
The Financial Exposure of U.S. Electric Utilities to Environmental Risks

By

Robert Repetto

Stratus Consulting, Inc.

Boulder, Colorado

and

Yale School of Forestry and Environmental Studies

Environmental Exposures and Disclosure in the U.S. Electric Utility Industry

- The electric utility sector is “environmentally sensitive”.
- **Proposed or impending environmental actions can have significant financial consequences for electric utility companies.**
- Even more so in a deregulated marketplace, in which cost recovery is uncertain.

Environmental developments can create competitive advantages and disadvantages

- Financial impacts of a given environmental regulation will differ greatly across companies, in accordance with their
 - ownership of generating assets;
 - installed technologies;
 - fuel mix;
 - market position.

Illustration: Compliance Cost Impacts of 2 Proposed New Air Quality Laws

- Three-pollutant cap-and-trade law (Clear Skies)
 - caps emissions of NO_x, SO_x, & mercury
 - allows trading;
 - favored by Bush administration
- Four-pollutant cap-and-trade law
 - also caps CO₂ emissions;
 - introduced by Senators McCain, Lieberman and others
- Permits could be auctioned or “grandfathered”

Compliance Costs for 47 of the Largest US Electric Utility Holding Companies

- For each generating unit, compliance cost is the least-cost mix of combustion and post-combustion controls and permit purchases (or sales).
- Future costs are discounted at 8%/yr. back to 2000.
- Present value costs for each company are aggregated across all its generating units.
- Present value costs are benchmarked to each company's 2000 total revenues.

Limitations of Analysis, (which we're working to remove)

- Analysis doesn't encompass changes in hours of operation as a compliance option
 - Companies may choose to vary dispatch
- Analysis doesn't encompass cost recovery through rate increases.
 - Companies will vary in their ability, creating winners and losers
- Full market model will capture these elements.

| | | |
|---------------------------------|-----------------------------------|--------------------------------------|
| Allegheny Energy, Inc | Dynegy Inc | PPL Corp |
| AES Corp | Edison International | Progress Energy |
| ALLETE | Entergy Corporation | Public Service Enterprise Group, Inc |
| Alliant Energy Corp | Exelon Corporation | Reliant Energy, Inc |
| Ameren Corp | FirstEnergy Corporation | RGS Energy Group Inc |
| American Electric Power Co Inc | FPL Group, Inc | SCANA Corporation |
| CH Energy Group, Inc | Great River Energy | Sierra Pacific Resources |
| Cinergy Corp | IDACORP Inc | Southern Company, The |
| CLECO Corporation | KeySpan Corp | TECO Energy, Inc |
| CMS Energy Corporation | LG&E Energy Corporation | TXU Corporation |
| Conectiv | Niagara Mohawk Holdings Inc | UniSource Energy Corporation |
| Constellation Energy Group, Inc | NiSource, Inc | Vectren Corporation |
| Dominion Resources, Inc | Northeast Utilities | Wisconsin Energy Corporation |
| DPL Inc | OGE Energy Corporation | WPS Resources Corporation |
| DTE Energy Company | PG&E Corporation | Xcel Energy Inc |
| Duke Energy Corporation | Pinnacle West Capital Corporation | |

Summary of Findings

- For most companies, financial impacts of both proposed bills are financially material.
- Financial impacts are greater if permits are auctioned.
 - Markedly so for carbon permits
- Financial impacts are highly differentiated across companies, creating potential winners and losers

Should electric utilities oppose carbon controls?

- If carbon permit prices are as high as predicted, the four-pollutant bill would have lower compliance costs for many companies.
 - Re-powering to natural would give them valuable excess permits to sell.
 - They would avoid investments in conventional pollution controls
 - Sulfur and Nitrogen permit prices would fall.
- The most expensive option would be a 3-pollutant bill with carbon controls added some years later.

Figure 1: 3 Pollutant Cap&Trade, Permits Grandfathered

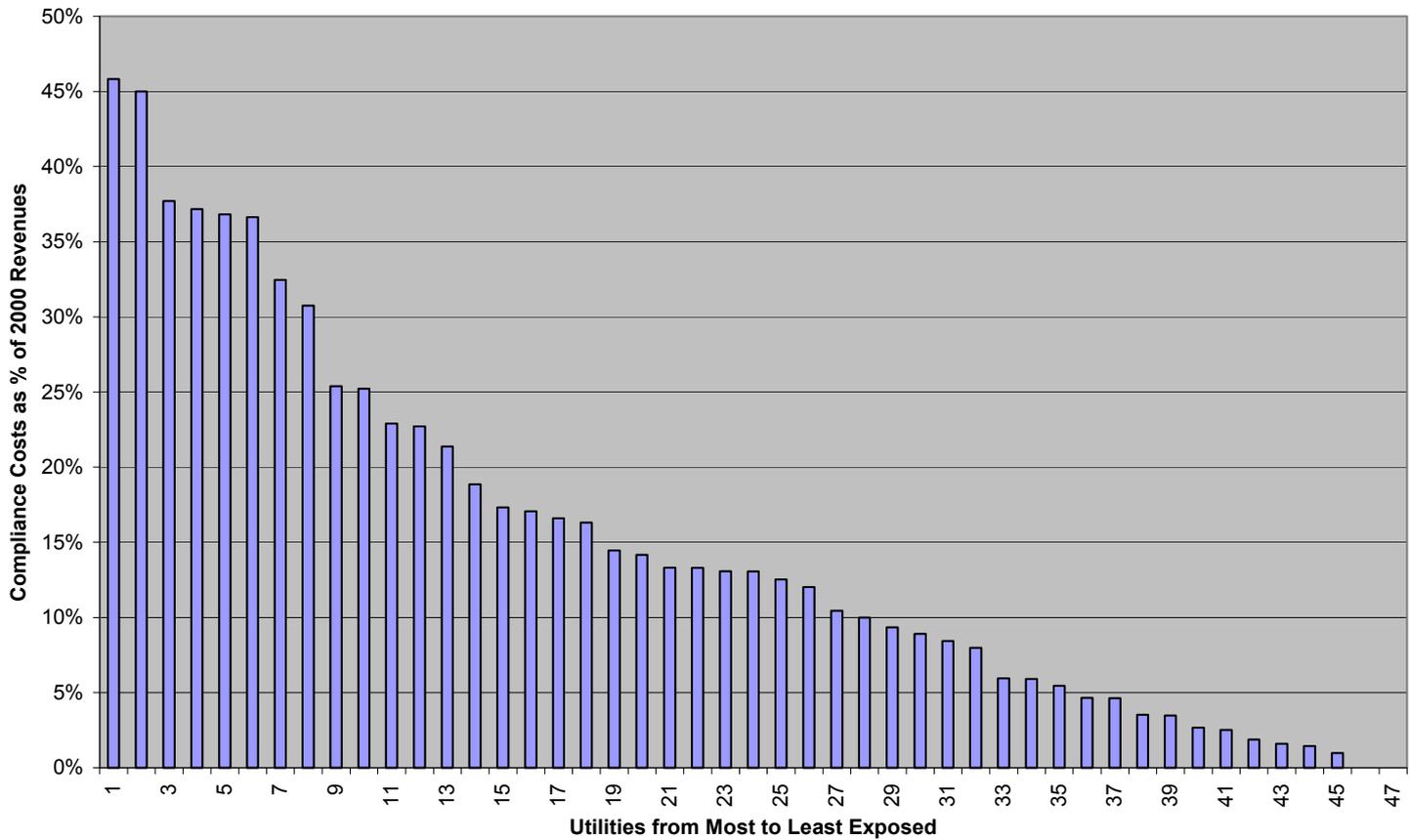


Figure 2: 3 Pollutant Cap&Trade, Permits Auctioned

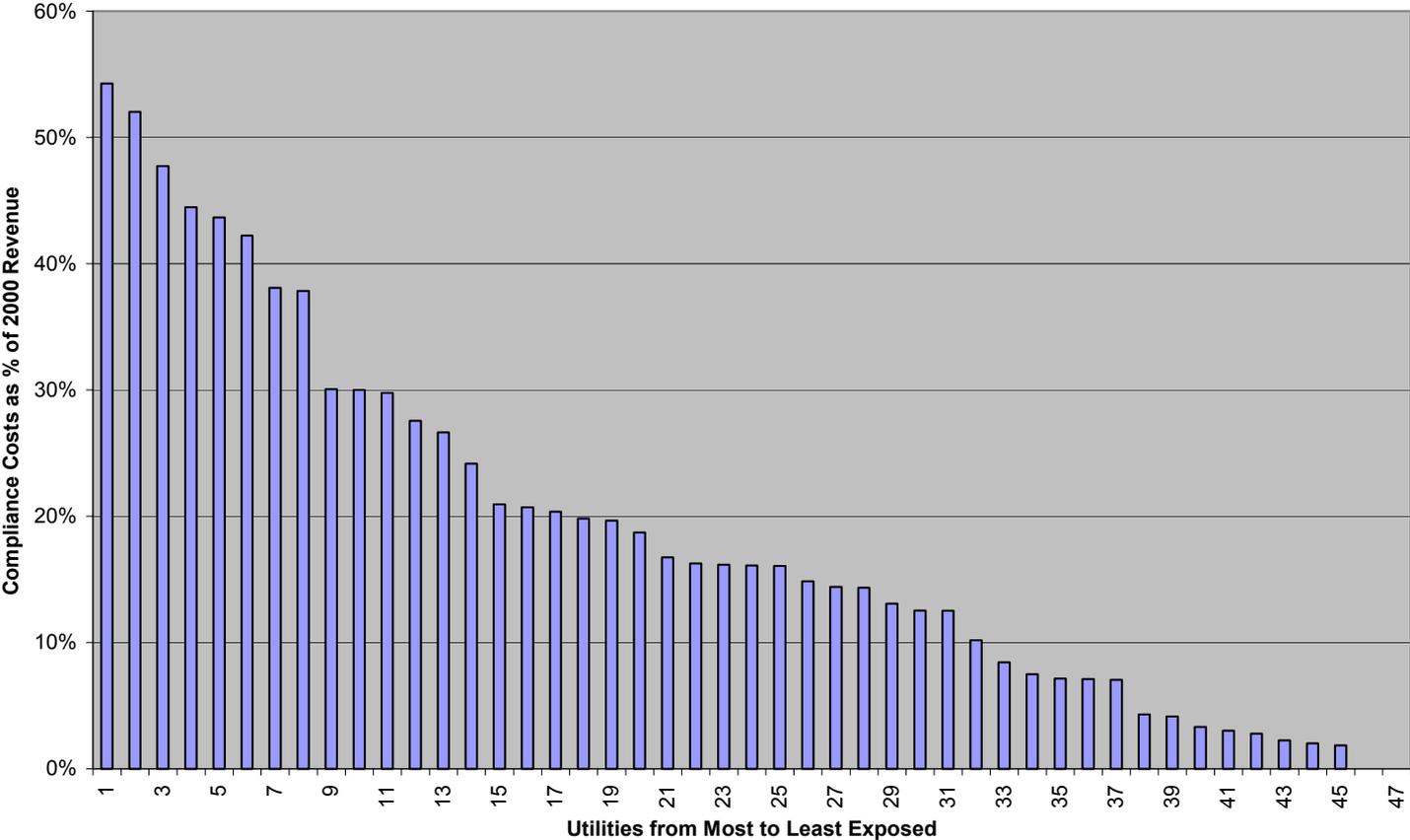


Figure 3: 4 Pollutant Cap & Trade, Announced Carbon, Permits Grandfathered

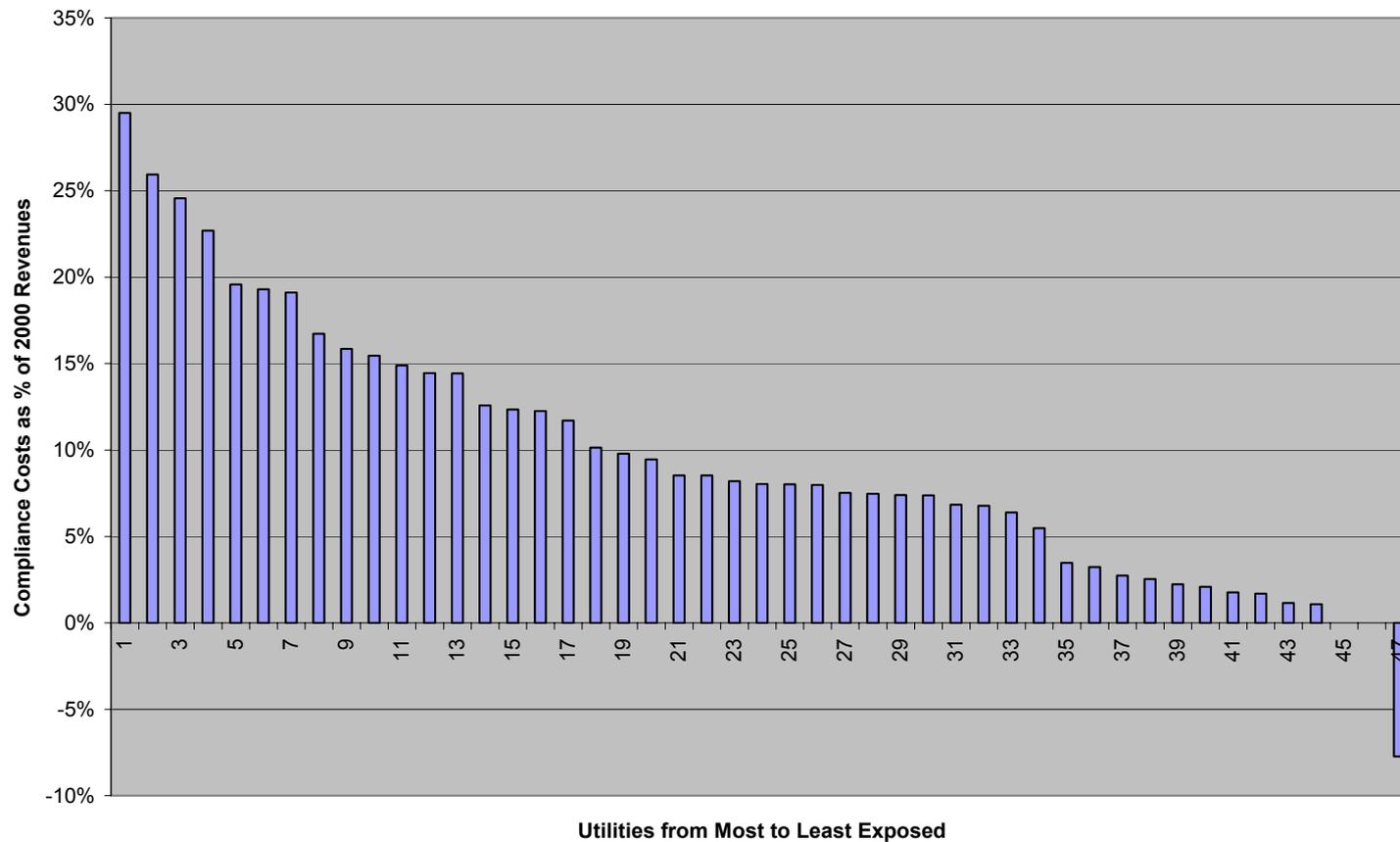


Figure 4: 4 Pollutant Cap&Trade, Announced Carbon, Permits Auctioned

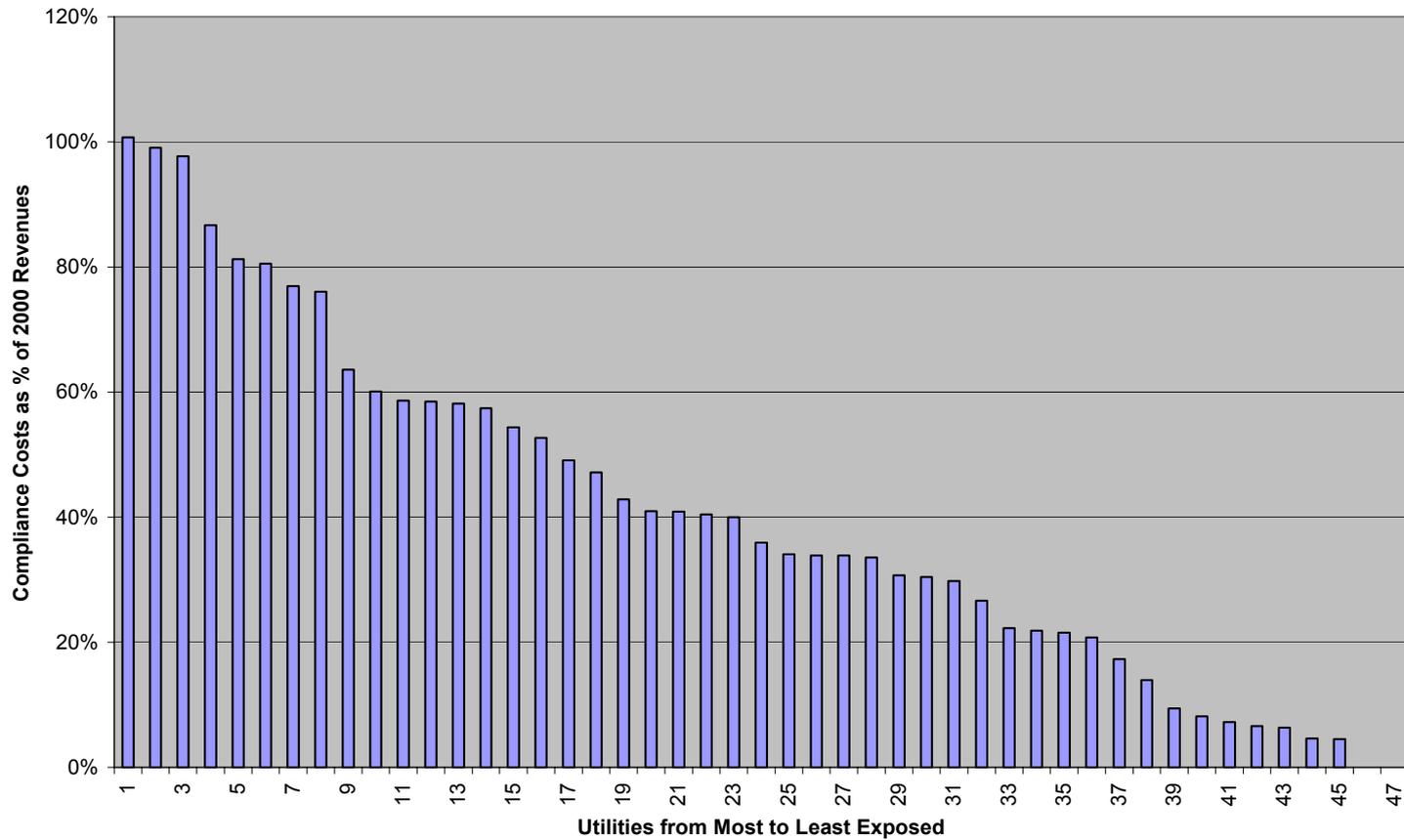


Figure 5: 4 Pollutant Cap&Trade, Carbon Later, Permits Grandfathered

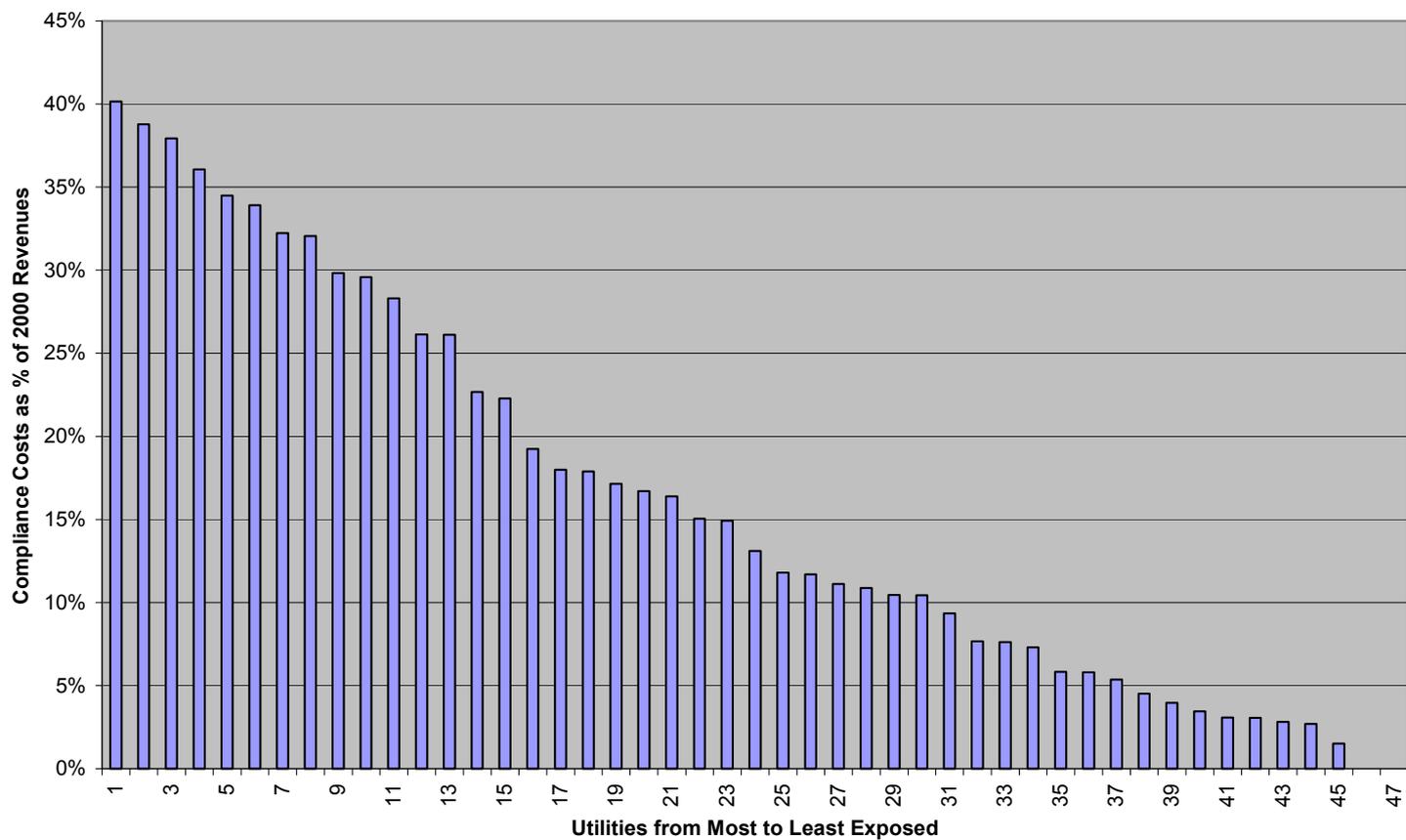
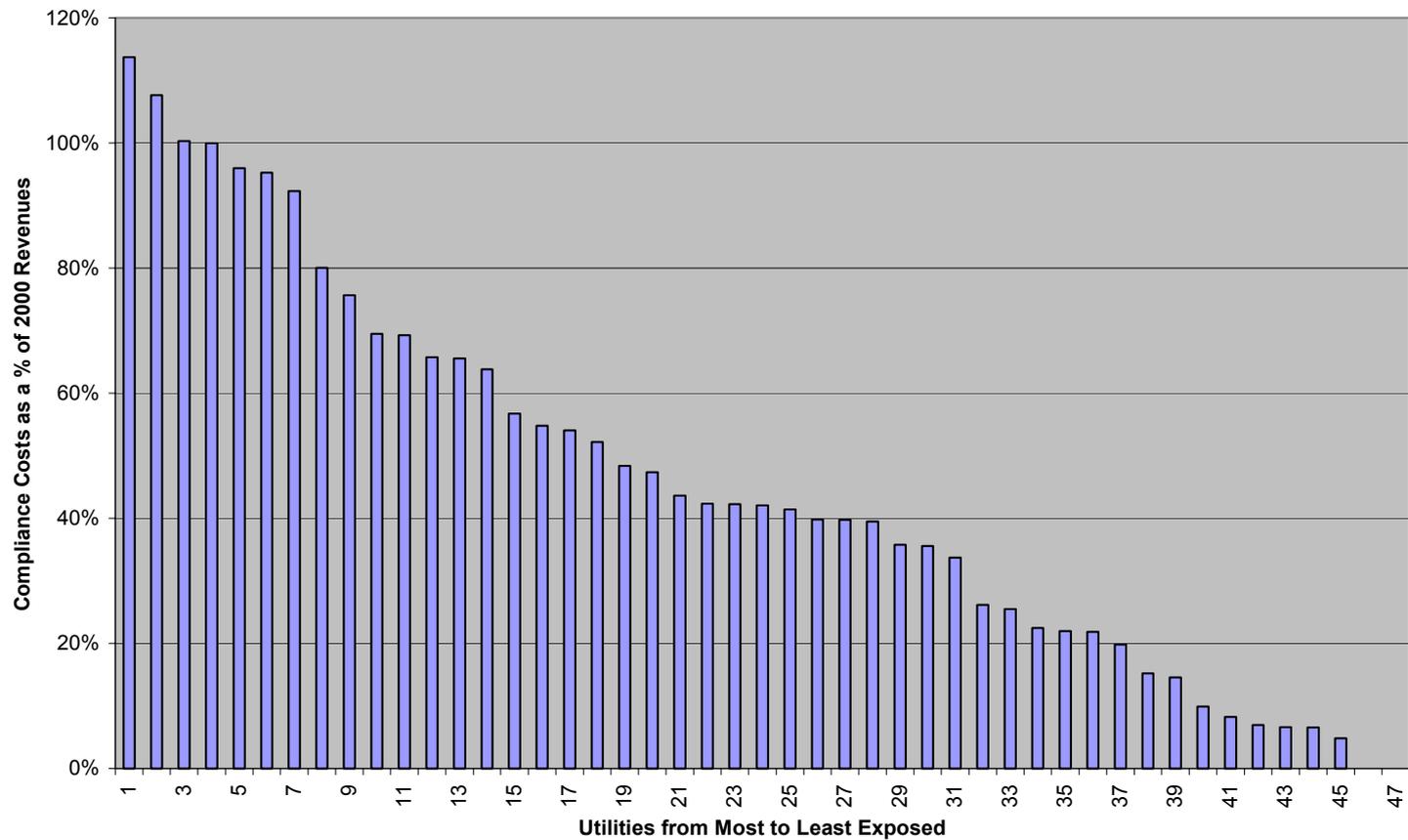


Figure 6: 4 Pollutant Cap&Trade, Carbon Later, Permits Auctioned



Could Investors Predict Companies' Relative Exposures?

- For each scenario, a different company is the most exposed.
- Financial exposures don't correspond to rankings of companies by emissions per kwh generated.
- Available indicators, such as a) reliance on coal, b) age of plants, c) fuel efficiency, and d) (revenues from generation)/(total revenues) explain only 10-20% of variance in financial exposures across companies, using multiple regression analysis

The Case for Financial Reporting of Material Environmental Risks

- **More complete financial disclosure of material environmental risks can be a source of significant competitive advantage for progressive companies.**
- **It's important missing information for investors.**
- **It's needed to restore investor trust and confidence in the industry.**
- **It's also required by law, with potentially severe penalties for non-compliance.**

THE OVERARCHING DISCLOSURE REQUIREMENT

- **The Securities and Exchange Acts oblige companies to disclose promptly all material information needed to make required statements not misleading.**
- Making false or misleading statements or omitting to disclose a material fact that is needed to make other statements not misleading opens a company and its officers to government penalties and private lawsuits.
- Company officers must now certify the accuracy and completeness of financial reports.

What Information is “Material”?

- “a matter is material if there is a substantial likelihood that a reasonable person would consider it important.”
- There is no numerical financial threshold.
- A financially insignificant matter may be material if it reflects on the integrity or competence of management (e.g., violation of environmental law)

Specific Environmental Disclosure Requirements

- Material capital costs of compliance with regulations that have been “enacted or adopted”.
- Legal proceedings arising from environmental laws, if damages or claims exceed 10% of current assets or \$100,000 in government penalties
- Contingent liabilities for site remediation unless the company can make a reasonable determination that no liability has been incurred.

Disclosure Requirements for the Management Discussion and Analysis (MD&A):

- “A disclosure duty exists where a trend, demand, commitment, event or **uncertainty** is both presently known to management and reasonably likely to have material effects on the registrant’s financial condition or results of operation.”
- Specifically applicable to proposed government actions, such as proposed environmental laws or regulations.

Disclosure Record of Electric Companies in SEC (10-K) Filings

- Few companies discuss financial impacts of multi-pollutant cap-and-trade bills or carbon controls.
 - Though they are known material uncertainties.
- Though practices vary, most companies confine disclosure to final regulations already promulgated.
- Disclosure practices of most-exposed and least-exposed companies don't differ significantly.

Perspectives on Disclosure

- “Mainstream” and “socially responsible” investors would benefit from fuller disclosure.
 - Need for SEC guidance and enforcement
 - Need for stricter corporate law & accounting practice
- Least exposed companies might benefit from fuller disclosure as well.
 - Might lead to lower cost of capital, other things equal.