no	yes	no	partial	no	19
NextEra Energy	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no	17
ONEOK	yes	yes	yes	no	yes	yes	yes	no	yes	no	partial	partial	15
Eversource Energy	yes	no	no	no	no	no	no	no	no	no	no	no	13
FirstEnergy	yes	yes	no	no	yes	no	no	no	yes	yes	no	no	12
NRG Energy	yes	yes	no	no	yes	no	no	no	no	no	no	no	10
AES	yes	yes	no	yes	yes	no	no	no	yes	no	partial	partial	9
CenterPoint Energy	yes	yes	no	no	yes	yes	no	no	no	no	no	no	7
# yes/CPAZ Avg	25	24	23	18	40	11	12	3	22	10	16 partial	3 yes, 12 partial	40.2

Source: Center for Political Accountability ZPA-Zicklin Index 2015 (www.politicalaccountability.net)

E. Shareholder Resolution Campaigns

Comparative Recent Results at Largest 25 U.S. Electric Utilities

Shareholder resolutions are one barometer of investor discontent, and, in the case of utilities, suggest the ways in which some investors find current disclosures and strategies regarding climate change risk to be inadequate.

SEC Challenges and Proposal Withdrawals: Climate, Energy and Politics Shareholder Proposals, 2010-2015*									
Company	Total Filed	# voted on	SEC Challenge Rejected	SEC Challenge Sustained	Withdrawn Before SEC Decision	# challenged	% Challenged	# withdrawn	% withdrawn
AES	2							2	100%
Ameren	11	9						2	18%
American Electric Power	2	1						1	50%
CenterPoint Energy	1	1							
CMS Energy	6	3						3	50%
Dominion Resources	46	27	10	12	3	25	54%	7#	15%
DTE Energy	9	8	1			1	11%	1	11%
Duke Energy	7	4		3		3	43%		
Entergy	11	5	2	5		7	64%	1	9%
Exelon	3			1	1	2	67%	2#	67%
FirstEnergy	14	6	2	2		4	29%	6	43%
NextEra Energy	3	2	1		1	2	67%	1#	33%
NiSource	3	2						1	33%
NRG Energy	1							1	100%
ONEOK	2	2							
Pepco Holdings	2			1	1	2	100%	1#	50%
PG&E	3			1	2	3	100%	2#	67%
PPL Corporation	5	4						1	20%
PSEG	2							2	100%
Sempra Energy	4	2		1		1	25%	1	25%
Southern	10	6	1	1	1	3	30%	3#	30%
Xcel Energy	5				4	4	80%	5#	100%
Totals	152	82	17	27	13	57	38%	42#	28%
#Withdrawn column includes "withdrawn before SEC decision" proposals. *Excludes non-climate relevant proposals									
Source: Si2									

The table above presents key information about the largest 25 U.S. utilities, showing that from 2010 to 2015, investors filed a total of 152 resolutions about energy issues and political involvement. Some 82 were voted on through the end of 2015. A further 27 proposals have been filed for the 2016 proxy season. Proposals may not go to a vote for a variety of reasons. Companies have lodged challenges against 62 of the resolutions under provisions of the Shareholder Proposal Rule, and proponents have withdrawn 42 of them. In general, proponents may withdraw after reaching agreement with a company about the substance of the request, but these figures must also be considered in conjunction with the SEC challenge information (shaded in the table in pink and orange). Proponents also may withdraw if they believe a company challenge appears to be particularly compelling and they wish to avoid a damaging SEC precedent.

High Votes (30%+): Climate, Energy and Politics Shareholder Proposals, 2010-2015*					
Company/Proposal	2010	2011	2013	2014	2015
Ameren					
Report on coal risks		52.7			
Report on lobbying				36.8	41.0
CenterPoint Energy					
Report on lobbying					41.2
CMS Energy					
Adopt GHG reduction targets	35.1				
Report on coal risks	43.1				
DTE Energy					
Review/report on election spending	31.6		30.1	34.1	32.6
Duke Energy					
Review/report on election spending				49.4	
FirstEnergy					
Report on coal ash risks		36.1			
Report on coal risks		31.4			
NextEra Energy					
Review/report on election spending					39.6
NiSource					
Review/report on election spending				33.5	44.5
ONEOK					
Report on methane emissions/targets			38.2	30.7	
PPL Corporation					
Report on climate change					33.4
Review/report on political spending			38.6	41.0	44.6
*Votes calculated as a percentage of shares cast in favor divided by those cast for and against, not counting abstentions or broker non-votes. Company calculations may differ.					

Setting aside an anomalous situation at **Dominion Resources**, on average each of the other 25 companies in our universe has received just over 5 shareholder resolutions in all since 2010.¹⁸ **Dominion, Entergy, Exelon, Pepco Holdings, PG&E** and **Xcel Energy** have been the most likely to challenge resolutions at the SEC, arguing that the proposals should not appear on the proxy statement for investor consideration. The companies most likely to see proposals withdrawn have been **AES, Exelon** (two in all, after SEC challenges), **PG&E** (two after SEC challenges), **Public Service Enterprise Group** and **Xcel** (all four after SEC challenges). These figures suggest that for the utility sector, defensive corporate legal action to block resolutions rather than negotiated agreements is the main reason why shareholder proponents withdraw their proposals.

The table pulls out the 22 particularly high-scoring proposals filed at the largest 25 U.S. electric utilities—those that earned more than 30 percent of the shares voted. A plurality of the high scorers—14 in all—asked for more board oversight and disclosure of either lobbying or election spending. Four others were concerned specifically with risks connected with the combustion of coal—including the sole majority vote of 52.7 percent at **Ameren** in 2011. Resolutions that asked about climate change in general were not likely to earn high levels of support from shareholders as a whole. These data suggest that investors have sustained interest in political activity transparency at utilities, and they evince particular support for disclosure and action when it comes to specific types of risks attached to coal.

(See Appendix II for a listing of all the shareholder proposals filed on environmental and political issues since 2010.)

Current Shareholder Proposals

Investors have filed 27 proposals at 14 of the utilities for consideration in the 2016 proxy season:

- **Board oversight:** **Dominion Resources** is being asked to nominate an independent director. While the resolved clause does not specify that the proposed expert have environmental expertise, the body of the resolution makes clear this is the proponent's intent. Last year, Dominion successfully challenged a similar proposal; the SEC agreed that proposal was too prescriptive and would violate state law. This year the SEC rejected company arguments that the proposal is too vague and cannot be implemented.
- **Strategic impact:** A proposal filed with **Duke** and **Southern** calls for a broader

report on climate change strategy, requesting a study of the potential future impact of changes in the electric utility industry arising from regulatory efforts to confine global warming to the two-degree temperature increase goal agreed in the Paris climate treaty. Similar measures are pending before **AES** and **Dominion**, with the resolved clause at AES asking for an assessment of “the long term impacts on the company’s portfolio of public policies and technological advances that are consistent with limiting global warming to no more than 2 degrees Celsius over pre-industrial levels.” In similar fashion, Dominion Resources is being asked for a report on the “potential future threats and opportunities presented by climate change driven technology changes in the electric utility industry...that includes the company’s plan to meet these challenges, protect shareholder value, and reduce the company’s substantial carbon emissions.”

- **Asset stranding: American Electric Power, FirstEnergy and Southern** are being asked to report on the business risks of carbon asset stranding. Slight variations in the proposal ask for a quantification of “the potential financial losses to the company associated with stranding of its coal generation facilities under a range of climate change driven regulation scenarios that mandate greenhouse gas reductions beyond those required by the Clean Power Plan.” At Southern, the resolution adds, “Such report should include possible financial losses if coal gasification and/or CCS is rejected by policymakers as a technical climate mitigation strategy, or if they cannot be cost effectively implemented. Shareholders also request that Southern disclose, in the report, its total investments in CCS and coal gasification technologies.” As You Sow, the proponent, withdrew at AEP after the company [agreed](#) to more disclosure.
- **Sea level rise:** At **NextEra Energy**, a proposal seeks a report by December on the “material risks and costs of sea level rise to company operations, facilities, and markets based on a range of [sea level rise] scenarios.” The SEC has indicated the proposal must be included if it is rephrased as a recommendation, not a requirement, to comport with the Shareholder Proposal Rule.
- **Storms:** A resolution at **Dominion Resources** asks for a report about the climate-related “impact of more frequent and more intense storms, as well as any actions the Board plans to address these risks.” It has earned 24 percent support in each of the last two years.
- **Low-carbon energy deployment:** Shareholders want **Duke Energy, DTE Energy, Entergy** and **PPL** to report on distributed energy, and how each is “adapting (or could adapt) its business model to significantly increase deployment of

distributed low-carbon electricity resources as a means to reduce societal greenhouse gas emissions and protect shareholder value.” At Duke the proponent withdrew after the company agreed to address the issue.

- **Disclosure on renewables and efficiency:** A proposal to **Ameren** seeks a report on energy efficiency and renewables programs. It wants to know, how Ameren could protect shareholder value, reduce the risk of stranded assets, and decrease its climate change impacts by aggressive renewable energy adoption including:
 1. Increasing Ameren’s energy mix to 30 - 50% renewable energy by 2030.
 2. Increasing Ameren’s energy mix to 70 - 100% renewable energy by 2050.
 3. Propose changes to Ameren’s strategic plans that could help Ameren achieve the targets identified in (1) and (2) of this resolution.

- **Nuclear power:** A proposal asks **Dominion Resources** for a report on the cost to the company if a nuclear plant extension permit is denied.

- **Methane:** Also at **Dominion** is a request for a report detailing how the company is “measuring, mitigating, setting reduction targets, and disclosing methane emissions.” Similar proposals earned 25 percent in 2015 and 22 percent in 2014 and the company issued a report on the subject. This year, the company challenged the proposal at the SEC, which agreed the report means the resolution has been substantially implemented, so the company has excluded the proposal from its proxy statement and no vote will occur.

- **Political activity:** Three companies—**CenterPoint Energy, NextEra Energy** and **NiSource**—have received the standard election spending oversight and disclosure proposal coordinated by the Center for Political Accountability. It seeks semi-annual reports on:
 1. Policies and procedures for making, with corporate funds or assets, contributions and expenditures (direct or indirect) to (a) participate or intervene in any political campaign on behalf of (or in opposition to) any candidate for public office, or (b) influence the general public, or any segment thereof, with respect to an election or referendum.
 2. Monetary and non-monetary contributions and expenditures (direct and indirect) used in the manner described in section 1 above, including:
 - a. The identity of the recipient as well as the amount paid to each; and
 - b. The title(s) of the person(s) in the Company responsible for decision making.The proponent has withdrawn the CenterPoint resolution after reaching an agreement so there will be no vote. A fourth proposal is at **Southern**, but it specifically focuses on the company’s support for trade associations.

- **CenterPoint** received a second proposal, on lobbying, which the proponent withdrew. It asked for an annual report on lobbying expenditures, including information at the local, state or federal level, and it is pending at three other companies—**Dominion Resources**, **Duke Energy** and **FirstEnergy**, saying the report should include:

1. Company policy and procedures governing lobbying, both direct and indirect, and grassroots lobbying communications.
2. Payments by [Company Name] used for (a) direct or indirect lobbying or (b) grassroots lobbying communications, in each case including the amount of the payment and the recipient.
3. [Company Name]’s membership in and payments to any tax-exempt organization that writes or endorses model legislation.
4. Description of the decision making process and oversight by management and the Board for making payments described in section 2 above.

For purposes of this proposal, a “grassroots lobbying communication” is directed to the general public and (a) refers to specific legislation or regulation, (b) reflects a view on the legislation or regulation and (c) encourages the recipient to take action with respect to the legislation or regulation. “Indirect lobbying” is engaged in by a trade association or other organization of which [Company Name] is a member.

The New York City Pension Funds are asking for a comprehensive report that covers all aspects of lobbying and political spending, both direct and indirect through intermediary groups such as trade associations and non-profit organizations. It is pending at **DTE Energy** and **NRG Energy**.

Methodology & Sources

Si2 conducted informal consultations with various energy, environmental and utility experts while designing this project, to identify which lines of inquiry were most likely to reveal indicators of climate competence, as well as which sources would be most useful. Si2 studied the SEC filings, websites and other publications of the companies in our research universe, as well as credible media reports. We also referenced the following organizations and sources, in addition to those linked throughout this document.

► Ceres

- “Mapping Board Member Sustainability Expertise”

Current as of January 2015

Coverage: Entire Universe

This report, written by Si2, identifies companies with stated sustainability goals, and then looks at the boards of those companies by committee to see how their experience and skills are aligned with those goals.

- “Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the U.S., 2015”

Current as of January 2015

Coverage: Entire Universe

The 2015 Benchmarking report is the eleventh collaborative effort highlighting environmental performance and progress in the nation’s electric power sector. The Benchmarking series began in 1997 and uses publicly reported data to compare the emissions performance of the 100 largest power producers in the United States. The current report is based on 2013 generation and emissions data.

Location: <http://www.nrdc.org/air/pollution/benchmarking/files/benchmarking-2015.pdf>

► Investor Network on Climate Risk (INCR)

The INCR was useful in helping to define best practices for climate risk reporting, carbon asset management and stakeholder engagement.

Location: <http://www.ceres.org/investor-network/incr>

► CookESG Research

- “Climate Risk Disclosure Analysis”

Current as of SEC filing dates

Coverage: Entire Universe

This database and search tool automates identification, categorization and evaluation of textual corporate sustainability disclosures, particularly those related to climate change.

Location: <http://www.climate-risk-disclosure.org/>

► Institute for Energy Economics and Financial Analysis (IEEFA)

Coverage: Entire Universe

The IEEFA conducts research and analyses on financial and economic issues related to energy and the environment. Its mission is to accelerate the transition to a diverse, sustainable and profitable energy economy and to reduce dependence on coal and other non-renewable energy resources. The IEEFA maintains a section of its website with independent links to each of the companies in our coverage universe, featuring articles and research results pertinent to each.

Location: <http://ieefa.org/research-topics/>

► Institute for Electric Innovation

- “Thought Leaders Speak Out: The Evolving Electric Power Industry”

Current as of June 2015

Coverage: Entire Universe

This recently published compilation of essays provides an overview of the latest thinking of industry leaders, and their expectations of the future of electric power. It helped to gauge the trends in the industry, and to assess at a qualitative level which individuals and companies in the sector are driving sustainable change. While not a final resource in and of itself, it helped to guide subsequent research efforts.

Location: http://www.edisonfoundation.net/iei/Documents/IEI_ThoughtLeadersSpeakOut_Final.pdf

► Sustainability Accounting Standards Board (SASB)

SASB’s mission is to develop and disseminate sustainability accounting standards that help public corporations disclose material, decision-useful information to investors.

Location: <http://www.sasb.org/sectors/infrastructure/>

► Advanced Energy Economy (AEE)

AEE is a national association of business leaders who are making the global energy system more secure, clean, and affordable. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting energy needs today and tomorrow. Among these are energy efficiency, demand response, natural gas electric generation, solar, wind, hydro, nuclear, electric vehicles, biofuels and smart grid.

- “Integrating Renewable Energy into the Electricity Grid: Case Studies Showing How Technologies and Operations are Maintaining Reliability”

Current as of June 2015

This report provides an overview of how utilities and grid operators are integrating variable renewable resources while maintaining reliable electric service. It features two case studies representing the two types of electricity market structures in the United States – the Electric Reliability Council of Texas (ERCOT), a regional transmission organization (RTO), and Xcel Energy Colorado, a vertically integrated utility – each of which is successfully managing a high and increasing share of electric power from variable renewable resources.

Location: <http://info.aee.net/hubfs/EPA/AEEI-Renewables-Grid-Integration-Case-Studies.pdf?t=1444082753239>

► DNV GL Energy

Energy experts who deliver testing and game-changing expertise for the energy sector, including renewables and energy efficiency.

- “Working towards compliance: Impact of EPA’s 111(d) on State Regulators and Utilities”

Current as of 2015

Coverage: Entire Universe

Provides a useful comparative analysis of companies’ current emissions and resilience to change under the CPP.

Report description:

EPA’s proposed regulations of carbon dioxide emissions under the ‘The Clean Power Plan’ call for emission reductions from existing fossil fuel-fired electric generating units of 30 percent by 2030, compared to 2005 levels. EPA proposes to achieve these reductions through four building blocks: heat rate improvements; increased dispatch of natural gas combined cycle units; increased reliance on renewable and nuclear generation; and increased end-use energy efficiency.

The proposed regulation has triggered 1.6 million responses filed during the June-December 2014 public comment period. Judging from these responses, the review from both regulators and the industry is mixed, and it is clear that much remains to be done before workable regulations are in place across the United States. In addition to myriad technical concerns, many stakeholders question EPA’s regulatory authority to mandate the proposed actions. This is likely to trigger extensive political, regulatory and legal debates, leading to delayed implementation.

The Clean Power Plan introduces the most significant environmental reform to the power industry since the Clean Air Act of 1970. Power plant owners will need to devise a strategy for controlling compliance costs and identifying growth opportunities. Based on this, they need to determine the best regulatory strategy at the state and federal level.

Location: <http://www3.dnvgl.com/e/52932/1AvRYUV/3x6gtk/196312100>

▶ CDP

Current as of 2015

Coverage: Entire Universe

CDP compiles annual, voluntary disclosures on climate change from participating companies.

▶ Union of Concerned Scientists (UCS)

- “Power Failure: How Climate Change Puts Our Electricity at Risk—and What We Can Do”

Current as of April 2014

Coverage: Sector – general case

Analyzes power systems for resilience to shocks, particularly electric supply shocks.

▶ American Council for an Energy-Efficient Economy

- “Beyond Carrots for Utilities: A National Review of Performance Incentives for Energy Efficiency”

Current as of June 2015

Coverage: Entire Universe

Analyzes utility business models for energy efficiency.

▶ UBS

- “2015 View on Power & the Environment”

Current as of March 2015

Coverage: Industry

Analyzes the state of power markets and their environmental impact, and predicts likely trends for the year ahead.

Appendix 1: Companies' Public Policy Advocacy

The table below shows the self-reported public policy advocacy efforts on the part of those companies in our research universe that responded to the CDP's annual climate change survey.

Companies' Self-Reported Public Policy Advocacy Efforts				
Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
AES	Carbon tax	Oppose	AES met with staff for Congressman Delaney (D-MD) to discuss the Congressman's recently released carbon tax discussion draft that would impose a minimum \$20 per ton fee on greenhouse gas emissions from existing power plants starting in 2015 and increase from there. Also AES attended a fundraiser for Congressman Garcia (D-FL). He commented that very little of any significance would get done in Congress during the rest of the current term. We discussed Mexico and the upcoming GHG rules for existing plants to be issued by EPA.	Market based mechanisms (cap and trade) are preferred over carbon tax schemes.
AES	Carbon tax	Oppose	AES spoke with Congressman Delaney's office regarding the Congressman's upcoming carbon tax bill (State's Choice Act). Although we could not be supportive at this time, we did express a preference for market based mechanisms should it be necessary to address greenhouse gases.	Market based mechanisms (cap and trade) are preferred over carbon tax schemes.
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	In conjunction with the National Climate Coalition (NCC), AES met with the Associate Director for Energy and Climate Change and the Senior Advisor to the Chair of the Council on Environmental Quality, to discuss the NCC's proposal on options for proposed regulations for greenhouse gas emissions from existing power plants. The NCC had just enough time to present their proposal for how the EPA could develop a reasonable program with modest reductions at the plant level (on the order of 1-2% in line with other industry proposals) and how voluntary off-site reduction programs could assist in meeting these targets. The CEQ appreciated the discussion and the work the group has put into the proposal but were not able to comment on what the EPA is currently working on.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	As part of the United States Climate Partnership Association meeting, AES spoke with the Special Assistant to the President for Energy and Climate Change. He was largely focused on overall programs the President is focused on to address climate change, including their methane announcement. He did corroborate EPA's statements that they are focused on a bottom up program for existing units rather than a top down program focused on meeting the 17% reduction target set by President Obama.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	In conjunction with the National Climate Coalition, AES met with staff from OMB-OIRA with regards to the to be proposed EPA rule for greenhouse gas emissions from existing power plants. AES met with staff from Congressman Alan Lowenthal's (D-CA) office and briefed him on the OMB-OIRA meeting above in the context of talking about the to be proposed rule for existing power plants as well as the proposed rule for new power plants. AES specifically discussed that additional flexibility with the latter rule would greatly improve the performance of our proposed re-powering of our AES Alamos facility. AES also brainstormed ideas on how the EPA could write a rule that would send a price signal and potentially incentivize the development of CCS.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	In conjunction with the National Climate Coalition, AES met with the, Associate Assistant Administrator & Senior Counsel of EPA's Office of Air and Radiation to discuss the EPA's proposed rule for GHG emissions from existing power plants.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	AES met with Rep. Ken Calvert (R-CA) at the EEI Washington Reps meeting. Comments to the larger group were focused on the economic situation in California, the federal budget, WOTUS & Carbon rules, fracking and grid security.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	In conjunction with the National Climate Coalition, AES met with the Associate Assistant Administrator & Senior Counsel of EPA's Office of Air and Radiation and other EPA staff to discuss the EPA's proposed rule for GHG emissions from existing power plants. On that same day, in conjunction with the National Climate Coalition, AES met with the Special Assistant to the President for Energy and Climate Change and the Associate Director for Energy and Climate Change to discuss the NCC's proposal on options for reasonable proposed regulations for greenhouse gas emissions from existing power plants.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.
AES	Other: Regulation of GHG emissions from existing power plants under the Clean Air Act (CAA)	Support with major exceptions	At the United States Climate Partnership Association meeting met with staff for Representative Ed Whitfield (R-KY). He indicated that Chairman Whitfield will soon introduce a bill to delay the proposed GHG rule for existing sources at the state level until full judicial review – all the way up to the Supreme Court – is exhausted. This will allow time for collaborative state compacts to form. At the same meeting, staff for Senator Joe Manchin (D-WV), indicated Rep. Manchin is working on a bipartisan white paper that explores low cost mitigation strategies to deal with to potential worst scenario outcomes of climate change and also considers incentives for clean coal R&D, tax code modifications for increasing coal efficiency and NSR relief. The white paper will not contain any legislative language.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a reliability safety valve, provisions for cost containment, and trading options.
AES	Other: Regulation of GHG emissions from new and existing power plants under the Clean Air Act (CAA)	Support with major exceptions	AES met with Senator Mark Udall (D-CO) at the EEI Washington Reps meeting. He indicated his belief that we need to reduce CO2 but need to find a way to do this while preserving a place for coal in the generation mix (CCS?). Also, AES attended a lunch for Senator Murkowski (R-AK). Also in attendance was Senator Jim Inhofe (R-OK). We discussed a number of issues including electric system reliability, tax extenders, EPA water and climate rules and the recent FERC nomination hearing.	Market based mechanisms as a first priority. Secondly, the proposed rule for new sources should include a higher emissions standard for natural gas plants to allow for variable operating conditions. Additionally CCS should not be classified as best available technology as it is not yet commercially viable. The proposed rule for existing sources should include a reliability safety valve, provisions for cost containment, and trading options.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
AES	Other: Regulation of GHG emissions from new power plants under the Clean Air Act (CAA)	Support with major exceptions	AES, in conjunction with Baker-Botts met with EPA on the proposed rule for greenhouse gas emissions from new power plants. We discussed our proposal to increase the proposed allowable emissions rate for new gas plants from 1,000 lb/MWh to 1,100 lb/MWh.	Market based mechanisms as a first priority. Secondly, the proposed rule should include a higher emissions standard for natural gas plants to allow for variable operating conditions. Additionally CCS should not be classified as best available technology as it is not yet commercially viable.
Ameren	Adaptation resiliency	Support	Ameren supported legislation to allow electric utilities in Missouri to be more proactive in replacing old and aging infrastructure because it would allow recovery of those investments in a timelier manner. The effect would be a resilient system to respond to extreme weather conditions while maintaining reliability. Also, it would result in more efficiently operated infrastructure.	Gas and water utilities in Missouri can currently recover these infrastructure investments. Ameren Missouri supported this legislation to allow its electric system to receive similar treatment. It also would allow for recovery of investments made for compliance with new USEPA regulations.
Ameren	Energy efficiency	Support	Ameren Illinois supported legislation that extends the sunset date on the Energy Infrastructure and Modernization Act (EIMA) law from 2017 to 2019 to ensure modernization of the Illinois electric grid can continue as planned. Customers are benefitting from the job creation, increased economic activity, improved reliability and energy management tools that are being created under the plan. The plan will provide opportunities for enhanced/additional energy efficiency programs and renewable energy investments through voltage controls, smart meter tools and time-of-use pricing.	The legislation allows Ameren Illinois to continue its implementation of EIMA, which allows Ameren Illinois to invest in improvements and modernization to its electric distribution system while seeking recovery through a formula rate process at the Illinois Commerce Commission.
Ameren	Other: Limit transmission projects that can have expedited process with Illinois Commerce Commission	Oppose	Ameren Illinois informed legislators on the importance of strengthening and expanding our transmission systems, including the need to facilitate the delivery of new renewable energy sources to our customers.	Legislation would limit transmission projects that can be filed through the expedited process at the Illinois Commerce Commission. Without the expedited process, utilities face a lengthy and unpredictable process at the Illinois Commerce Commission.
Ameren	Other: Meetings with USEPA and White House	Support	Met with policy makers to discuss improvements to proposed GHG regulations.	Requested USEPA to provide flexibility in rules to be promulgated by them in order to minimize compliance impact on customer rates

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Ameren	Other: Missouri Department of Natural Resources variance language	Support	Ameren supported a formal variance option with the MDNR when conditions caused plants to exceed the thermal discharge limits due to circumstances beyond our control and avoid potential suits to assure compliance - reducing operation at critical times to maintain reliability.	The Variance would allow the MDNR to offer a variance instead of looking the other way which would protect MDNR and the company from litigation. The variance would have a time limit with oversight by the MDNR. It would allow operation during the extreme weather conditions to assure reliability to customers at a critical time.
Ameren	Other: Missouri HB1631 and SB965	Neutral	Ameren Missouri supported changes to make the GHG legislation more feasible for the utility industry; including, incorporating changes to account for reliability concerns with the transition away from coal-fired generation.	Suggested changes to the legislation.
Ameren	Other: NSPS legislation	Support	Due to EPA development of regulations for new and existing power plants Ameren has been supporting legislation to limit the impact and control the timing of the regulation through legislation	Limit the implementation of regulations until carbon capture and sequestration has been adequately demonstrated at a certain number of facilities as well as allow Congress to establish the implementation date of the regulations
Ameren	Other: Research	Support	Research on carbon capture and storage	Identify storage sites for sequestration of CO ₂ ; implement timelines that are consistent with deployment of carbon capture and storage technology which reduce CO ₂ .
Ameren	Other: Testimony and filings to USEPA	Support	Provided testimony to USEPA at public listening sessions on the structure of future GHG regulations for existing units and filed comments on proposed GHG regulations on how to improve regulations.	Requested USEPA to provide maximum flexibility in rules to be promulgated by them in order to minimize compliance impact on customer rates
CMS Energy	Clean energy generation	Support	In 2014, the State of Michigan, led by the Michigan Public Service Commission and the Michigan Economic Development Corporation, continued the process evaluating the post 2015 state energy policy. Consumers Energy staff participated in this research process via roundtable discussions, workgroups, and public presentations.	Consumers Energy supports energy policy that is founded on the Michigan Governor's key goals of: Adaptability; Reliability; Affordability; and Protection of the Environment. We will actively engage in legislative workgroups and discussions to achieve these goals by reexamining the state's existing mandates on utilities for energy efficiency and renewable energy.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
CMS Energy	Other: Emissions regulations on power plants	Oppose	Consumers Energy staff has tracked EPA's development and release of draft regulations under the Section 111 of the CAA – these proposed regulations target GHG emissions from Electric Generating Units (EGUs). EPA has proposed three separate regulatory programs pursuant to the Obama Administration's Climate Action Plan. The three proposals cover new EGUs, modified EGUs, and a broad proposal covering existing EGUs. The proposed regulations and guidelines will set national emission standards for GHG emissions from any fossil fuel-fired EGU. Consumers Energy employs internal staff who participate in utility and industry based trade associations, and heavily participate in the administrative rulemaking process (notice and comment procedures). The Climate Action Plan contains specific deadlines for EPA action. Actions in 2014 included engagement with both State and Federal agencies. This engagement included developing a common position statement from multiple stakeholder groups including state environmental regulators, State Public Service Commissioners, and state based energy providers. The Section 111 rulemaking timeline carries over into 2015 and beyond; 2014 activities included: providing informal comments in order to better educate regulatory staff; development of robust comments on EPA proposals; and participation in State led workgroups aimed at evaluating potential regulatory compliance options.	We believe that EPA's proposed EGU regulations are significantly flawed. The proposed new source performance standards relies on the yet to be commercially developed and deployed Carbon Capture and Sequestration equipment and have advocated such. The proposed Clean Power Plan attempts to regulate broad sections of national energy policy previously outside of EPA jurisdiction. Consumers Energy will continue to comment on and educate EPA and the Michigan Department of Environmental Quality on the effects of unjustified demands on the electric utility industry. Consumers Energy advocates for any state or federal regulations, or guidelines, impacting existing EGUs to recognize prior investments in the generation fleet in order to not penalize any investments in carbon reductions prior to the rulemaking and to set a fair standard to be implemented on a reasonable timeline.
DTE Energy	Cap and trade	Support with minor exceptions	DTE Energy participated in advocacy related to cap-and-trade legislation before the U.S. Congress in 2009 and 2010. Legislative initiatives to reduce greenhouse gases have been replaced by Executive Branch proposals.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
DTE Energy	Carbon tax	Undecided	DTE Energy has tracked and monitored executive branch-level discussions as well as learning sessions by some U.S. Senators on the potential for a carbon tax. DTE Energy has also tracked the various proposals that have emanated from research organizations. The company will continue to be engaged as new Congressional and think tank proposals are presented.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
DTE Energy	Clean energy generation	Support with minor exceptions	DTE Energy is supportive of a national clean or renewable energy standard, as long as it allows for flexibility to match a state's renewable and clean energy potential. DTE Energy believes that wind energy is a vital part of the energy mix to meet Michigan's future energy needs and DTE Energy has been harnessing wind to benefit DTE Energy's customers and the environment.	States are better suited to enact clean energy legislation due to state and regional differences in the availability of clean energy resources. GHG policies are still under development. DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
DTE Energy	Clean energy generation	Support	DTE Energy supported Michigan Public Act (PA) 295 of 2008, that requires the Company to obtain 10 percent of our retail sales from qualifying renewable resources by 2015. DTE Energy is meeting all the stipulated requirements and will have approximately 900 megawatts of renewable energy operational by 2015 in compliance with Michigan's renewable energy program.	DTE generally prefers state clean energy policy solutions over national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The state policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. State policies provide flexibility to various regions of the U.S. allowing for particular differences.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
DTE Energy	Energy efficiency	Undecided	DTE Energy has closely tracked energy efficiency legislation at the federal level and supports energy conservation measures. DTE Energy also monitors the research and development of efficiency technologies.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
DTE Energy	Energy efficiency	Support	DTE Energy supported Michigan Public Act (PA) 295 of 2008, that requires annual energy savings of 1.0 percent of retail sales for electric utilities and 0.75 percent of retail sales for natural gas utilities in 2012, and each year thereafter. The standards went into effect in 2009, and ramped up gradually to the current level. The standards will remain at this level in perpetuity unless superseded by future legislation, or suspended by the Michigan Public Service Commission.	Michigan Energy policy is under development and is expected to be on the legislative agenda in 2015. The policy must provide a reasonable timeframe for transition of existing fleets and assure a reasonable cost on customers.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Duke Energy	Other: US EPA regulation of CO2 emissions from existing fossil fuel-fired electric generating units	Oppose	<p>The US EPA issued a regulatory proposal (The Clean Power Plan) in June 2014 that when finalized will start the process of regulating CO2 emissions from existing fossil fuel-fired electric generating units. This is a national rule that applies to all the jurisdictions in which we operate. It will be a multi-year process in which individual states ultimately develop the regulatory requirements that will apply to power plants based on the requirements of the EPA's final rule. During 2014 Duke Energy met with the EPA on several occasions to provide EPA with our perspective on the proposal. Duke Energy also filed formal comments on the proposal.</p>	<p>The US EPA issued a regulatory proposal (The Clean Power Plan) in June 2014 that when finalized will start the process of regulating CO2 emissions from existing fossil fuel-fired electric generating units. It will be a multi-year process in which individual states ultimately develop the regulatory requirements that will apply to power plants based on the requirements of the EPA's final rule. During 2014 Duke Energy met with the EPA on several occasions to provide EPA with our perspective on the proposal. Duke Energy also filed formal comments on the proposal.</p> <p>The proposed EPA regulation sets state-level CO2 emission rate limits based on the application of four building blocks. Three of the four building blocks are based on actions that in Duke Energy's view are unlawful because they involve what is commonly referred to as "beyond-the-fence" actions. Another problem with the proposal is that it sets very aggressive emission reduction requirements beginning in 2020. This does not provide the industry with the time needed to make the significant infrastructure changes that would be needed to comply, and places the reliability of the electric system at risk. The courts will determine if the final rule is lawful, but in the interim, EPA can choose to address the many other problems with the proposal, including choosing to moderate the early year reduction requirements. Duke Energy's view is that comprehensive national legislation addressing CO2 emissions is preferable to regulation by US EPA under the Clean Air Act.</p>

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Entergy	Adaptation resiliency	Support	<p>In 2011 - 2012, participated in 11 Blue Ribbon Resilient Community Leadership Forums to educate stakeholders on risk mitigation options and served as a catalyst for investing in solutions that preserve and protect prosperity, safety and quality of life; Organized and participated in two Coastal Resilience Technical Conferences with customers to quantify risks and work collaboratively towards developing economically sensible investment approaches to manage risk and build a more resilient Gulf Coast.</p> <p>In 2013 Entergy collaborated with the World Business Council for Sustainable Development (WBCSD) and was a lead author for a soon to be released report on Adaptation and Climate Resilience in the Power Sector that will identify best practices and discuss the cost benefits for a number of resilience investments.</p> <p>Entergy has been sharing information gained by working with our communities and customers on how to build resilience to climate change with federal agencies, industry groups and customers helping them apply processes we used to address climate hazards to risks they are facing.</p> <p>Entergy's Senior Manager, Climate Consulting was appointed by the Secretary of Interior to serve on her Advisory Committee on Climate Change and Natural Resource Science (ACCNRS). He was also appointed to serve on EPA's National Environmental Justice Advisory Committee (NEJAC) Community Resilience Working Group. He also was a contributor to the National Climate Assessment (NCA) South-east Regional Chapter.</p> <p>He worked with DOE and helped them form a Utility Resilience Partnership where companies commit to developing resilience plans, share best practices and report on progress (launched in 2015 with Entergy as a Charter Member).</p>	<p>Work with stakeholders to quantify risks to coastal communities, identify cost effective adaptation investments to manage risks. Work collaboratively with customers to prioritize utility system hardening investments to complement actions and investments they've taken to become more resilient. Prioritize hardening investments to reduce business interruption economic losses. Work to enhance prosperity, ensure safety for families and preserve quality of life in coastal communities we serve. Preserve and enhance economic viability of customer base.</p>

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Entergy	Cap and trade	Support	Over the past several years: CEO face to face meetings with over 40 members of Congress, five key Administration officials, and three southern state governors; public letter of support for Waxman - Markey cap and trade legislation; CAO delivered CDP address at NYSE (2013), speaking at public forums, collaborating with others, writing articles and by authoring four op-eds and one advertorial; Charter member of C2ES BELC advocating for market mechanisms to place a price on carbon; CEO a member of the C2ES Board of Directors and a C2ES Strategic Partner; CEO participated in "We Can Lead" on the need for a climate bill; CEO presentations to investors, at Annual Meeting, in Annual Reports, In Sustainability Reports calling for cap and trade with a predictable price on carbon.	Economy-wide, sustainable price on carbon that predictably increases over time; investment in R&D for development and deployment of retrofit carbon capture and sequestration that is affordable enough for China and the developing world to invest in; auction of allowances with a portion recycled to neutralize regressive impacts of higher energy prices on low income families; Check and assess provisions if global agreements to reduce GHG emissions don't materialize.
Entergy	Carbon tax	Support	In 2012, CEO publicly called for a "Carbon Tax" at C2ES in Washington DC; CEO gave a defense of that position before Louisiana Public Service Commissioners	Sustainable, predictable price on carbon that increases over time with revenues recycled to reduce deficit, reduces distorted taxes and recycles revenue to low income families to reduce regressive impacts of higher energy prices
Entergy	Clean energy generation	Support	In 2014, extensive participation in advocacy for market reform to preserve the value of existing nuclear generation. In 2011, CEO participated in interview with Washington Post Editorial Staff advocating a modified CES as an effective market mechanism for placing a price on carbon; CEO wrote Wall Street Journal Op-Ed titled "Cool the Planet with Natural Gas" advocating a CES that substitutes natural gas for coal as a way to reduce carbon emissions	CES that allows trading of credits around reduced coal utilization for increased natural gas utilization
Entergy	Energy efficiency	Support	In 2012, Investing in Energy Efficiency at Entergy Texas, Entergy Arkansas and Entergy New Orleans; Supports weatherization initiatives for low income customers	Work with regulatory commissions to allow rate of return on energy efficiency investments and deals equitable with lost revenues

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Entergy	Other: Retrofit CCS Technology	Support	In 2009, Entergy asked the MIT Energy Initiative (MITEI) to bring together the nation's leading experts in this field to assess the current issues surrounding retrofit technologies and to formulate a concrete action plan to move forward quickly	Accelerate research for low carbon technologies, including retrofit CCS technology, for coal-fired power plants – There is a critical need to develop and deploy cost-effective retrofit CCS technology that can be deployed here in the U.S., but, more importantly, in China, India, and developing nations, where the vast majority of new coal-fired power plants are being built. If we are to be successful in meeting climate change goals, we need to develop cost-effective solutions for coal
Eversource Energy	Clean energy generation	Support	Eversource companies are involved in solar, wind and hydro facilities.	Massachusetts Green Communities Act of 2008 (Active);
2014 New Hampshire State Energy Strategy (Active)				
Eversource Energy	Energy efficiency	Support	Eversource's leadership team works closely with lawmakers and regulators in each of the states in which it operates to shape new energy legislation, regulations and policy that focus on EE and maintaining Eversource's position as an industry leading EE provider. The Company also engages directly with a wide variety of stakeholders and policy makers on EE issues through its membership on the New England Clean Energy Council, Massachusetts Energy Efficiency Advisory Council, the Connecticut Energy Efficiency Board and the NH Energy Efficiency & Sustainable Energy Board.	Massachusetts Green Communities Act of 2008 (Active)

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Eversource Energy	Other: Access Northeast	Support	<p>In September 2014, Eversource and Spectra Energy Corp announced Access Northeast, a natural gas pipeline expansion project. Access Northeast will enhance the Algonquin and Maritimes pipeline systems using existing routes and is expected to be capable of delivering approximately one billion cubic feet of natural gas per day to New England. Eversource and Spectra Energy Corp will have equal ownership interest in the project with the option of additional investors joining in the future. In February 2015, Eversource, Spectra Energy Corp and National Grid announced the addition of National Grid as a co-developer in the project for a total ownership interest of 20 percent, with Eversource and Spectra Energy Corp each owning 40 percent. The total project cost, subject to FERC approval, is expected to be approximately \$3 billion and has an anticipated in-service date of November 2018.</p> <p>In December 2014, Eversource and Spectra Energy Corp announced an alliance with Iroquois Gas Transmission for the Access Northeast project. This alliance will provide New England natural gas distribution companies and generators with additional access to natural gas supplies from multiple, diverse receipt points along the Algonquin pipeline system, including the Iroquois pipeline system.</p>	CT - SB1078 - An Act Concerning Affordable and Reliable Energy (Enacted in 2015)

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Eversource Energy	Other: Comprehensive Energy Plan	Support with major exceptions	In 2013, Connecticut issued a final comprehensive energy strategy. The strategy includes a series of policy proposals that aim to expand energy choices, improve environmental conditions, create clean energy jobs, and enhance the quality of life for customers in the state. It also includes a seven-year initiative for expanding natural gas use with a goal of providing nearly 300,000 utility customers with access to natural gas, building an estimated 900 miles of new natural gas mains, and estimates of capital costs to be incurred by natural gas utility companies to connect customers on or near natural gas mains. In addition to natural gas expansion, the strategy calls for a significant expansion of EE investment in Connecticut, a review of Connecticut's Renewable Energy Portfolio Standards (possibly including Canadian hydroelectric generation as a qualifying resource), and investment in alternative fuel transportation. Many of the recommendations in the strategy required actions by the PURA and the legislature. Eversource was actively involved in this legislation.	Public Act No. 13-298 - An Act Concerning Implementation of Connecticut's Comprehensive Energy Strategy and Various Revisions to the Energy Statutes (Active)
Eversource Energy	Other: Divestiture of generation	Support	After months of negotiations with key state officials, Eversource Energy has agreed to sell its PSNH power plants through an auction process pursuant to an agreement in principle reflected in a settlement term sheet. The fleet totals approximately 1,200 MW, including 540 MW of coal generation, 400 MW of dual-fuel oil/natural gas generation, 60 MW of run-of-the river hydro units, 50 MW of generation fueled with wood chips and 100 MW of internal combustion peaking units, all located in New Hampshire.	NH Senate Bill 221 - An Act Relative to Electric Rate Reduction Financing (Active)

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Eversource Energy	Other: Massachusetts Natural Gas Replacement And Expansion	Support	<p>In July 2014, Massachusetts enacted "An Act Relative to Natural Gas Leaks" (the Act). The Act establishes a uniform natural gas leak classification standard for all Massachusetts natural gas utilities and a program that accelerates the replacement of aging natural gas infrastructure. The program enables companies, including NSTAR Gas, to better manage the scheduling and costs of replacement. The Act also calls for the Massachusetts Department of Public Utilities (DPU) to authorize natural gas utilities to design and offer programs to customers that will increase the availability, affordability and feasibility of natural gas service for new customers.</p> <p>NSTAR Gas filed the Gas System Enhancement Program (GSEP) with the DPU on October 31, 2014. NSTAR Gas' program accelerates the replacement of certain natural gas distribution facilities in the system within 25 years. The GSEP includes a new tariff that provides NSTAR Gas an opportunity to collect the costs for the program on an annual basis through a newly designed recon-ciling factor. On April 30, 2015, the DPU approved the GSEP. We have projected capital expenditures of approximately \$200 million for the period 2015 through 2018 for the GSEP.</p>	An Act Relative to Natural Gas Leaks (Active)
Exelon	Cap and trade	Support	<p>Exelon supported the comprehensive two-year program review by the nine Northeastern and Mid-Atlantic states participating in the Regional Greenhouse Gas Initiative (RGGI) to update the RGGI Model Rule and program requirements effective in 2014. Exelon worked collaboratively with other power generators and environmental groups to support the RGGI program review and a reduction in the regional GHG emission cap level. In particular, Exelon worked with a group of environmental and industry stakeholders coordinated by the Pace Energy and Climate Center to develop public recommendations, comments, and a press release to support RGGI state action.</p>	<p>Exelon's proposed solution included a tightening of the regional state emission budgets, as well as specific measures to enhance markets and protect early actors, such as maintaining the value of banked RGGI allowances, a declining emissions cap, and a number of market-based compliance flexibility options, including cost containment reserve allowances that maintained environmental integrity while increasing allowances available in the event that allowance prices exceed certain levels. We support both continued reductions in regional greenhouse gas emissions, as well as consumer price protections.</p>

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Exelon	Climate finance	Support	We responded to Representative Waxman's and Senator Whitehouse's request for feedback on how the federal government can pursue strategies to reduce greenhouse gas (GHG) emissions in a cost-effective manner.	The federal government owns and operates nearly 3 billion square feet of building space. Upgrading the energy performance of buildings in the federal portfolio is a proven method of reducing energy usage, costs, and emissions. There are a number of existing tools available to assist federal agencies in achieving their energy reduction goals. One such tool is Energy Savings Performance Contracts (ESPCs). ESPCs are an alternative financing mechanism designed to accelerate investment in cost-effective energy conservation measures in existing federal buildings. ESPCs allow federal agencies to accomplish energy savings projects without up-front capital costs and without special Congressional appropriations. Exelon would urge Congress to consider targeted legislation that addresses barriers that unnecessarily restrict the ability of federal agencies to enter into contracts to make longer-term efficiency improvements. For example, as it relates to ESPCs, in 2002 the Congressional Budget Office (CBO) changed its previous position and now scores these contracts as mandatory expenditures without taking into account the guaranteed savings that accrue to the federal government. The Office of Management and Budget (OMB), however, consider these contracts "budget neutral" as they actually save money. Exelon believes that ESPCs will not be fully utilized across the federal government until Congress addresses this issue. Accordingly, we urge Congress to direct CBO to score ESPCs in a way that allows accounting of the long-term cost savings.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Exelon	Energy efficiency	Support	Exelon's Sr Executive VP & Chief Strategy Officer sits on the Board of the Alliance to Save Energy.	We have supported energy efficiency measures for appliances and in schools, as well as improved financing for federal energy efficiency projects as discussed further below.
Exelon	Other: Competitive markets with a value on carbon	Support	Direct communication with legislators and regulators, as well as broadly through our investor and stakeholder materials such as our Corporate Sustainability Report and other sustainability disclosures.	Exelon advocates for open markets that place a cost on carbon as the most economically-effective way to address the issue. This would allow for the most cost-effective solutions to arise, as opposed to subsidies that favor one technology over another, which can distort power markets and stifle innovation, leading to reliability and/or demand management issues and a more expensive electricity supply.
Exelon	Other: Federal Wind Production Tax Credit	Oppose	It is Exelon's position that there is no need to provide subsidies for proven technologies, nor for electricity consumers or taxpayers to pay more than required for a clean electricity supply. The wind PTC has achieved its goal of jump-starting the industry and is no longer necessary. More than 13,000 MW of new installed wind capacity were added in 2012, surpassing all other electricity generation sources in new installations for the first time ever. This growth comes on the heels of wind accounting for 35% of new generation over the last five years. The PTC has worked. However, the subsidy is distorting today's wholesale electricity markets, putting at risk the operation of large-scale and more reliable clean generation. Perversely, because of the PTC subsidy, wind producers often pay the market to run (rather than getting paid by the market to run), yet still profit because of the subsidy's steep \$35 per megawatt hour (pre-tax) payout. For example, a wind producer could pay the market \$10 per MWh and still make \$25 because of the value of the PTC. This forces around-the-clock base load power, like zero-emitting nuclear (and coal), producers to pay to run their plants or to shut down for long periods of the day when their power is needed most. In Texas, for instance, where new generation is needed, investors are reluctant to build new power plants – even low-cost natural gas – because subsidized wind has so distorted the market. Therefore, Exelon supported Congress' decision in December 2013 not to extend the wind PTC beyond 2014.	Proponents of the PTC argue that negative prices are a good thing because such pricing drives consumer electricity prices lower. This simplistic reasoning doesn't hold up when one considers what is not included in the market price, including the cost of back-up generation needed for when the wind doesn't blow, transmission costs to get the power where it is needed and the taxpayer cost of the PTC. The PTC has recently expired and should not be renewed. Artificially lowering prices through government intervention undermines the market and stops the development of new generation, as well as environmental retrofits of existing fossil units and uprates of nuclear plants. The artificial pricing also threatens to drive other reliable and clean competitors from the market. These market distortions lead to serious electricity reliability problems, costing electric consumers more.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Exelon	Other: Power plant GHG regulation	Support with major exceptions	Exelon supports the establishment of effective GHG NSPS regulations for new and existing power plants (e.g., CPP). While Exelon expressed our overall support for the proposed targets and timing, our comments focused on several areas of improvement that should be made in the final rule to ensure it truly results in emissions reductions, and does so as cost-effectively as possible.	We offered comments on changes to the proposed regulations that would allow states flexibility to meet reduction goals with a broader range of zero-carbon resources, rather than including some resources and not others. We also offered comments in response to industry criticism that the interim compliance period start date was too soon, including outlining an approach the U.S. EPA should adopt to minimize compliance risk while ensuring cost-effective emission reductions in the interim period from 2020 to 2029. This program, which we term Reliability Dispatch Safe Harbor, would allow states the option of complying using a carbon cost (or "adder") reflected in generators' energy bids, which would establish a price signal to encourage a lower-carbon generation mix. U.S. EPA would set the adder at a level expected to result in the proposed level of reductions nationwide. Using the existing regulatory framework, the carbon proceeds could be rebated back to utility customers. This approach would provide a mechanism to support a smooth industry transition from today to the final 2030 emission targets. It also provides states and industry with compliance certainty and customers with cost certainty.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
NiSource	Energy efficiency	Support	NiSource supports reasonable and cost-effective energy efficiency policies that help our customers save energy.	NiSource will support appropriately crafted federal legislation on climate change that (1) Recognizes that greenhouse gas reduction targets must be applicable to all sources of greenhouse gas and be realistically achievable and consistent with projected availability of commercial technology; (2) Protects against undue increases in energy costs to any particular regions or groups of consumers; and (3) Recognizes the environmental benefits of natural gas and promotes policies and practices that result in the continued efficient use of natural gas by all customers.
NiSource	Other: Carbon Dioxide Emissions Regulations	Undecided	NiSource engages with various state policymakers regarding CO2 emission regulations for existing power plants.	NiSource will support appropriately crafted federal legislation on climate change that (1) Recognizes that greenhouse gas reduction targets must be applicable to all sources of greenhouse gas and be realistically achievable and consistent with projected availability of commercial technology; (2) Protects against undue increases in energy costs to any particular regions or groups of consumers; and (3) Recognizes the environmental benefits of natural gas and promotes policies and practices that result in the continued efficient use of natural gas by all customers.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
NiSource	Other: Climate-related legislation that has the potential to impact NiSource operations	Support	NiSource has a Governmental Affairs office in Washington D.C. NiSource is also a member of numerous industry-related trade associations. NiSource promotes adoption of reasonable policies addressing climate change.	NiSource will support appropriately crafted federal legislation on climate change that (1) Recognizes that greenhouse gas reduction targets must be applicable to all sources of greenhouse gas and be realistically achievable and consistent with projected availability of commercial technology; (2) Protects against undue increases in energy costs to any particular regions or groups of consumers; and (3) Recognizes the environmental benefits of natural gas and promotes policies and practices that result in the continued efficient use of natural gas by all customers.
NiSource	Other: Methane Emission Regulations	Undecided	NiSource engages with various state policymakers regarding CH4 emission regulations for natural gas systems.	NiSource will support appropriately crafted federal legislation on climate change that (1) Recognizes that greenhouse gas reduction targets must be applicable to all sources of greenhouse gas and be realistically achievable and consistent with projected availability of commercial technology; (2) Protects against undue increases in energy costs to any particular regions or groups of consumers; and (3) Recognizes the environmental benefits of natural gas and promotes policies and practices that result in the continued efficient use of natural gas by all customers.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
NRG Energy	Clean energy generation	Support	NRG has engaged by meeting directly with policymakers in Washington and indirectly through groups such as the National Climate Coalition, the Electric Power Supply Association, and various informal organizations. NRG collaborates where possible with major environmental groups on clean energy and climate solutions. (NRDC, EDF, TNC, NWF).	NRG supports meaningful Congressional and regulatory actions to mitigate GHG emissions, and supports policies that foment the development and deployment of competitive low-carbon power generation technologies. To this end, NRG has actively engaged in EPA GHG rule development by working with other companies, the EPA and states to develop appropriate frameworks for use under section 111(d) of the Clean Air Act. Previously, NRG supported climate change legislation and incentives for clean energy solutions. NRG also engages with local and national environmental groups to seek feedback on new business initiatives and collaborate on ways to work together for the environment, such as through exclusive renewable energy product offerings for members.
NRG Energy	Other: GHG Regulation	Support	NRG has engaged by meeting directly with policymakers in Washington and indirectly through groups such as the Electrification Coalition, which supports policies promoting electric vehicles; the Solar Energy Industries Association (SEIA), the American Council on Renewable Energy (ACORE), the Renewable Energy Markets Association, and the US Partnership for Renewable Energy Finance (USPREF). Green Mountain Energy continues to support the future of clean energy and the smart grid as a sponsor and active participant in the nationally acclaimed Pecan Street Project. Pecan Street Inc. is a research and development organization focused on developing and testing advanced technology, business model and customer behavior surrounding advanced energy management systems.	NRG believes in straightforward and innovation-driving policies to support competitive clean energy generation. NRG is an active thought leader on policies aimed at supporting both utility-scale renewables and customer-facing, distributed energy technologies like rooftop solar. NRG recognizes the benefits afforded by policies like the investment tax credit, retail net energy metering

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
PG&E	Cap and trade	Support	Through the Joint Utility Group, PG&E collaborated with the state's investor- and publicly-owned utilities to advocate for resource shuffling guidance language in the Cap-and-Trade Regulation, a new cost containment mechanism, and streamlined reporting requirements.	Inclusion of resource shuffling regulatory language and introduction of cost containment mechanism
PG&E	Cap and trade	Support	Through the Gas Utility Group, PG&E engaged California's natural gas suppliers to work with the California Air Resources Board staff, environmental organizations, and other stakeholders to develop an allowance allocation methodology for natural gas suppliers who become regulated under the Cap-and-Trade program in 2015. The coalition reached agreement on a methodology which provides a fair allocation to natural gas suppliers, on behalf of their customers, and establishes a framework for supporting the emissions reduction goals of AB 32.	Inclusion of an allowance allocation to natural gas suppliers included in Cap-and-Trade Regulation
PG&E	Cap and trade	Support	Through the Joint Utility Group, California Council for Environmental and Economic Balance, International Emissions Trading Association (IETA), and directly, PG&E advocated for the passage of a new Rice Cultivation Projects Compliance Offset Protocol and expanded Forest Projects Protocol (Forest Protocol).	Addition of Rice and expanded Forest Protocol
PG&E	Clean energy generation	Support	Through the Joint Utility Group, PG&E submitted comments in support of the CPP's flexible framework to reduce electricity sector CO2 emissions. PG&E also met with policy makers to discuss Western Electricity Coordinating Council (WECC) state coordination on CPP compliance and our analysis of the market impacts of different CPP compliance scenarios.	
PG&E	Energy efficiency	Support	PG&E supported legislation to establish targets and goals for energy efficiency in appliances to reduce plug load.	
PG&E	Other: Low Carbon Fuel Standard	Support	Through the California Electric Transportation Coalition, California Natural Gas Vehicle Coalition, other stakeholders, and directly, PG&E advocated for the re-adoption of the Low Carbon Fuel Standard. Worked with Air Resources Board staff to support modeling of natural gas and electricity carbon intensity values, and regulation provisions.	

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Sempra Energy	Cap and trade	Support with minor exceptions	We engaged with policymakers concerning California legislation that would delay the compliance obligation of oil companies under cap and trade.	Our concern with the legislation was that delaying cap-and-trade regulation of the transportation sector unfairly shifts more cost and responsibility onto the utility sector. We believe that it is appropriate for the transportation fuel sector, which generates nearly 40% of all GHG emissions, to carry its fair share of the cost and responsibility for GHG reductions.
Sempra Energy	Clean energy generation	Support with minor exceptions	Our SDG&E and SoCalGas business units worked to support expansion of access to solar energy options consistent with several key principles. We opposed California legislation that would provide for unreasonable and hidden cross-subsidies for generation. We supported legislation that required estimating the cost of accommodating renewable energy resources onto our system. Our Sempra USG&P business unit worked to support NV Senate Bill 123, which calls for NV Energy to phase out its coal fired power and replace it with 550 MW of low-emission generation and 350 MW of renewable generation. At the federal level, Sempra supported legislative efforts including the Master Limited Partnership (MLP) Parity Act, which would extend benefits under the existing MLP rules to clean energy projects. Sempra also supported an extension of the renewable Production Tax Credit (PTC) and the addition of "commence construction" language to the Investment Tax Credit (ITC).	Consistent with our low-carbon business model, Sempra Energy supports the development of reasonable federal and state energy policies to regulate and reduce greenhouse gas emissions. We also believe that where states adopt clean energy standards and programs, they should be transparent and allocated to all customers without opportunity for bypass. We propose clean energy tax policies that provide policy certainty and level the playing field for tax incentives across clean energy technologies to equitably encourage further development of low-carbon energy.
Sempra Energy	Climate finance	Support with major exceptions	We worked collaboratively with on-bill repayment proponents to protect our ratepayers and shareholders from risk that should be borne by banks.	Utilize current state funds that already exist and have been collected for this purpose to provide loan-loss reserves for banks. Do not allow shut-off or proration.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Sempra Energy	Energy efficiency	Support with minor exceptions	<p>We worked collaboratively with on-bill repayment proponents to protect our ratepayers and shareholders from risk that should be borne by banks.</p> <p>On a federal level, we engaged with policymakers regarding S.1392 – the Energy Savings and Industrial Competitiveness Act, otherwise known as Shaheen/Portman.</p> <p>Our SDG&E and SoCalGas business units monitored numerous energy efficiency bills. We engaged policymakers on several of these bills and had a range of positions based on the specific provisions in the bill.</p>	<p>Sempra Energy supports an all-of-the-above energy policy to reduce carbon emissions. We propose a combination of natural gas, energy efficiency, and renewable energy, which will increase the diversity of the country's energy mix and shrink our carbon footprint.</p> <p>We strongly support the expansion of natural gas, which with additional investment, will generate affordable power for consumers, and create jobs and lower emissions. Efforts such as the Energy Savings and Industrial Competitiveness Act will help in this effort.</p>
Sempra Energy	Other: Alternative fuel transportation	Support with minor exceptions	<p>We supported efforts to encourage the growth of the alternative fuel market. Our position ranged based on whether or not the bills gave equitable treatment to all alternative fuels.</p>	<p>Sempra supports alternative-fueled transportation and encourages financial and nonfinancial incentives to help offset the cost of vehicle purchases. In legislative efforts, we propose parity between the costs and incentives applicable to natural gas and alternative fuels. Legislation should also support the deployment of alternative fuel filling stations. We also support expansion of the Department of Energy's Advanced Vehicle Manufacturing loan program to include medium and heavy trucks, buses and rail transit vehicles. We also support an extension of the AFV Infrastructure refueling credit, excise tax credit, and bringing parity to taxation of LNG versus diesel as a transportation fuel.</p>

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Sempra Energy	Other: Natural gas policy	Support	We engaged with policymakers to support AB 1257 – the Natural Gas Policy Act, a California bill which directs the California Energy Commission to determine additional ways natural gas can be used to help achieve the state's GHG emission reduction goals.	We support policies that expand the use of natural gas in the electric power and transportation sectors, provide exports to other countries to improve air quality globally and grow the U.S. economy. Sempra advocates for an energy efficiency approach that includes natural gas as a fuel pathway to achieve near-zero emissions.
Xcel Energy	Cap and trade	Neutral	While there are currently no strong cap and trade proposals pending for the United States or at the state level in states that Xcel Energy serves, Xcel Energy has actively engaged in policy discussions about cap and trade in the past. While Xcel Energy would prefer a national program created through new legislation, currently, carbon emission reduction requirements are likely to be led by the Environmental Protection Agency as opposed to the United States Congress. Xcel Energy is in direct communication with EPA and other stakeholders about its ideas for carbon emissions reductions.	Xcel Energy advocated for flexibility at the state level to implement carbon emission reduction programs. Xcel Energy would like the state to implement programs that include renewable energy, energy efficiency and coal plant retirement or improvement projects that together reduce carbon emissions at lower cost and with more energy diversity than a stack by stack approach allows.
Xcel Energy	Clean energy generation	Support	Xcel Energy operates in eight states that have renewable energy requirements by state law. Two of these states, Colorado and Minnesota, have some of the nation's most aggressive targets at 30 percent of retail sales by 2020. For the 11th year we are the nation's leading wind energy provider according to the American Wind Energy Association. Xcel Energy is fortunate to have rich wind and solar resources in the states it serves and Xcel Energy works to continue to deliver these energy resources in the most cost effective way.	Xcel Energy values renewable energy as a resource that is critical to achieving the environmental goals it has set forth. There is some risk to unfavorable policy around renewable energy and Xcel Energy has had concerns that some state level proposals have included mandates would require investments in solar power -- the most expensive energy resource -- that are not justified by current technology and at a time when we are not seeing growth in sales to pay for the investment. Distributed solar generation may become an economic competitive threat to our load growth in the future; however we believe the economics, absent significant subsidies, do not support such a trend in the near term unless a state mandates the purchase of such generation. Some states have considered such legislation.

Companies' Self-Reported Public Policy Advocacy Efforts

Company	Issue	Corporate Position	Details of engagement	Proposed legislative solution
Xcel Energy	Energy efficiency	Support	Xcel Energy supports energy efficiency programs through all of the corporate operating companies with programs in eight states. It is a cornerstone of our clean energy strategy. Currently Xcel Energy manages one of the largest energy saving program portfolios in the United States. We have supported state level legislation to develop and increase energy efficiency programs in the past.	We will continue to engage in discussions of energy efficiency programs and what they include in each legislative session. We want to ensure that the money we collect from customers to develop and support energy efficiency programs is used in a cost effective manner that provides the maximum environmental benefits. We work with legislators and policymakers to advocate accordingly.
Xcel Energy	Mandatory carbon reporting	Support	Xcel Energy supported reporting of carbon emissions long before it was mandatory. To demonstrate its environmental leadership Xcel Energy joined the voluntary reporting organization, The Climate Registry, in 2008 and helped develop the protocols for reporting of emissions by the electric sector. We continue to report and verify carbon emissions, which are publicly available through www.theclimateregistry.org .	In order to communicate to customers and stakeholders, Xcel Energy reports not only the mandatory reporting requirements of owned generation, but also the emissions from purchased power. By providing this data, parties are able to accurately examine the emissions intensity of the electricity delivered to customers.
Xcel Energy	Other: Clean Power Plan	Support with major exceptions	Xcel Energy had been working with the EPA, our state clean air agencies, other utilities and environmental stakeholders regarding EPA GHG regulations, specifically 111(d) under the Clean Air Act. A draft of the rule was issued in 2014. We have significant issues with the rule as proposed and have been actively engaged with the EPA and our states to communicate our view on key elements of the proposed rule.	In response, Xcel Energy has proposed to the EPA targeted fixes that could better recognize early action by leading states and utilities, provide stronger incentives for further early action, and avoid the risks posed by the interim targets. We have urged EPA to recognize the retirement of coal plants occurring prior to the 2012 baseline; account for the effect of renewable energy on the dispatch of natural gas combined cycle plants; grant states the flexibility to establish their own emission reduction glide paths to the 2030 goal; allow leading renewable states to bank renewable energy for use in meeting their 2030 compliance obligations; and fix technical problems in the rule that harm clean energy leaders.

Appendix II: Shareholder Resolution Results, 2010-15

Company/Proposal	2010	2011	2012	2013	2014	2015
AES						
Publish sustainability report					wd	
Review/report on political spending	wd					
Ameren						
Link executive pay to sustainability metrics						8.1
Reduce water use and report				wd		
Report on coal ash risks			10.8			
Report on coal risks		52.7	10.5			
Report on energy efficiency efforts			10.4			
Report on energy efficiency/renewables programs				11.1		
Report on GHG emissions targets					wd	
Report on lobbying					36.8	41.0
Report on nuclear plant permit extension	7.4					
American Electric Power						
Report on lobbying				11.1		
CenterPoint Energy						
Report on lobbying						41.2
CMS Energy						
Adopt GHG reduction targets	35.1	wd				
Report on coal risks	43.1	6.6				
Report on energy efficiency targets			wd			
Report on GHG emissions targets					wd	
Dominion Resources						
Adopt GHG reduction targets	wd				20.0	5.8
Establish board committee on renewable energy					omtd	
Establish board committee on renewable energy					omtd	
Finance renewable energy projects		omtd				
Link executive pay to sustainability metrics				7.1		4.9
Nominate environmental expert to board						OmtD
Offer renewable energy purchasing options		omtd				
Report on climate change				22.6	24.2	23.6
Report on coal ash risks						OmtD
Report on coal mountaintop removal practices		9.2	9.5	6.9		
Report on coal risks		6.7				
Report on energy efficiency efforts			omtd	omtd		
Report on energy efficiency/renewables programs			12.1	omtd (2)	21.6	
omtd	22.0					
Report on indirect lobbying					wd	
Report on lobbying					7.0	Wd

Company/Proposal	2010	2011	2012	2013	2014	2015
Report on methane emissions and reduction targets					21.9	25.0
Report on methane emissions/reduction targets						
Report on natural gas pricing				omtd		
Report on nuclear plant safety risks			17.6	4.8		
Report on plant closure impacts			16.0			
Report on risk and impacts of natural gas use			9.1			
Report on water use risks		wd				
Require shareholder approval of political spending		wd				
Review/report on climate change advocacy					wd	
Review/report on solar program risks and benefits					omtd	
Set renewable energy targets	5.6	5.1				
Stop biomass power development				wd		
Stop development of nuclear power	3.1	4.1				2.1
DTE Energy						
Adopt GHG reduction targets			29.5			
Report on energy efficiency/renewables programs				wd		27.5
Review/report on political spending	31.6	27.5	28.7	30.1	34.1	32.6
Duke Energy						
Report on coal risks		8.5	12.0			
Report on energy efficiency efforts			omtd			
Report on nuclear plant safety risks				omtd		
Report on political spending and lobbying					omtd	
Report on public policy advocacy	9.3	6.5				
Review/report on political spending					49.4	27.2
Entergy						
Link executive pay to sustainability metrics						6.7
Report on coal risks		wd				
Report on GHG emissions targets					omtd	
Report on lobbying				24.2		
Report on nuclear plant safety risks			omtd			
Report on nuclear plant safety risks				5.9	6.7	
Stop development of nuclear power			omtd	omtd		Omttd
Stop development of nuclear power					3.1	
Exelon						
Reduce water use and report						Wd
Report on lobbying						Wd
Review/report on political spending	omtd					
FirstEnergy						
Adopt GHG reduction targets		wd				19.4
Link executive pay to sustainability metrics		wd				
Reduce water use and report				omtd		
Report on coal ash risks		36.1	29.7			
Report on coal risks	wd	31.4	11.4			
Report on GHG emissions targets					wd	

Company/Proposal	2010	2011	2012	2013	2014	2015
Report on energy efficiency/renewables programs				omtd		
Report on lobbying					wd	19.4
Report on nuclear plant safety risks			wd			
NextEra Energy						
Report on nuclear plant safety risks			wd	4.9		
Review/report on political spending						39.6
NiSource						
Disclose water use	wd					
Review/report on political spending					33.5	44.5
NRG Energy						
Report on coal risks		omtd				
ONEOK						
Report on methane emissions and reduction targets				38.2	30.7	
Pepco Holdings						
Adopt GHG reduction targets			wd			
Pursue renewable energy strategy		omtd				
PG&E						
Cut radioactive waste risks	omtd					
Establish board committee on risk					wd	
Report on lobbying			wd			
Report on public policy advocacy	24.5					
PPL						
Report on climate change						33.5
Review/report on political spending				38.6	41.0	44.6
Report on water use risks		wd				
Sempra Energy						
Link executive pay to sustainability metrics		6.9	6.1			
Report on government corrupt practices risks			omtd			
Review/report on political spending			wd			
Southern						
Adopt GHG reduction targets		wd				22.1
Report on coal ash risks		23.6	26.0			
Report on coal risks	21.0					
Report on GHG emissions targets	9.9				wd	
Report on lobbying			11.3	omtd		
Report on water use risks		wd				
Xcel Energy						
Report on coal risks	wd	wd				
Report on lobbying				wd		
Report on nuclear plant safety risks			wd	wd		

Wd = withdrawn omtd = omitted votes = % of shares cast for/shares cast for + against
Source: Si2

Endnotes

- 1 PriceWaterhouseCoopers. “Global economies must lower carbon emissions at five times the levels currently achieved,” September 7, 2014. Retrieved from <http://press.pwc.com/Global/global-economies-must-lower-carbon-emissions-at-five-times-the-levels-currently-achieved/s/f748001d-e73b-47c0-af8f-18ad9d1023b8>
- 2 EPA. Clean Power Plan Existing Power Plants, Aug. 3, 2015. Retrieved from <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>
- 3 Stringer’s Board Room Accountability Project, in which more than 70 companies in both 2015 and 2016 have received “proxy access” shareholder resolutions seeking the right for large shareholder groups to nominate directors on company-issued proxy statements, has received widespread support from institutional investors, earning an average of 56 percent support in 2015. The proposals were submitted at companies with high carbon footprints, low board diversity and low investor support for executive pay. Whether exercise of this right, won at an increasing number of large companies, will have discernible impact on board functions and companies remains to be seen.
- 4 Carroll, Joe and Jim Polson. “Oil’s green investors win Trojan horse victories in board access,” *Bloomberg Business*, May 28, 2015. Retrieved from <http://www.bloomberg.com/news/articles/2015-05-27/oil-s-green-investors-win-trojan-horse-victories-in-board-access>
- 5 From 2010 to 2015, support for 22 political activity disclosure shareholder resolutions (on both elections and lobbying) was about 32 percent on average at the 25 utilities, while the 42 climate-focused resolutions garnered just under 20 percent average support.
- 6 *Board Oversight of Sustainability*, IRRCI and Si2, 2014. Available at <http://irrcinstitute.org/reports/corporate-boards-exceeding-oversight-requirements-on-environmental-and-social-issues/>
- 7 This is an area where further research may be of interest to investors and the public at large; Si2 is in the midst of preparing a forthcoming study for IRRCi examining the extent of state lobbying disclosure by companies in the six states with the highest discoverable spending, covering the 100 largest U.S. companies, but only a few utilities.
- 8 A detailed examination of the corporate governance of political spending and analysis of disclosure trends appears in the 2011 report by Si2, *Corporate Governance of Political Expenditures: 2011 Benchmark Report on S&P 500 Companies* (IRRCI), available at <http://irrcinstitute.org/reports/corporate-governance-of-political-expenditures-2011-benchmark-report-on-sp-500-companies/>
- 9 The Grid Modernization Index benchmarks U.S. states and the District of Columbia on their grid modernization progress. The analysis highlights companies that have played an important role in grid modernization in the top-performing states.

- 10 McGlade, Christopher and Paul Ekins. “The geographical distribution of fossil fuels unused when limiting global warming to 2 °C.” *Nature*. January 17, 2015. Retrieved from <http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html>
- 11 Denniston, Lyle. “Carbon pollution controls put on hold.” Feb. 9, 2016. Scotusblog. Retrieved from <http://www.scotusblog.com/2016/02/carbon-pollution-controls-put-on-hold/>
- 12 In the figure on the following page, some companies’ names are spelled out only to make it easier to read.
- 13 The consumer liability scenario is not shown here, as it cannot be related to companies. For the purposes of the table above, it would simply show zero liability for all companies.
- 14 Xcel Energy listed its incentives as non-monetary in its CDP response. We chose to revise this, as its incentives are in the form of stocks, which have a cash value.
- 15 Union of Concerned Scientists. “A Climate of Corporate Control: How Corporations Have Influenced the U.S. Dialogue on Climate Science and Policy.” May, 2012. Retrieved from http://www.ucsusa.org/sites/default/files/legacy/assets/documents/scientific_integrity/a-climate-of-corporate-control-report.pdf
- 16 Denniston, Lyle. “Carbon pollution controls put on hold.” Feb. 9, 2016. Scotusblog. Retrieved from <http://www.scotusblog.com/2016/02/carbon-pollution-controls-put-on-hold/>
- 17 Data for 2015 are not comprehensive, as the full year’s spending figures were not available at the time of data collection..
- 18 These figures are skewed some by the situation at **Dominion Resources**, where a group of investor activists loosely but not formally affiliated with the Sierra Club has been filing many resolutions to address their concerns about the company’s environmental impacts for several years. In general, these resolutions have been less successful in passing muster at the SEC than have other shareholder proposals.