

May 14, 2020

Public comment submission, the Commodity Futures Trading Commission (CFTC): Climate-Related Market Risk Subcommittee Under the Market Risk Advisory Committee

In connection with its CFTC charge to examine climate change related financial and market risks, we submit for consideration an approach by which companies, public or private, are evaluated and rated based on the amount of un-remedied pollution they produce and that more fully accounts for the externalities created when companies pass a portion of such costs for society to bear. In our opinion, such an approach, once widely adopted, could serve as a basis for pricing these externalities and also to assist market participants, including investors and regulators, take such costs into their investment and regulatory decision making. The resultant ratings would impact the cost of capital and the setting of price multiples and credit spreads. In turn, this will incentivize corporations and other entities to change their environmental emissions behavior in ways that has not been possible to achieve to-date in terms of speed and magnitude. Additionally, such ratings could be used as an input to environmental impact assessments by regulators in connection with current or future regulatory initiatives.

To illustrate this approach, we apply to the US electrical utilities and power sector a rating methodology that we have developed. We use a sample of eight electrical utility companies of various sizes as measured by revenue to reflect the range of social costs imposed per dollar of adjusted revenue. We have sourced this data from the Energy Information Agency, the Environmental Protection Agency, and various corporate disclosures. Once collected, the raw data was scrubbed and harmonized. Table 1 displays the various emissions types attributed to the eight firms. While this information is useful, it does not lend itself to rank ordering. This is because the respective ranks vary across the various chemical emissions, carbon dioxide, sulfur dioxide, nitrogen oxides, methane, sulfur hexafluoride, and mercury.

Table 1: Emissions Associated with the Activities of Respective Electrical Utilities

Metric Tons 2018 Emissions						
Company	CO ₂	SO ₂	NO _x	CH ₄	SF ₆	Hg
Avista Corp.	2,695,309	1,184	4,134	630	1.12	0.12
Berkshire Hathaway Energy, Inc.	82,236,346	56,081	61,920	3,748	5.19	0.14
Consolidated Edison, Inc.	1,980,761	126	1,217	9,147	3.28	-
Duke Energy Corporation	97,808,297	43,929	65,877	9,580	22.68	-
Exelon Corporation	8,862,000	743	2,311	14,920	3.82	-
Southern Company	105,464,352	23,533	49,529	39,600	3.89	0.19
Tennessee Valley Authority	47,521,550	26,744	21,491	-	5.17	0.07
Vistra Energy	120,884,127	135,098	58,772	-	-	-

Sources: Energy Information Agency, Environmental Protection Agency, corporate disclosures.

Next, a unit social cost measure provided by the US government and academic sources is used to translate the emissions in Table 1 into social cost estimates. The results are displayed in Table 2.

Table 2: The Social Cost of Various Emissions from Respective Electrical Utilities

Social Cost (\$2018 mm)

Company	CO₂	SO₂	NO_x	CH₄	SF₆	Hg	Total
Avista Corp.	127	59	70	1	1	0.5	260
Berkshire Hathaway Energy, Inc.	3,890	2,812	1,050	5	6	-	7,762
Consolidated Edison, Inc.	94	6	21	12	4	-	136
Duke Energy Corporation	4,626	2,203	1,117	13	24	-	7,983
Exelon Corporation	419	37	39	20	4	-	520
Southern Company	4,988	1,180	840	53		-	7,065
Tennessee Valley Authority	2,248	1,341	364	-		4	3,959
Vistra Energy	5,718	6,774	996	-	-	6	13,489

Sources: Energy Information Agency, Environmental Protection Agency, corporate disclosures, Interagency Working Group, D. Schindell, J. Spadaro and A. Rabl, Envira LLC.

The eight entities can now be ranked ordered by the externalities they are imposing on the public. But this is not an entirely fair comparison since the various entities operate at different scales.

The emissions data available only accounts for direct emissions. All of the utilities listed also purchased electricity, but at varying amounts. Such purchases were removed from the measure of entity activity. After such adjustments, ratios of un-remediated social costs per revenue were calculated. These are displayed in Table 3.

Table 3: Electrical Utility Environmental Externalities per Dollar Adjusted Revenue

Company	2018 (\$mm)	2018 (\$mm)	2018 (\$mm)	2018
	Revenue	Purchased Power	Adjusted Revenue	Social Cost \$mm/Adjusted Revenue \$mm
Avista Corp.	1,397	129	1,268	0.205
Berkshire Hathaway Energy, Inc.	19,787	1,521	18,266	0.425
Consolidated Edison, Inc.	12,337	1,644	10,693	0.013
Duke Energy Corporation	24,521	2,304	22,217	0.359
Exelon Corporation	35,985	13,616	22,369	0.023
Southern Company	23,495	971	22,524	0.314
Tennessee Valley Authority	11,233	973	10,260	0.386
Vistra Energy	9,144	1,205	7,939	1.699

Sources: Corporate disclosures, Envira LLC.

Based on the environmental social cost/revenue ratios in Table 3, an implied rating can be assigned to each of the entities in line with a methodology described in a more comprehensive document entitled Environmental Rating System available for review at www.envirallc.com.

The implied ratings based on environmental social cost/revenue ratios in Table 3 are presented in Table 4.

Table 4: Assigned Environmental Ratings

Company	Environmental Rating
Avista Corp.	B2
Berkshire Hathaway Energy, Inc.	Ccc1
Consolidated Edison, Inc.	Bb1
Duke Energy Corporation	Ccc1
Exelon Corporation	Bb2
Southern Company	B3
Tennessee Valley Authority	Ccc1
Vistra Energy	C

Notes of Explanation: Rating categories extend from Aaa to C. The C rating applies to firms which impose environmental externalities per year in excess of their total annual revenue. Source: Envira LLC

Conclusion

If we focus strictly on the results presented in Table 1 to compare companies on the basis of their combined 2018 emissions, Avista Corporation, which emitted 2.7 million CO₂ equivalent metric tons, ranks more highly than, say, Exelon Corporation at 8.9 million metric tons of CO₂. However, when appropriately adjusted to reflect environmental social cost/revenue ratios, Exelon achieves a higher rating (Bb2 versus B2). In this way, companies or other entities can be appropriately rank ordered after accounting for various relevant factors that we believe have not otherwise been taken into proper account.

We appreciate the opportunity to provide comments on this important topic.

Sincerely,

Mark Gold, Managing Director, mark.gold@envirallc.com
Henry Shilling, Managing Director, henryshiling@envirallc.com
Praveen Varma, CEO, Praveen.varma@envirallc.com
Envira LLC