

Environmental Disclosure Committee Newsletter

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MESSAGE FROM THE CHAIR

Greg Rogers

This issue features three articles on hot topics in environmental disclosure. First, is an article on the application of fair value measurement to environmental liabilities. Fair value measurement, also known as “mark-to market,” is stirring a raging debate as Wall Street firms grapple with loss of liquidity and asset write-downs in the ongoing subprime mortgage crisis. Soon fair value will apply to many environmental liabilities. Read “The Fair Value of Environmental Liabilities” to get up to speed on the most important development in the history of accounting to effect environmental disclosure.

The second article, “The Sustainability Question,” provides an insightful analysis of the challenges corporations face in communicating (or not) with stakeholders about corporate social responsibility issues. Sustainability is the new buzzword for progressive and socially responsible business. It’s now cool to be green. But being green is harder than just saying it’s so. The article makes a compelling case for the creation of a formal sustainability program to facilitate accurate and timely reporting on sustainability issues.

The third and final article, “State of GHG Emissions Reporting in the Electric Utilities Industry,” looks at the hottest topic in voluntary disclosure, reporting of greenhouse gas emissions. It provides an interesting survey of what eight U.S. electric utility companies are

disclosing, where they are disclosing, and how companies are, or are not, ensuring consistent and verified disclosures. After finishing this article, you may want to read “The Sustainability Question” a second time.

Special thanks go to the authors and our newsletter editor, Scott Deatherage. If you find these articles valuable, please voice your appreciation.

THE FAIR VALUE OF ENVIRONMENTAL LIABILITIES

Simon Johnson
Robert Lipscomb
Alisa Peters

When “*FASB Interpretation No. 47, Accounting for Conditional Asset Retirement Obligations, an interpretation of FASB Statement No. 143*” (FIN-47) went into effect on Dec. 15, 2005, it marked the first time that environmental liabilities were required to be measured at “fair value” for the purpose of financial reporting. With the promulgation of Financial Accounting Standards Board (FASB) *Statement of Financial Accounting Standards No. 157, “Fair Value Measurements”* (FAS-157) in September 2006, the FASB has defined the methods for valuation. Subsequent publication of the revision to Statement No. 141, “*Business Combinations*” (FAS-141R) in December 2007 ensures that a wide range of environmental liabilities and assets increasingly will be

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measured at fair value for purposes of financial reporting. This article explores the recent drive to implant and apply fair value principles when accounting for environmental liabilities and looks at both when and how these principles should be adopted.

Fair Value Measurement

FAS-157 was promulgated in accordance with the convergence initiative promoted by the FASB and by the International Accounting Standards Board (IASB). This is the first step by the FASB to move toward principles-based accounting standards used elsewhere rather than rules-based accounting standards characteristic of FASB standards. In layman’s terms, fair value measurements are to be either market quotes or an estimation of market value. As will be shown later in this article, there are rigorous and complex standards for the valuation techniques employed.

Valuation of environmental liabilities using fair value methods are almost always higher, sometimes significantly higher, than valuations currently employed. Fair value measurements include overhead, profit, and risk premiums as well as the base costs. The FASB recognizes that there might be considerable uncertainty in calculating fair value. In fact, one of the justifications for the partial deferral of the FAS-157 implementation date is the recognition of a lack of third-party expertise to support the valuations of nonfinancial assets and liabilities. Regardless of the difficulties posed by these uncertainties and the cost and effort associated with addressing them, FAS-157 requires that uncertainties are incorporated into valuations, rather than using uncertainty to justify not performing valuations.

FAS-141R requires, “*The acquirer shall measure the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree at their acquisition-date fair value.*” When FAS-141R goes into effect on Dec. 15, 2008, this requirement will apply to general asset retirement obligations, as well as to liabilities arising from environmental loss contingencies, indemnification assets and liabilities, and to impairment assessment of long-lived assets. However, there are significant exceptions to the recognition principle for contingencies that affect

accounting of liabilities arising from enforcement actions. The effective date of FAS-157, Nov. 15, 2007, has been partially deferred for all nonfinancial assets and all nonfinancial liabilities until Nov. 15, 2008, including asset retirement obligations, long-lived assets measured at fair value for impairment assessments and liabilities for exit or disposal activities.

Fair Value and the Market

According to FAS-157, “*Fair value is the price that would be received to sell an asset or paid to transfer a liability in an **orderly transaction** between **market participants** at the measurement date*” (emphasis added). FAS-157 assumes the transaction occurs in the “principal market” or, in the absence of a principal market, the “most advantageous market.” The principal market is the market in which the reporting entity would transfer the liability with the “*greatest volume and level of activity*” for the liability. The most advantageous market is the market in which the reporting entity would transfer the liability with the price that “*minimizes the amount that would be paid*” to transfer the liability. FAS-157 goes on to require that fair value measurement shall represent the transfer price in the principal market (greatest volume and level of activity) even if the price in another market is more advantageous at the measurement date. This requirement holds regardless of whether that price is “directly observable” or otherwise determined using a valuation technique.

There are four active markets for the transfer of environmental liability which might be used as the principal market: (1) real estate sales, (2) business combinations, (3) environmental liability transfers, and (4) environmental liability insurance sales. While no readily available information exists for confirmation, the real estate sales market and the business combination market historically have had the greatest volume and level of activity for the transfer of environmental liability associated with contaminated property.

Because it is limited to direct costs, for accounting purposes, the insurance market should not serve as the principal market. Real estate sales, business combinations and environmental liability transfers

markets are similar and usually are the same regarding assumption of environmental liabilities. First, the prospective buyer will conduct environmental *due diligence* to determine the likelihood of liabilities arising from the presence of contaminated property. This level of *due diligence* is usually achieved through a Phase I environmental site assessment, conducted in accordance with the “all appropriate inquiry” legal requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the technical requirements of ASTM guidance, E 1527-05. If the Phase I investigation identifies known or suspected contamination, a Phase II investigation is usually performed to confirm the presence of contamination as well as determine its nature and extent. As an observation, environmental insurance underwriters in particular have developed valuation methods which account for uncertainty in the direct costs of remedial actions. They perhaps remain the recognized experts in this field and provide a *de facto* standard for the transactional valuation of direct costs as a risk premium.

Principal Market Costs

Direct cleanup costs are estimated based on the nature and extent of contamination and the potential range of alternatives for remedial action. However, there are many factors that can affect costs, including legal and regulatory hurdles, and other additional expenses. These aspects can also affect timing and schedules, which in turn impact the buyer’s ability to achieve a return on investment; for example, by delaying development. In these situations, these indirect costs should be added to any valuation of the liability. These uncertainties about the remedial action costs are often reflected in a risk premium added to the valuation of the liability. The buyer will also add a normal profit for assumption of the responsibility for management of the liability. One final point, so-called “risk-based cleanups” which are increasingly common can create land-use restrictions, residual liability, and long-term obligations for maintenance and monitoring, all of which should be properly reflected in any valuation.

These transaction principles are the same for real estate sales, business combinations, and environmental

liability transfer transactions. One variation to the method of valuation is real estate sales for the purpose of immediate redevelopment. Typically, redevelopment deals are heavily leveraged. For properties with presumed environmental contamination, which are often called brownfields, the borrowed money is usually heavily discounted. For these transactions, uncertainty in cleanup costs and schedules combined with the time value of money can significantly affect the valuation of the liability. In some cases, this cost can easily exceed the direct cleanup costs. For the purpose of financial reporting, the fair value of the liability probably will not be required to include this element. However, if a valuation of fair value is prepared for development transaction, this element must be included.

Market Participants

FAS-157 assumes an orderly transaction between “market participants,” which the standard defines them as buyers that are: (1) independent of the reporting entity, (2) knowledgeable, (3) able to transact, and (4) willing to transact. The standard defines “knowledgeable” as *“having a reasonable understanding about the asset or liability and the transaction based on all available information, including information that might be obtained through due diligence efforts that are usual and customary”* (emphasis added). The minimum standard of due diligence for the principal market and the most advantageous markets is typically considered to be environmental site assessments performed in accordance with the standards of the ASTM International and meeting the definition of “all appropriate inquiry” as defined by CERCLA.

FAS-157 requires that the fair value of the liability shall be determined based on the assumptions the market participants would use in pricing the liability. Participants in the principal market usually employ due diligence efforts in order to identify all “recognized environmental conditions” and to provide sufficient information for valuation of the environmental liability. The liabilities in question are those resulting from enforcement actions or voluntary cleanups under governmental environmental programs. Provisions are

made under ASTM E 1527-05 for gaps in the information and assessment of the significance of the missing information.

In the absence of information to the contrary, the market participants will tend to assume the reasonable worst case scenario for the transfer price of the liability. This is essentially the “risk premium” for the buyer to assume the liability. The transfer price must also include a valuation of the profit a buyer will expect to assume the liability. Valuation of the risk premium and the profit must be made using the best professional judgment of an expert in this field. The reporting entity will be compelled to justify the methodology and criteria used to calculate the bias.

Valuation Techniques

FAS-157 identifies and discusses three possible approaches for valuation of assets and liabilities: (1) market approach, (2) income approach, and (3) cost approach. The cost approach is the most appropriate for environmental remediation liabilities. Appendix E of FAS-157 contains specific, expressed amendments to numerous existing accounting standards. This includes amendments to FAS-143, “Accounting for Asset Retirement Obligations.” FAS-143, as amended, explicitly states a clear preference for the “expected present value” technique. Specifically, Paragraph 8 of FAS-143 is amended to read, “An **expected present value** technique will usually be the **only appropriate technique** with which to estimate the fair value of a liability for an asset retirement obligation.” The amendment also requires the expected cash flows shall be discounted using “credit adjusted risk-free rate” so that the effect of an entity’s credit standing is reflected in the discount rate rather than the expected cash flows.”

The amended Paragraph A20 of FAS-143 lists the considerations for making explicit assumptions in estimating expected cash flow: (1) costs that a third party would incur in performing the tasks necessary to retire the asset, (2) other amounts that a third party would incur (e.g., inflation, overhead, equipment charges, profit margins, and advances in technology), (3) the extent to which the amount or timing of a third

party's costs would vary under different future scenarios and the relative probabilities of those scenarios, and (4) the price that a third party would demand and could expect to receive for bearing the uncertainties and unforeseeable circumstances inherent in the obligation, sometimes referred to as a market-based premium. The amended Paragraph A20 ends with a fairly strong assertion related to incorporating uncertainties into valuation of asset retirement obligations (AROs). *"It is expected that uncertainties about the amount and timing of future cash flows can be accommodated by using the expected present value technique and therefore will not prevent the determination of a reasonable estimate of value"* (emphasis added).

This is a marked change from current practice of using uncertainties about inputs as a justification for not preparing a valuation of an environmental liability based on "expected present value" technique or even the "most likely value" technique. Typically, reporting entities now use uncertainties to justify using the "minimum known value" technique for valuation of environmental loss contingencies. The minimum known value is often only the amount of money budgeted for managing the contingency for the upcoming fiscal year. For conditional AROs, uncertainty in the expected retirement date of the asset is used to justify an indefinite retirement date, which typically drives the present value toward zero. FAS-157 suggests that a range of probable retirement dates should be used as inputs for the valuation.

Inputs

We will now turn our attention to "inputs," the assumptions that market participants would make in pricing the liability, including the risk inherent to the valuation technique employed and the risk inherent to the inputs. "Observable" inputs are inputs that reflect the assumptions market participants would use in pricing based on *"market data obtained from sources independent of the reporting entity."* "Unobservable inputs" are inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing based on *"the best information available in the circumstances."*

FAS-157 defines a hierarchy of three levels of inputs. Level 1 (highest and most desirable) inputs are *"quoted prices (adjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date."* An example of this is a quoted price for transporting a specified contaminated soil between two specified locations.

Level 2 inputs are *"inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly."* An example of this is a quoted price for transporting a specified contaminated soil between two similarly spaced locations. Another example is an informal survey of transportation costs for contaminated soils in a region.

Level 3 (lowest and least desirable) inputs are *"unobservable inputs for the ... liability. Unobservable inputs shall be used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little if any, market activity for the asset or liability at the measurement date"* (emphasis added). In other words, unobservable inputs are essentially assumptions made by the reporting entity, incorporating the assumptions about the assumptions that market participants would use in pricing the liability, including assumptions about risk.

Monte Carlo

Estimating environmental investigations and cleanups is inherently uncertain, especially where there is no formal cleanup agreement. At the time of the valuation, it might not be clear whether certain actions will be required and what remediation technologies will be employed. There might not even be a precise understanding of the nature and extent of contamination. The Monte Carlo technique is widely employed where there are multiple alternatives and inputs have a range of values.

It is perhaps easier to explain by demonstrating its application to the following simplified problem. Assume a site has a history of use that would normally create some degree of contamination of the soils. The first uncertainty is the need for a clean-up: what

circumstances would trigger remedial action? The chance or probability of some form of trigger can be described in terms of a range of probabilities in the form of a distribution. Obviously, in practice there may be a number of possible triggers or scenarios that might lead to a trigger and these can similarly be described and analyzed.

Next, assuming there is a trigger, what remedial action or clean-up will be required, what techniques will be applicable, how much soil will need to be treated or excavated and disposed, and to what depth? These and other similar variables can all be assigned probability distributions. For example, the valuation specialist might specify that unit costs for soil treatment will range from \$10/ton to \$15/ton, described by a normal “Bell Curve” probability distribution centered around a mean of \$12.50/ton.

At this point in the process, all the alternatives and input uncertainties are used to develop a statistical model of the valuation using spread-sheet algorithms and functions. The Monte Carlo simulation program can generate discrete possible valuation calculations based on the probabilities of the alternatives and inputs. Typically, the program is used to iterate between 2,000 to 10,000 individual outcomes. These outcomes are then plotted on a probability distribution curve, which is usually in the form of a “Bell Curve.”

From the distribution curve, the most likely value of the remediation might be seen to be \$10.2 million. However at 99 percent confidence level, the curve might also indicate that the cleanup cost is \$15.6 million. In other words, there is a 99 percent chance that the cleanup will cost \$15.6 million or less, and a 1 percent chance (risk) that it will cost more than \$15.6 million. In this way, the Monte Carlo technique provides a means of estimating, in complex multi-choice and parameter environments, the overall uncertainty in cleanup costs, measuring risk, and valuing the transfer value for each for the purpose of calculating fair value.

Undue Cost and Effort

FAS-157 defines the concept of “undue cost and effort” as a limitation on the duty to investigate to

support valuations. Discussion of this issue has to be cognizant that the FAS-157 definition of “market participant” includes the assumption of due diligence in collecting information (inputs). The standard requires that unobservable inputs shall be developed based on the best information available in the circumstances and notes that this might include the reporting entity’s own data. However, the standard also provides that the reporting entity need not undertake all possible efforts to obtain information about market participant assumptions in developing unobservable inputs, although “*the reporting entity shall not ignore information about market participant assumptions that is **reasonably available without undue cost and effort***” (emphasis added). The same point is made again in Paragraph A25 in Appendix A and Paragraph C86 in Appendix C.

The only other mention of “undue cost and effort” is Paragraph C55 in Appendix C. “*The Exposure draft referred to the undue cost and effort involved in obtaining the information used in a particular valuation technique as a basis for determining whether to use that valuation technique. Some respondents pointed out that the most appropriate valuation technique might also be the most costly valuation technique and that **cost and effort should not be a basis for determining whether to use that valuation technique**. Moreover, the cost-and-effort criterion likely would not be consistently applied. The board agreed and removed that cost-and-effort criterion from this Statement*” (emphasis added).

FAS-157 consequently raises some interesting issues relating to the reporting entity’s duty to investigate. For instance, the transaction principle for the active market is to first conduct Phase I environmental site assessment. If no assessment has been performed for a property in the absence of a pending transaction, should one be performed to identify recognized environmental conditions? What about contamination that the reporting entity has reason to suspect, even in the absence of a formal assessment? Further, should assessments be taken through Phase II (if necessary) to quantify the nature and extent of contamination for the purpose of valuation of environmental liability? Can a reporting entity legitimately assert that environmental

liabilities are not material in the absence of formal assessments? What are the proper means for disclosing these issues in the financial report? Resolution of these issues is outside the scope of this discussion. Even so, it is clear that the FASB has some expectation of due diligence regardless of cost and effort.

Disclosure

FAS-157 requires the reporting entity to disclose information that enables users of the financial statements to assess the inputs used to develop measurements of liabilities that are reported at fair value on a nonrecurring basis, such as impaired assets. These are measurements made in periods subsequent to the initial recognition. For each category of liabilities and for each reporting period, the reporting entity shall disclose: (1) fair value measurement for the period, (2) the hierarchical level of the value, (3) description of inputs and information used for unobservable (Level 3) inputs, and (4) the valuation technique used (annual only).

Level 3 estimates challenge the value judgment of estimators and reporting entities in making any determination of the materiality of the of unobservable input estimates. In a series of letters sent to thirty CFOs of public companies on management discussion and analysis (MD&A) disclosure regarding the application of SFAS 157, the Securities and Exchange Commission (SEC) advised, "If you conclude that your use of unobservable inputs is material, please disclose in your MD&A, in a manner most useful to your particular facts and circumstances, how you determined them and how the resulting fair value of your assets and liabilities and possible changes to those values, impacted or could impact your results of operations, liquidity, and capital resources." Although the Monte Carlo technique is not explicitly called for, it is clear some such methodology is needed to meet the criteria and spirit of this guidance. How else does one assess the materiality of the estimates of inputs on the valuation and the impact of changes of valuations of operations, liquidity, and capital resources?

Business Combinations

In December 2007, the FASB issued the final version of its revision of *Financial Accounting Standards No. 141, "Business Combinations"* (FAS-141R). FAS-141R applies to financial statements beginning on or after Dec. 15, 2008. Within the "Recognition Principle" section of FAS-141R, Paragraph 12 states, "*As of the acquisition date, the acquirer shall recognize, separately from goodwill, the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree.*" In Paragraph 20, FAS-141R states, "*The acquirer shall measure the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree at their acquisition-date fair values.*"

Therefore in business combinations, FAS-157 fair value measurement criteria generally apply to all environmental liabilities and assets, not just asset retirement obligations. But, there are significant exceptions to the recognition principle of FAS-157 in regards to contingencies which are discussed in detail later. As such, environmental loss contingencies and environmental guarantees acquired in a business combination will often be subject to FAS-157. FAS-141R does not require fair value measurements of assets and liabilities held by the acquirer that were not assumed as part of a business combination.

Contingencies

"Environmental loss contingencies" are existing conditions, situations, or sets of circumstances that might result in a future environmental loss. However, the potential loss is dependent on uncertainties regarding whether future events occur or fail to occur. If the resolution of the uncertainty results in the loss or impairment of an asset, it qualifies as an "environmental asset impairment." If the resolution of the uncertainty results in incurring a liability, it is an "environmental liability."

The three categories of environmental liabilities are:

1. environmental damages, such as liability for bodily injury, property damage, and natural resource damage;

2. cleanup costs associated with sudden and accidental pollution conditions; and
3. “environmental remediation liabilities,” which are solely due to cleanup costs associated with historical pollution conditions.

The first two are subject to *FASB Statement No. 5, “Accounting for Contingencies.”* Cleanup liabilities usually arise from CERCLA liabilities associated with sites not owned by the reporting entity. It should be noted that environmental remediation liabilities are subject to SOP 96-1. Under FAS-5, the contingency is centered on the uncertainty regarding future events and whether they will create a liability or an asset. For a liability to be accrued, two conditions must be met: first, information available prior to the issuance of the financial statement indicates that it is “probable” that an asset has been impaired or a liability has been incurred at the date of the financial statement; and second, the amount of the loss can be “reasonably estimated.”

Regarding the first criterion, FAS-5 defines three levels of probability: “probable,” “reasonably possible,” and “remote.” Probable is defined as “the future event or events are likely to occur.” While no explicit numerical definition exist, probable is interpreted to be significantly higher than 50-50. Reasonably possible is defined as the chance of a future event or events occurring are more than remote but less than likely. Remote is defined as the chance of a future event or events occurring are slight. Early on in the life of CERCLA, there was little history from which to predict the likelihood of incurring liabilities, especially at the point of initial investigations. Because this criterion is based on legal judgments in regards to potential tort actions and enforcement actions, documentation of the decision is carefully managed by the reporting entity and its legal counsel.

Early on, there was also a lack of history regarding the second criterion, “reasonably estimated.” There were wide ranges of costs being incurred for investigations and remedial actions. FASB Interpretation No. 14, “*Reasonable Estimation of the Amount of Loss*” stated that the second criterion is met when a range of loss can be reasonably estimated, even when no single best estimate is available. Conventionally, this has been

interpreted to be the “minimum known value.” As a practical matter, environmental loss contingencies often have been reported as the amount budgeted for these contingencies in the upcoming fiscal year.

Exception to the Recognition Principle

FAS-141R contains an exception to its Recognition Principle for assets and liabilities arising from contingencies. In reference to FAS-5, Paragraph 24 of FAS-141R states,

The guidance in Statement 5 does not apply in determining which assets or liabilities arising from contingencies to recognize as of the acquisition date. Instead:

a. The acquirer shall recognize as of the acquisition date all the assets acquired and liabilities assumed that arise from contingencies related to contracts (referred to as “contractual contingencies”), measured at their acquisition-date fair values.

*b. For all other contingencies (referred to as “noncontractual contingencies”), the acquirer shall assess whether it is **more likely than not** as of the acquisition date that the contingency gives rise to an asset or a liability as defined in Concepts Statement 6. If that criterion is met as of the acquisition date, the asset or liability arising from a noncontractual contingency shall be recognized at that date, measured at its acquisition-date fair value. If that criterion is not met as of the acquisition date, the acquirer shall instead account for a noncontractual contingency that does not meet the more-likely-than-not criterion as of the acquisition date in accordance with other GAAP, including Statement 5, as appropriate (emphasis by FASB).*

This is a substantial change in accounting for contingencies. First, all contractual contingencies must be recognized. Only noncontractual contingencies must meet a probability test, and this test differs from the probability test in FAS-5. Under FAS-141R, the probability criterion is “more likely than not” or 50-50 compared to the FAS-5 “probably” criterion which is greater than 50-50. Further, there is no reasonably

estimable criterion. Rather, FAS-141R requires that these contingencies be reported using the fair value methods of FAS-157, that is, the expected present value, rather than the current practice reporting of only the minimum known value.

Indemnification Assets

Sometimes, the transfer of commercial real estate, either through a business combination or through a property sale, will include indemnification of environmental liabilities by the seller creating an “indemnification asset” for the buyer. Conversely, the seller now has an “indemnification liability” that is subject to FASB Interpretation No. 45, “*Guarantor’s Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*” (FIN-45), November 2002. Paragraph 29 of FAS-141R states, “... *The acquirer shall recognize an indemnification asset at the same time that it recognizes the indemnified item, measured on the basis of the indemnified item, subject to the need for a valuation allowance for uncollectible amounts. Therefore, if the indemnification relates to an asset or a liability that is recognized at the acquisition date and measured at its acquisition-date fair value, the acquirer shall recognize the indemnification asset at the acquisition date measured at its acquisition-date fair value.*” However, if an indemnification relates to a noncontractual contingency that is not recognized at the acquisition date and it does not meet the more-likely-than-not test, then it will not be recognized under FAS-141R.

Impairment of Long-Lived Assets

During a business combination, the acquirer might obtain long-lived assets and the associated environmental liabilities which have a “carrying amount” (book value) that is substantially different than the fair value of those assets and liabilities. Because of this difference, impairments tests should be recalculated using the new environmental liability value and possibly new fair values of the asset. Per Paragraph 33 of FAS-141R, “*The acquirer shall measure an acquired long-lived asset (or disposal group) that is*

classified as held for sale at the acquisition date in accordance with FASB Statement No. 144, “Accounting for the Impairment or Disposal of Long-Lived Assets”, at fair value less the cost to sell in accordance with paragraphs 34 and 35 of that Statement.” The new valuations might have a material impact on asset-based debt used to structure the business combination.

Subsequent Measurement and Accounting and Disclosures

FAS-141R has extensive guidance regarding subsequent measurement and accounting, as well as disclosure criteria, related to contingencies, indemnifications, and impairment. While the details of the guidance are beyond the scope of this article, it is reasonable to state that these criteria are significantly more substantial than previous criteria. For instance, the disclosure criteria for contingencies and indemnification assets include a requirement to disclose the “range of outcomes” (range of values) for these entities as well as their reported fair value. If the reporting entity asserts that the range of outcomes cannot be estimated, that fact and the reasons why must be disclosed. As described earlier, Monte Carlo analysis will be useful for such valuations and disclosures.

Going Forward

FAS-157 represents a significant change in the valuation of environmental liabilities. At the time of its promulgation, fair value measurements applied to AROs, impairments under FAS-144, and obligations under FIN-45. With the promulgation of the revision of FAS-141, “*Business Combinations*,” FAS-157 also applies to environmental loss contingencies, indemnification assets, and impairments to long-lived assets acquired through business combinations. It is understood that adoption of fair value principles of measurement is one of the foundations for international harmonization of accounting standards to become enshrined in all generally accepted accounting principles. In time, it is expected that they will apply to all environmental liabilities creating consistency and transparency in business reporting. Further, it is likely

that Monte Carlo and related analysis techniques will become the valuation tools of choice.

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Section members are now able to view the newsletter *Trends* in .pdf format in the Section Members Only portion of the Section Web site at www.abanet.org. Issues dating back to September/October 2006 are archived. As a Section member you have access to view *Trends* after logging onto the Web site with your ABA Member ID number and password.

Section members may also view *The Year in Review* and *Natural Resources & Environment*.

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THE SUSTAINABILITY QUESTION

Mike Wallace

Whether you are CEO, CFO, corporate counsel, or the head of Environment, Health & Safety (EH&S) you are undoubtedly on the receiving end of a growing pile of requests about your company's *sustainability*. These requests are typically surrounded by an evolving language and a series of acronyms, such as:

1. CSR—corporate social responsibility,
2. CC—corporate citizenship,
3. TBL—triple bottom line, or
4. ESG—environmental, social & governance

For purposes of this article we will use the phrase *sustainability performance* as we examine how companies are handling all of these concepts.

Requests for sustainability performance information are increasing in both number and type, and are coming from an ever-widening range of stakeholders. It is becoming an important issue to address. In fact, it is quickly expanding into the area of corporate governance. Why? Because a growing number of shareholders are busy comparing and contrasting your company's performance against your competitor's performance using a well-defined (and quantifiable) set of sustainability criteria.

Just as shareholders examine executive compensation or board independence and diversity, they are now scrutinizing companies' emissions to air, land, and water. Knowing what is being reported by and about your company's sustainability performance is therefore an integral part of a successful business strategy in today's global marketplace.

Increasing Disclosure = Unexpected Comparability Consequences

EH&S departments often serve as broad catchalls for most sustainability issues. They are already collecting and disseminating a wide range of environmental data to local, state, and national regulatory bodies (*i.e.*, information on spills and releases for the Toxics Release Inventory, violations, hazardous materials,

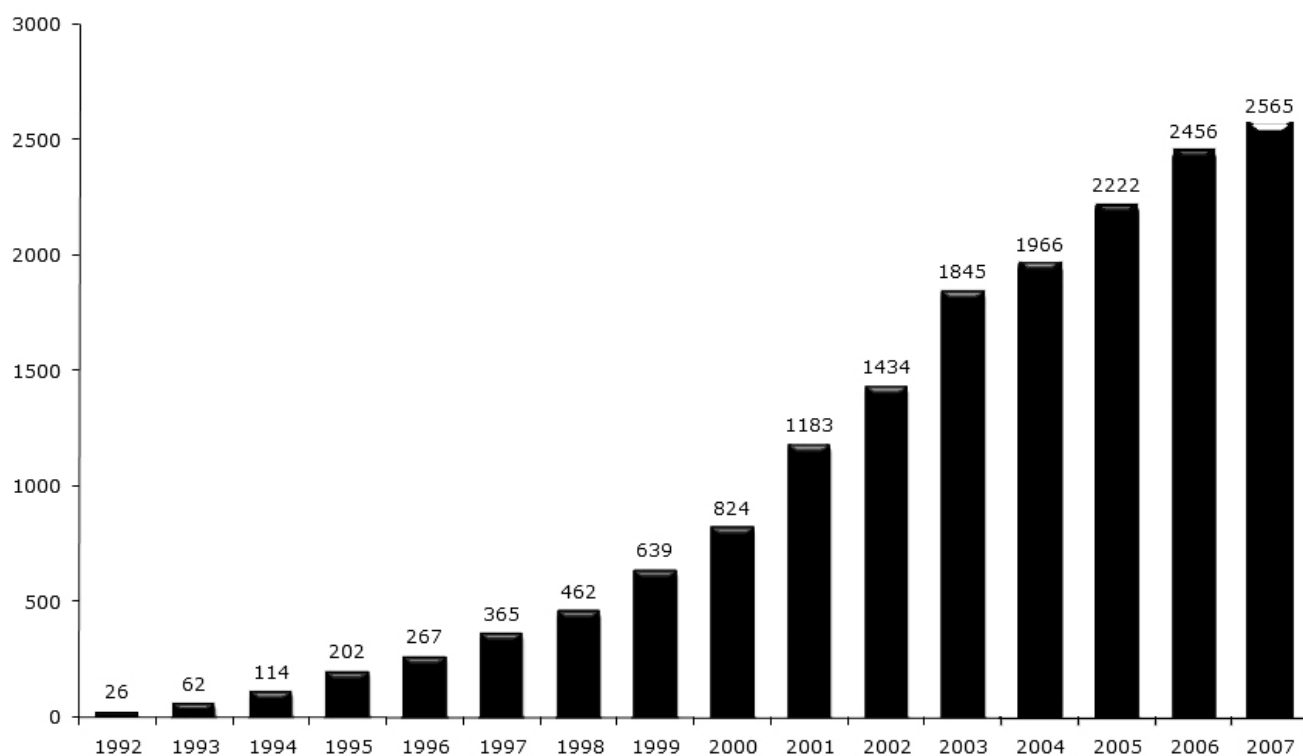


Figure 1—Global Sustainability Reporting Output By Year
Source: Corporate Register

etc.). Simultaneously, voluntary corporate disclosures in the form of CSR Reports, Sustainability Reports, and Environmental Reports are offering accessible and comparable data sets. What companies often fail to realize is that this publicly available information is being reviewed, compared, and contrasted by external stakeholders and summarized into reports and/or industry ratings and rankings. The result is a growing ability to compare competitors within industries, detect gaps in information, and identify reports that are not telling an accurate story about a company’s sustainability performance.

Figure 1 provides a snapshot of the growing number of voluntary sustainability reports since 1992. The *Corporate Register* compiles this data to provide the world’s most comprehensive collection of corporate sustainability, CSR, citizenship, and environmental reports. As of early 2008, the site includes links to over 16,000 CSR-related reports from over 4,000 companies in ninety-one countries. Staff at the site estimate that by combining the voluntary submissions of

reporting companies with their own searches, they capture 90 percent of reporting companies. Any user can access this site and quickly search by country, industry sector, and company to determine whether a company has produced a sustainability report. Additional statistics on trends in CSR reporting are available at www.corporateregister.com/charts/charts.pl.

The Corporate Governance Connection

The increasing availability of quantified sustainability data has made it possible to establish international performance benchmarks for greenhouse gas (GHG) emissions, carbon dioxide (CO₂) emissions, water and energy consumption, and waste generation. Many multi-national corporations are actively measuring and reporting this data. When other companies fail to follow this lead, shareholders and other influential stakeholders question the absence of transparency on these important and material issues.

For example, if you are the only company in your industry that isn't reporting sustainability performance in quantified terms, what messages are you sending to interested and influential stakeholders? If you are being asked directly and repeatedly by shareholders about your sustainability performance and you are not responding, what message are you conveying?

- your questions aren't important,
- you're not important,
- we don't have time to deal with such issues,
- we can't deal with such issues,
- these issues aren't relevant to our industry,
- these issues are not important to us.

What if your largest customer asks all its suppliers to report sustainability information? If you are the only supplier unable to supply relevant data, what is your customer to think?

Interest from the Financial Services Industry

The most influential stakeholders paying closest attention to your answers are in the financial service sector, such as shareholders, lenders, auditors, and finance-oriented non-governmental organizations (NGOs). These stakeholders are comparing your sustainability performance to that of your competitors, as well as to other companies. As they become more aware of the issues and connect sustainability performance to traditional corporate governance criteria such as transparency, these groups are becoming increasingly active and influential.

These engaged stakeholders have created a new type of due diligence. As a result of their requests—through dialogue, proxy voting initiatives, and shareholder resolutions—companies are being pushed to measure, track, report, and reduce impacts, as well as to adopt strategic positions that will allow the company to prosper and profit as new regulatory programs are introduced. For example, last year, shareholders owning over 31 percent (\$120 billion) of Exxon Mobil stock supported a resolution requesting that the Board of Directors adopt quantitative goals based on current technologies for reducing total GHG emissions from the company's products and operations. Allegheny

Energy shareholders gave record high support to a resolution filed by the New York City Pension Funds requesting the Pennsylvania-based power company produce a report on how it plans to reduce GHG emissions.

Sustainability Researchers

Awareness of—and demand for—sustainability performance information has spurred the growth of specialized research organizations that actively review corporate information and assess sustainability performance. These firms range from departments within Wall Street's most respected financial institutions to independent research companies. They use various information sources to rate a company's sustainability performance. They may contact you directly, asking specific questions regarding corporate sustainability, or they may conduct their research exclusively from outside your four walls, reviewing all public sources of information produced by your company. Your reports on sustainability, environmental concerns, health and safety, and annual financial reports, as well as other forms of company information such as public databases, your Web site, press releases, articles about your company, brochures, and external documentation, are all grist for the mill. Researchers will take note of information that contradicts your company's claims, or claims from different company sources that contradict each other.

The researchers deliver their findings to the global markets in the form of specialized reports, press releases, Indexes, and/or listings/ratings. Ratings are regularly reflected in international listings such as the Dow Jones Sustainability Index and FTSE4Good. Such global Indexes track the sustainability and financial performance of these leading companies, and are used by investors who are looking to direct their investment capital toward sustainable companies.

Therefore, it is critical that all company information is internally coordinated among offices and departments, to ensure that your company's sustainability story is told clearly, in a timely manner, and without contradiction.

Shareholder Coalitions and Initiatives

In addition, international coalitions of shareholders are coordinating their research on sustainability-related issues. These shareholder groups add new momentum and have significant influence in the sustainability arena.

Two influential groups to put on your radar are the Carbon Disclosure Project (CDP) and the Investor Network on Climate Risk (INCR). Both groups are comprised of networks of institutional investors and financial institutions that are working to promote corporate disclosure of the opportunities and challenges presented by climate change.

- Carbon Disclosure Project
 - Started 2002 with thirty-five signatory investors representing \$4.5 trillion
 - Currently 385 signatory investors representing over \$57 trillion in investment capital
- Investor Network on Climate Risk
 - Started 2003 with ten members representing \$600 million
 - Currently sixty-five members representing over \$4 trillion in investment capital

CDP investors include household names such as Merrill-Lynch, Goldman Sachs, HSBC, and Morgan Stanley. The INCR facilitates state pension plans' actions on carbon and environmental issues and its investor groups include large public pension funds from dozens of U.S. states.

Other groups that are active in this arena include (to find the latest information on these groups and their members, see: <http://www.wallacepartners.net>):

- Principles for Responsible Investment
 - Started 2006 with twenty signatories representing \$2 trillion
 - Currently 360 signatories representing over \$13 trillion in investment capital
- Institutional Investors Group on Climate Change
 - Started 2001
 - Currently forty-four members representing over \$5.4 trillion in investment capital

- Interfaith Center on Corporate Responsibility
 - Started 1972
 - Currently 275 members representing over \$100 billion

A number of members or signatories belong to more than one of these groups, creating overlapping spheres of interest and influence. For example, the nation's two largest public pension funds, the California Public Employees' Retirement System (CalPERS) and the California State Teachers Retirement System (CalSTRS) belong to PRI, INCR, and the CDP.

All this activity related to researching and ranking corporations has several important results. First, by working together, organizations such as INCR place pressure on the regulatory agencies such as the Securities and Exchange Commission (SEC) to enforce corporate disclosure on material environmental issues. Second, members of these organizations are increasingly analyzing the relationship between sustainability and financial performance. In fact, a Goldman Sachs study found that among six sectors reviewed—energy, mining, steel, food, beverages, and media—companies that are considered leaders in implementing environmental, social, and governance (ESG) policies have outperformed the general stock market by 25 percent since August 2005. In addition, 72 percent of these companies have outperformed their peers over the same period.

Measuring Your Carbon Footprint

Even if your company is not ready to tackle the entire suite of sustainability issues, the carbon issue is one that needs to be addressed sooner rather than later. Carbon and GHG emissions can be quantified using globally accepted standards for GHG accounting and verification. The first of these standards was the Greenhouse gas Protocol (GHG Protocol), established in 2004 by the World Resources Institute (WRI) and the World Business Council on Sustainable Development (WBCSD). ISO published its similarly directed 14064 Standard in 2006, and at the end of 2007, the three organizations agreed to work together to increase convergence of these standards. Multinational firms that are using these standards

include Exxon-Mobil, Alcoa, Coca Cola, Dow, and Hewlett-Packard.

Early 2008 also saw the launch of The Climate Registry, a program of national scope that is modeled after the California Climate Action Registry. Both registries draw from the GHG Protocol to help registry participants understand, measure, and report GHG emissions in a standardized form. The Climate Registry includes the majority of U.S. states, as well as several Canadian provinces, Mexican states, and tribes. Its aim is to develop and manage a common reporting system for GHG emissions, supported by infrastructure for accounting and verification.

Addressing the Sustainability Question

First, understanding external stakeholders, their interests, and their information sources is key in preparing for the sustainability question. The challenge for most businesses is to identify key stakeholders and respond to their concerns while developing constructive relationships with them. The boon for business is that even as external stakeholders push for change, they can contribute positively to corporate decision making by acting as external eyes and ears to identify emerging sustainability issues.

Second, it is crucial to know what is being reported by your company, through which departments, and to what level of detail and accuracy. Whether you realize it or not, your company is probably collecting and reporting sustainability information to respond to local, state, and federal requirements. For instance, EH&S programs often have sustainability components already embedded, such as a recycling program or an environmental management system. Human resources, public and government affairs, and corporate foundations are also areas within companies where sustainability activities often exist, but are unrecognized. Statistics such as worker health and safety, employee attraction and retention, charitable contributions, political contributions, and donations to non-profit initiatives all have sustainability significance. Many companies are also voluntarily responding to surveys and questionnaires from external stakeholders. It is vital, however, to coordinate these disclosures. In essence, all these pieces of information create a

sustainability story whether or not your company is actively producing one. It is essential, then, to review operations and management systems through a sustainability lens.

Third, it is time to consider the creation of a sustainability coordinator, initiative, and/or program to facilitate accurate and timely reporting on the most important issues. In some instances, companies assign members of the board of directors to head up such programs, while in other companies EH&S or other operational departments serve as the lead on such initiatives. Some companies create working groups and internal teams to handle sustainability-related activities, while others create brand new positions. There is no single approach that serves all organizations and situations. An effective and efficient sustainability program is one that fits with the company's culture, industry-specific issues, and available resources.

Carbon Accounting

At the beginning of February 2008 the CDP launched its 6th annual survey of the world's largest corporations. The CEOs of over 3,000 companies received a letter and survey from this group, focusing on determining "actual absolute Greenhouse Gas Emissions" for each company surveyed. Although this survey is sent to the CEO, it often gets routed through other departments such as Investor Relations, Legal, CFO, and/or Public Affairs. Even if your company chooses to ignore the CDP request, it is important to be aware of carbon-related information other departments are releasing because stakeholders will in effect use that information to complete the survey for you. Realize, too, that your lack of official response will send an inconsistent message to external stakeholders, as well as indicating a weakness in governance on this issue.

Even companies that do not receive this survey directly are feeling the ripple effect. For instance, some of the world's largest companies have initiated similar carbon surveys through their global supply chains so suppliers in all sectors and of all sizes are having to account for their emissions.

Understanding, measuring, and managing your carbon footprint is becoming an essential part of doing business in a globalized economy. Effectively preparing for and responding to the CDP and other similar requests can be a useful exercise in developing a strategic sustainability program.

Web sites for more information:

Carbon Disclosure Project (CDP):
www.cdproject.net/

On the behalf of institutional investors with combined assets of over \$57 trillion under management, the CDP seeks information on the business risks and opportunities presented by climate change and GHG emissions data from the world's largest companies: 3,000 in 2008. The CDP Web site is the largest repository of corporate GHG emissions data in the world, and information requested of and provided by corporations is publicly available.

Investor Network on Climate Risk (INCR):
www.incr.com

INCR is a network of institutional investors and financial institutions that promotes better understanding of the financial risks and investment opportunities posed by climate change. It has published the Global Framework for Climate Risk Disclosure, a standardized set of guidelines for improving corporate disclosure on the risks and opportunities for climate change. The framework was developed in collaboration with investors worldwide.

Interfaith Center on Corporate Responsibility (ICCR): www.iccr.org/

ICCR's membership is comprised of 275 faith-based institutional investors, including national denominations, religious communities, pension funds, foundations, hospital corporations, economic development funds, asset management companies, colleges, and unions. ICCR and its members press companies to be socially and environmentally responsible. Each year ICCR- member religious institutional investors sponsor over 200 shareholder

resolutions on major social and environmental issues.

Institutional Investors Group on Climate Change (IIGCC): www.iigcc.org/

IIGCC is a forum for collaboration between pension funds and other institutional investors on issues related to climate change. One of its goals is to encourage companies and markets in which IIGCC members invest to address any material risks and opportunities to their businesses associated with climate change and a shift to a lower carbon economy.

Principles for Responsible Investment (PRI):
www.unpri.org/

PRI provides a framework for considering the environmental, social, and corporate governance (ESG) issues that can affect the performance of investment portfolios.

Dow Jones Sustainability Indexes:
www.sustainability-indexes.com/

Launched in 1999, the Dow Jones Sustainability Indexes are the first global indexes tracking the financial performance of the leading sustainability-driven companies worldwide. Based on the cooperation of Dow Jones Indexes, STOXX Limited, and SAM, they provide asset managers with reliable and objective benchmarks to manage sustainability portfolios.

FTSE4Good Index Series: www.ftse.com/Indices/FTSE4Good_Index_Series/

The FTSE4Good Index Series has been designed to measure the performance of companies that meet globally recognized corporate responsibility standards, and to facilitate investment in those companies.

GHG Protocol Web site: www.ghgprotocol.org

The GHG Protocol is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage GHG emissions. It provides the accounting framework for nearly every GHG

standard and program in the world—from the International Standards Organization to the EU Emissions Trading Scheme to The Climate Registry—as well as hundreds of GHG inventories prepared by individual companies.

The Climate Registry: www.theclimateregistry.org/
California Climate Action Registry:
www.climateregistry.org

The Climate Registry is collaboration between over forty states, provinces, and tribes in the United States, Canada, and Mexico to develop and manage a common and unified GHG emissions reporting system. The Climate Registry is designed to support various GHG emission reporting and reduction policies for its members. The registry provides a voluntary entity-wide reporting program and infrastructure to collect and track GHG data reported to state mandatory and regulatory programs.

The Climate Registry is founded on the GHG Protocol Corporate Accounting and Reporting Standard. It is intended to unify existing state registries based on the GHG Protocol, including the California Climate Action Registry, the first state-level corporate GHG registry in the United States with current participation from 300 reporting companies, and the Eastern Climate Registry, a joint project of several Northeast states.

Mike Wallace, *president of Wallace Partners, has worked with dozens of public and private companies on the development, implementation and integration of sustainability programs. He has over 15 years in the environmental field and specializes in focusing companies' attention on the most relevant sustainability issues for their situation. He can be reached at mike@wallacepartners.net.*

AMERICAN BAR ASSOCIATION SECTION OF ENVIRONMENT, ENERGY, AND RESOURCES

Calendar of Section Events

ABA Annual Meeting

Aug. 7-12, 2008
New York, New York

16th Section Fall Meeting

Sept. 17-20, 2008
Phoenix, Arizona

The Basic Practice Series—An Introduction to Environmental Law

Sept. 19-20, 2008
Phoenix, Arizona

Developments in Petroleum Marketing Law Roundtable

Oct. 15, 2008
Austin, Texas

27th Annual Water Law Conference

Feb. 19-20, 2009
San Diego, California

38th Conference on Environmental Law

March 12-15, 2009
Keystone, Colorado

***For more information, see the
Section Web site at
www.abanet.org/environ
or contact the Section at 312/988-5724.***



STATE OF GHG EMISSIONS REPORTING IN THE ELECTRIC UTILITIES INDUSTRY

**Laura Musikanski
Todd M. Williams
Thomas A. Umenhofer**

This article compares and analyzes voluntary reporting of greenhouse gases (GHGs) by eight electric utility companies in the United States. It provides an overview of what companies are disclosing and where they are disclosing, and comments on consistency of and verification of disclosures.

Trends in Voluntary GHG Reporting

Voluntary reporting of GHG emissions by electric utility and other companies is occurring with greater frequency. Companies are reporting their GHG emissions in various forms, including in their 10K reports (mandatory annual reports) filed with the Securities and Exchange Commission (SEC), and Sustainability or Corporate Social Responsibility (CSR) reports, with the Carbon Disclosure Project, the U.S. Environmental Protection Agency's (EPA) Climate Partnership program, and the Energy Information Administration's (EIA) Voluntary Reporting of Greenhouse Gases program (Reporting Form 1605).

Voluntary reporting of environmental issues in general is becoming common in many industries. A study by Social Investment Research Analysts Network and KLD Research & Analytic revealed forty-nine of the U.S. companies among the Standard & Poor's 100 Index disclosed information about their environmental, social, and governance performance. Thirty-eight of the companies listed on the S&P 100 Index use the Global Reporting Initiative's sustainability reporting guidelines, which includes indicators for GHG emissions. SIRAN & KLD, Sustainability Reporting Moving into the Mainstream (Apr. 2007) *available at* www.siran.org (last visited Oct. 11, 2007). Corporate Register, an online directory of over 15,000 sustainability reports issued by companies worldwide, contains 285 sustainability reports for companies in the electric utilities industry, fifty-four of which are located

in the United States. *See* www.corporateregister.com (last visited Oct. 11, 2007).

In 2005, approximately 3,200 electric utility companies operated in the United States. Energy Information Administration, Form EIA-861 Database (date unknown) *available at* www.eia.doe.gov/cneaf/electricity/page/eia861.html (last visited Oct. 15, 2007). Many more exist globally. Of the global utility companies, 245 were invited to participate in The Carbon Disclosure Project. Forty-seven percent, or 117 companies, agreed to participate. The EPA's Climate Leaders program began in 2002 and counts over 140 participating companies. EPA, Events (Oct. 4, 2007) *available at* www.epa.gov/stateply/events/index.html (last visited Oct. 16, 2007). Of the 221 participants in the EIA's voluntary reporting of GHG emissions program, 44 percent are electric utility companies. EIA, Voluntary Reporting of Greenhouse Gases 2005 – Summary, (Dec. 2006) *available at* www.eia.doe.gov/oiaf/1605/vrrpt/summary/introduction.html (last visited Nov. 17, 2007).

Comparison Grid of GHG Reporting

In order to develop a comparison of a sampling of the GHG emissions reporting by electric utilities, the authors conducted a comparison of eight electric utility companies. A grid was prepared comparing GHG emissions disclosures by: American Electric Power (AEP), Duke, Entergy, Exelon, Southern Company, Teco, TXU, and Xcel Energy (grid follows on pages 18-26). All of the companies surveyed issued 10K reports with the SEC and CSR reports for year 2006.

Disclosure in SEC Reports by Eight Electric Utility Companies of GHG Emissions

The SEC does not require GHG emissions reporting, and are unlikely to require such reporting. The SEC regulations may require disclosure of liabilities or capital costs may be required under certain conditions. All eight of the companies surveyed included discussions of potential GHG emissions regulations in their 10K reports for 2006. Only Entergy reported its GHG emissions for the year in tons of carbon dioxide (CO₂). Most of the companies surveyed reported that

Comparison Grid of GHG Reporting

Company	SEC 10K Financial Report 2006	CSR Report 2006	Carbon Disclosure Project 2006	EPA Climate Partner	EIA Form 1605, reporting year 2005
<p>American Electric Power HQ: Ohio</p>	<p>Costs to undertake voluntary GHG programs in expectation of regulation expected to be recovered through regulated rates and from customers paying unregulated rates.</p> <p>Statement that regulations limiting CO₂ emissions could render some units uneconomical to maintain or operate but such regulation is not seen as imminent.</p> <p>Litigation: Claims under CAA and nuisance law for CO₂ emissions seen as not having merit. Report states EPA does not have authority to monitor GHG (pre-Mass. v. EPA and federal legislation mandating EPA</p>	<p>CO₂ emissions reductions and offsets (Chicago Climate Exchange (CCX)) in 2006: 31M CO₂ metric tons.</p> <p>CO₂ emission reduction expectations: 5M CO₂ metric tons/year</p> <p>Legally binding voluntary commitment to reduce CO₂ by 46M metric tons 2003-2010</p> <p>CO₂ emissions monitored through Continuous Emissions Monitoring (CEM) system. Chicago Climate Exchange CO₂ Emission reports audited by NASD, monitored by EPA Climate Leaders.</p>	<p>GHG emissions for reporting year 2006: 145,400,000 CO₂e emissions metric tonnes.</p> <p>GHG Reductions for 2003-2006: 32 million metric tonnes.</p> <p>Energy Consumption Costs, 2006: \$3,817,000,000, 45% of operating costs.</p> <p>GHG emissions intensity ratio, 2006: 0.88 CO₂ tons/MWH</p>	<p>American Electric Power pledges to reduce total U.S. GHG emissions by 6 percent from 2001 to 2010. American Electric Power achieved its initial goal by reducing total U.S. GHG emissions by 4 percent from 2001 to 2006.</p> <p>AEP achieved its initial goal by reducing total U.S. GHG emissions by 4 percent from 2001 to 2006. CO₂e reductions 2003-2006 : 39.2M metric tons</p> <p>New Goal: AEP pledges</p>	<p>CO₂e emissions metric tonnes:</p> <p>2005 Cumulative entity level reductions:</p> <p>Direct Emissions: 10,687,957</p> <p>Indirect: 570,668</p> <p>Sequestration: 231,073</p>

	issue GHG reporting obligations).	Report reviewed by CERES and employee focus group.		to reduce total U.S. GHG emissions by 6 percent from 2001 to 2010. (Also a member of EPA's Sulfur Hexafluoride Emission Reduction Partnership)	
Duke Energy HQ: North Carolina	<p>Expectation that GHG will be regulated and costs would be substantial. Focus on energy efficiency to reduce emission.</p> <p>Statement that Duke unable to estimate financial effect of GHG regulations. Duke participates in GHG policy work.</p> <p>Litigation includes claim for damages suffered by Hurricane Katrina's intensity due to GHG emissions by Duke'; Public nuisance for GHG emissions</p>	<p>CO₂ emissions, 2006: 105,200,000 tons. CO₂ savings from nuclear energy: 1.1 billion tons.</p> <p>Reduction and sequestration goal by 2014: 10M tons CO₂, planning to invest \$3M.yr.</p> <p>Report states Duke has been awarded significant federal investment tax credits for coal projects.</p> <p>\$12.5M invested in RnD related to GHG.</p> <p>Report reviewed by Business for Social Responsibility</p>	<p>GHG emissions for reporting year 2006: 98,400,000 metric tonnes</p> <p>Energy consumption costs: \$3,256,000,000, 36% of operating costs</p> <p>GHG emissions Reduction for 1991-2005: 175M metric tons CO₂ (cost over 8 yrs: \$24M; planned expenditure: \$3M/yr to reduce 10M tons CO₂ 2007-2014)</p> <p>GHG emissions intensity ratio: 1,260 pounds per megawatt hour generated.</p>	Participates, does not report	<p>CO₂e emissions metric tonnes:</p> <p>2005 Cumulative entity level reductions: Direct Emissions: 12,183,995; Indirect Emissions: 168,535 Sequestration: 436.</p> <p>2005 Direct GHG emissions: 47,136,810</p>

<p>Entergy HQ: Louisiana</p>	<p>CO₂ emissions, 2006: 38.9 M tons. Report covers CO₂ emissions 2000-06 Change in method of calculation increased reported amount in 2006.</p> <p>Programs to stabilize and reduce CO₂ emissions by 20% below 2000 levels through 2010.</p> <p>Emission credits part of purchase agreement for power plant.</p> <p>Entergy monitors trends toward regulation of CO₂, participates in Carbon Disclosure Act, advocates for EPA regulation under CAA.</p>	<p>CO₂ emissions, 2006: 38.9M tons, Goal to stabilize GHG at 20% below 2000 levels by 2010.</p> <p>GHG offset purchases at \$3M, plants 43K pine trees expected to absorb between 400-423 tons CO₂ in 80 yrs.</p> <p>Also reports SO₂, NO_x, Hg and CO₂, Exceeded 54 NPDES 54 times, 41.7 tons hazardous waste generated.</p>	<p>GHG emissions for reporting year 2006: 29,123,701 metric tonnes.</p> <p>GHG Reduction 2000-2006: 38% below 2000 levels, (Cost over 5 yrs; \$3M)</p> <p>Energy consumption costs: \$3,144,073; 34% of operating costs</p> <p>GHG emissions intensity ratio: 0.58 lb CO₂/Kwh.</p>	<p>Entergy Corporation pledges to reduce total U.S. GHG emissions by 20 percent from 2000 to 2010.</p> <p>(also a member of EPA's Sulfur Hexafluoride Emission Reduction Partnership)</p>	<p>CO₂e emissions metric tonnes:</p> <p>2005 Cumulative entity level reductions: Direct: 9,758,640 Indirect: 253,816 Sequestration: 66,314</p> <p>2005 Direct GHG emissions: 32,262,424</p>
<p>Exelon HQ: Illinois</p>	<p>Statement that Exelon is unable to predict Impacts of Global Climate Change and RGGI regulations addressed, but costs could be incurred to limit emissions or procure carbon credits, or benefits realized</p>	<p>CO₂ emissions from fossil: 11.6M tons, NO_x and SO₂ emissions reported. CO₂ emissions for each plant reported.</p> <p>1.7M tons CO₂ will be removed over 100 yrs by</p>	<p>GHG emissions for reporting year 2006: 13,000,000 metric tonnes CO₂</p> <p>GHG emission reduction mid-1990s-2005: 100M tons CO₂; 48,000 tons of CO₂ through</p>	<p>Exelon Corporation pledges to reduce total U.S. GHG emissions by 8 percent from 2001 to 2008</p>	<p>CO₂e emissions metric tonnes:</p> <p>2005 Cumulative entity level reductions: Direct: 901,810 Indirect: 9,552,934 Sequestration:</p>

	<p>from low CO₂ emitting nuclear capacity</p> <p>90% of Exelon's GHG emissions result from fossil fuel combustion, but due to portfolio, CO₂ emitted per KWH is low.</p> <p>EPA's Climate Leadership program voluntary goal to reduce GHG 8% from 2001-2008, representing 1.3M metric tons. Cost will not have material effect on operations, financial condition or cash flows.</p> <p>Integration of GHG emissions into business analysis to promote internal investment decisions.</p> <p>Factors for CEO compensation include leveraging Exelon's carbon position.</p>	<p>planting 3,800 acres of seedlings.</p> <p>EPA's Climate Leaders GHG reduction target of 8% by year end 2008</p> <p>EPA's Sulfur Hexafluoride Emission Reduction Partnership leak-break reduction target.</p> <p>Air: 1 Notice of Violation (NOV) and 1 permit non-compliance Land: 5 NOV, 1 permit non-compliance; Water: 5 NOV, 12 non-compliance</p>	<p>carbon sequestration</p> <p>Energy consumption costs: \$31,000,000, 0.01% of operating costs</p> <p>GHG emissions intensity ratio for reporting year 2005: 168 lbs/MWh</p>		7,998
<p>Southern Company HQ: Georgia</p>	<p>Southern participates in voluntary initiative Power</p>	<p>CO₂ emissions in a graph: approximately 150M tons</p>	<p>GHG emissions for reporting year 2006: 145,000,000</p>	<p>Does not participate</p>	<p>CO₂e emissions metric tonnes:</p>

	<p>Partners under Bush Administration's Climate VISION program, industry pledging to reduce GHG by 3%-5% by 2010-2012 (no baseline stated).</p> <p>Participates in Bush Administration's Asia Pacific Partnership on Clean Development and Climates.</p> <p>Defendant in nuisance case claiming GHG contribute to global warming, adverse outcome could affect operations, cash flows and financial conditions if costs not recovered through regulated rates</p> <p>Statement that GHG regulations could result in significant compliance costs, and affect operations, cash flows and financial conditions if costs not recovered</p>	<p>(graph hard to read, increases from prior years.</p> <p>Cumulative CO₂ reduction, offset and sequestration: 150M metric tonnes.</p> <p>SO₂, NO_x, Mercury emissions reported in graphs</p>	<p>metric tonnes</p> <p>GHG emissions intensity ratio in 2006: 1593 LB CO₂/MWh</p>	<p>(A member of EPA's Sulfur Hexafluoride Emission Reduction Partnership)</p>	<p>2005 Cumulative entity level reductions: Direct: 14,963,933 Indirect: 4,951,998 Sequestration: 250,348</p> <p>2005 Direct GHG emissions: 138,850,000</p>
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	through regulated rates				
Teco Company HQ: Florida	<p>Tampa Electric Emits approximately 15 million tons CO₂ per year, expecting emissions to be 20 million tons in 2020.</p> <p>Reduction in CO₂ emissions by 19% or approximately 4M tons since 1998 to near 1990 levels. CO₂ emissions expected to remain near 1990 levels until 2012.</p> <p>Application of Best Available Control Technology (costing \$2B since 1994) results in lower CO₂ emissions. List of renewable energy sources and impacts: 1,400 tons of coal offset, CO₂ reduction equivalent to planting 5,800 acres of trees or removing 1,700 cars from streets.</p> <p>Participates in CCX, and emissions</p>	<p>CO₂, SO₂, NOx and Hg emissions reductions in graphs (difficult to read).</p> <p>Reduction targets for NOx and SO₂ at 75%, mercury at 72% and CO₂ at 20% by 2010 with baseline set in 1999 set (“will... reduce”). Project specific reductions for NOx and SO₂ included.</p> <p>Methane emissions 196,450 cubic feet every 24 hrs from each of 7 mines.</p> <p>\$1.5B budget to reduce CO₂ over 10 years</p>	Provides information, not disclosed.	Does not participate	Does not report

	<p>monitored by equipment and audited by National Associations of Securities Dealers.</p> <p>Statement that there are a significant number of sources with high air emissions, GHG regulations could negatively impact earnings.</p> <p>Cost to comply with environmental regulations expected to be recovered through Environmental Cost Recovery Clause and customers bills.</p>				
<p>TXU Corporation HQ: Texas</p>	<p>Participates in Bush Administration's Comate VISION program and reports to US Department of Energy and supports mandatory cap and trade program to reduce CO₂ emissions. TXU GHG strategies include investing \$2B over next 5-7 yrs in cleaner</p>	<p>CO₂ emissions approximately 150 lbs/MBtu garnered from EPA's Appendix B Emissions Scorecard 2005 Database. Data provided by Continuous Emissions Monitoring Equipment. Data also for NO_x, Heat Input.</p>	<p>No Response</p>	<p>Does not participate (A member of EPA's Sulfur Hexafluoride Emission Reduction Partnership)</p>	<p>CO₂e emissions metric tonnes: Direct: 22,328,489 Indirect: 1,189,726 Sequestration: 39,291</p>

	<p>technology, doubling alternative energy portfolio (wind, solar), reduce CO₂ emissions by increasing efficiency by 2%, and develop nuclear facility.</p> <p>Can not predict Financial and operational impacts from risks of future GHG regulations.</p> <p>GHG regulations could significantly affect compliance costs.</p>	<p>CO₂ emissions cumulative avoided 288.5M tons since 1991.</p> <p>Trees planted: 1.2 million.</p> <p>Compliance: Air Quality 99.1%, Land: 98.1%; Water: 99.9%.</p>			
<p>Xcel Energy HQ: Minnesota</p>	<p>GHG initiatives include voluntary reduction program to reduce CO₂ by 12 million tons by 2009, carbon intensity by 7% by 2012; evaluation process for decisions includes risk of future carbon limits; largest retailer of wind energy, sequestration initiatives; customer and demand conservation programs; public policy work.</p>	<p>CO₂ emission: 81.8M tons (generating fleet portion: 68.4M tons).</p> <p>NOx emissions 116,433 tons; SO₂ emissions 136,273 tons. Hg emissions 2,426 lbs.</p> <p>SO₂ reductions: 32,247 tons, NOx 19,759 tons.</p> <p>CO₂ reduction goal 12M cumulative tons by 2009 with graph showing</p>	<p>GHG emissions for reporting year 2006: 62,208,515 metric tonnes</p> <p>GHG emission Reduction mid 2003-May 2007: 12M short tons reduction from baseline set in 2003.</p> <p>Energy consumption costs: \$5,745,000,000, 0.50% of operating costs</p> <p>GHG emissions</p>	<p>Does not participate</p>	<p>CO₂e emissions metric tonnes: Direct: 2,958,280 Indirect: 3,631,695 Sequestration: 79</p>

	<p>Defendant in nuisance case claiming GHG contribute to global warming.</p> <p>Not possible to know outcome of efforts to regulate carbon dioxide, but undertakes initiatives to prepare for such (see above).</p>	<p>baseline established in 2003; intensity reduction goal: 7% reduction by 2012, from baseline of 1.646 lbs/MWh to 1,531 lbs/MWh;</p> <p>Fleet converting to biodiesel fuel to reduce hydrocarbon emission by 10-15%.</p> <p>Pro-forma Triple Bottom Line (TBL) Financial Impact Summary includes \$823.5M on Environmental Leadership, Total TBL cost \$3.981.8M</p> <p>Decisions overseen by Environmental Council.</p> <p>Xcel developing ISO 14001 program.</p>	<p>intensity ratio in 2006: 1,712 CO2 Lbs./MWh</p>		
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GHG emissions regulations of their industry were not foreseeable, but that such regulations could significantly impact operations and financial outcomes.

Many of the companies have publicly set reduction goals, some of which may be legally binding. AEP, Duke, Southern, and Xcel report legal action against them under a nuisance theory (GHG emissions causing global warming and damage from Hurricane Katrina). This legal action may foreshadow increasing actions in the future. Decisions about disclosure in 2007 voluntary reports will likely be informed by the growing trend towards voluntary and regulatory managing and measuring of GHG emissions by publicly held companies.

The 10K reports of the companies surveyed were written before new legal developments regarding GHG regulation in the United States. The U.S. Supreme Court issued a decision in 2007 that EPA has the authority to regulate GHG emissions under the Clean Air Act. *Mass. v. EPA*, 127 S. Ct. 1438 (2007). These reports were also written before passage of legislation in the Omnibus Spending Bill in December 2007 that mandates that EPA issue regulations that require companies to report their GHG emissions by June 2009.

The Lieberman-Warner Climate Security Act passed out of committee in 2007 and is slated to be brought to the Senate floor in 2008. The bill would regulate GHG emissions from electric utility, transportation, and manufacturing industries. In 2006, the California legislature passed the California Global Warming Solutions Act into law, requiring reductions of GHG emissions to 1990 levels by 2020. California Global Warming Solutions Act of 2006, 2006 Cal. Stat. 488 (AB 32). Roughly half the states in the Union would come under regulation under the Regional Greenhouse Gas Initiative (RGGI), Western Climate Initiative, and the Midwestern Greenhouse Gas Reduction Accord.

Other pressures are growing on companies to report their GHG emissions. The Intergovernmental Panel on Climate Change (IPCC) issued its fourth assessment includes a call for governments to increase regulation to reduce GHG emissions. In early 2007, socially

responsible investment (SRI) research organizations, including Ethical Investment Research Services (EIRIS), issued new criteria to address climate change for their investment indices.

At the writing of this article, the authors expect that most electric SEC reports for electric utilities in 2007 will include mention of GHG emissions regulations as foreseeable. While discussion of GHG regulation is appropriate for many publicly traded companies, the actual level of emission may not be required. However, the federal government will be requiring reporting of these emissions by 2009, assuming EPA meets the statutory deadline. Several states will be imposing reporting obligations as well.

Other Reporting Mechanisms

Because the SEC reports are financial in nature, and do not impose reporting obligations for air emissions, the companies surveyed disclosed significantly more information about their GHG emissions in voluntary reports than in their SEC reports. All of the companies in this survey disclosed information about GHG emissions in CSR reports. CSR reports are unregulated and not overseen by an agency with enforcement power. In an effort to bring about consistency in CSR reporting, the Global Reporting Initiative (GRI) issues its guidelines and indicators. Other reporting vehicles used to lesser frequency included in this survey are the Carbon Disclosure Project, the EPA's Climate Partnership program, and the EIA's Voluntary Reporting of Greenhouse Gases program, (Reporting Form 1605). The latter three are programs overseen by a government agency or independent organization: the EIA and EPA are governmental agencies that oversee GHG programs and the Carbon Disclosure Project is operated by a non-governmental organization of the same name.

Of the companies surveyed, AEP, Duke, Entergy, and Exelon participate in all programs and issue CSR reports. However, only Entergy includes its CO₂ emissions for the year in both its CSR and 10K reports. All the CSR reports include CO₂ emissions in various formats. Exelon reports CO₂ emissions from fossil fuel. Southern Company and Teco provides a

graph showing their emissions. Xcel reported CO₂ emissions in total and for its fleet. All of the CSR reports included narrative descriptions of initiatives to reduce GHG emissions. Quantitative, qualitative, and narrative information about reductions ranged from savings due to use of nuclear energy reported by Duke, to tree planting for offsetting emissions by Entergy and Exelon, and conversions of fleets to bio-diesel fuel by Xcel, as well as programs for greater efficiency and new technologies by the majority of companies surveyed. AEP states that it is legally bound to reduce CO₂ emissions in its CSR report, but does not explain this legal mandate.

The company's surveyed did not provide significant information about lawsuits filed against them relating to GHG emissions and climate change in their CSR reports. Such information was included, when applicable, in each company's 10K reports. Two of the tenets of CSR reports are balance and relevance as to reporting positive as well as negative information that may be important to stakeholders. Global Reporting Initiative, *Sustainability Reporting Guidelines*, version 3.0, 8-17 (2006). A few companies in other industries include information about non-compliance with or with supplier codes of conduct in their CSR reports. (See Coca-Cola Enterprises, 2006 Sustainability and Corporate Social Responsibility Report (2006) available at: www.cokecce.com/brochures/cce_2005/34_environment.html and Gap Inc, 2004 Social Responsibility Report (2004) available at: gapinc.com/public/documents/CSR_Report_04.pdf (last visited Feb. 25, 2008).

Greenwashing or Variability in Reporting Methods?

Greenwashing can be defined as communicating that an organization is behaving in an environmentally responsible manner while continuing practices that do not reflect positive environmental performance. See David Beers and Catherine Capellaro, *Greenwash!*, MOTHER JONES, 88 (Mar./Apr. 1991). In *Nike v. Kasky*, the Supreme Court of the United States did not settle whether sustainability reports and other communication by companies about sustainability are commercial speech, and hence subject to consumer

protection and unfair and deceptive trading laws. See *Nike, Inc. v. Kasky*, 539 U.S. 654 (2003). In *Nike v. Kasky*, Nike was communicating it did one thing (ensured fair labor standards among its suppliers), while doing another (not ensuring all suppliers complied with fair labor standards). If one can say that consumers make choices based on voluntarily disclosures about GHG emissions, such disclosures may fall under the category of commercial speech. Under *Nike v. Kasky*, the possibility exists that electric utility companies reporting GHG emission reductions may be held liable under consumer protection laws if they intentionally or inadvertently inaccurately report emissions or emission reductions.

However, discrepancies in GHG emissions reporting may be due to a number of reasons other than an intent to mislead. One is the methodology for measuring GHG emissions. The leading protocol for GHG emissions accounting is the Greenhouse Gas Protocol (GHG Protocol). See World Resource Institute and World Business Council for Sustainable Development, *The Greenhouse Gas Protocol* (2004) available at www.ghgprotocol.org (last visited Nov. 19, 2007). The EPA's climate partner program uses this protocol, as do many companies reporting GHG emissions in their sustainability reports. Companies reporting under the Carbon Disclosure project also often use the GHG Protocol. The EIA offers its own protocol for GHG emissions recording. The EIA allows companies to use any estimation method they choose, from engineering estimations to the IPCC's protocol. The EIA allows companies to report by project or entity wide, which generates further basis for discrepancies. The EIA also uses carbon emissions equivalents. This makes for greater difficulty in comparisons across reporting vehicles. In the European Union (EU), where the Kyoto Protocol has been ratified, an emission inventory program (CORINAIR) exists so that companies can report consistently and comparably. In California, efforts are underway to develop a reporting mechanism for AB-32 (The Global Warming Solutions Act of 2006). Should GHG emissions be regulated in other states or under federal law, companies can expect a similar program to the EU's CORINAIR.

The GHG Protocol is the result of a joint effort by the World Resource Initiative (WRI) and the World Business Council for Sustainable Development (WBCSD). It can be used in conjunction with the IPCC's guidance, guidelines and methodologies. See *IPCC, 2006 IPCC Greenhouse Gas Inventories, (2006) available at www.ipcc-nggip.iges.or.jp/* (last visited Oct. 20, 2007). Under the GHG Protocol, a company also specifies three scopes of activities for reporting GHG emissions under the GHG Protocol. Scope 1 includes GHG emissions from activities and property controlled or owned by the organization. Scope 2 includes GHG emissions from consumption of purchased electricity, heat, steam, or other energy purchased. Scope 3 GHG emissions include those from activities not controlled, owned, or due to use and purchasing of energy. Examples of scope 3 GHG emissions include employee commuting, supplier or outsourced distribution activities, and waste disposal or recycling facilities. For scope 1 activities, electric utility companies can employ continuous monitoring equipment (CEM), engineering services, or make estimates based on protocols and guidelines such as the IPCC provides. Scope 2 GHG emissions can be gathered from an energy provider and in some cases via the EPA's power profiler. See U.S. Environmental Protection Agency, Clean Energy (June 27, 2007) *available at www.epa.gov/cleanenergy/power_profiler.htm*. (last visited Oct. 20, 2006). As indicated by disclosures in the Carbon Disclosure Project, companies surveyed reported only for scope 1 activities.

In the GHG Protocol, companies specify a baseline. Some companies use a baseline informed by the Kyoto Protocol, looking to their emission levels in 1990, while others use moving baselines, and still others set baselines at the first year of reporting. Of the companies surveyed, AEP, Duke, and Entergy established their baselines in their reports to the Carbon Disclosure Project in 2003, 1991, and 2000 respectively. Exelon's baseline is set in 2001 under the EPA's Climate Action Plan. Southern Company reported a baseline established in 2000 for the utility sector under Climate VISION program. Teco puts theirs at 1999 levels in their CSR report. TXU includes a 2 percent reduction in carbon emissions through production efficiency as a strategy for addressing

climate change, but does not explicitly state its baseline. In its CSR report, TXU puts its baseline at 1991 to report its CO₂ emissions avoided. Xcel reports its baseline at 1,646 lbs/MWh, apparently established in 2003 given the graphs in its CSR report. Xcel's 10K includes a goal statement for voluntary GHG emissions reductions as preparation for regulations, but does not include data relevant to establish a baseline.

Leading to further difficulty for comparing GHG emissions reporting is the unit used to report carbon emissions. Carbon emissions may be reported in tons or metric tonnes or carbon equivalence, in terms of total emissions for an entity, emissions per facility, or emissions per unit of output, emissions reduction, and, for scope 1 activities, in terms of intensity ratios. Of the companies surveyed, each company used at least two different units. If GHG emissions were to be regulated on a national level, one can assume a single unit would be imposed.

We observed that the manner of reporting varies significantly. In part this is because there are several protocols that companies may use. Global Reporting Initiative, *Sustainability Reporting Guidelines*, version 3.0, 8-17 (2006). The GRI has been successful in gaining GHG discussion and reporting for these companies. However, what is reported and how it is reported is not consistent in the eight companies' reports surveyed, GHG emissions reporting in CSR reports and other reporting vehicles is not easily comparable between companies.

AEP, Duke, Entergy, Exelon, Southern Company, and Xcel Company participate in the Carbon Disclosure Project and publicly disclose the amount of GHG emissions emitted over 2006. Teco participates but does not disclose. GHG emissions reported under the Carbon Disclosure Project did not always reconcile with carbon emissions reported in CSR reports. AEP, Duke, and Entergy participate in the EPA's Climate Partnership, but when they publicly disclose, they report emissions reductions only.

Companies disclosing under the EIA's Form 1605 report emissions reductions as carbon dioxide equivalents (CO₂e) in metric tonnes. The EIA program

includes an extensive reporting mechanism. Companies may report emissions reductions as direct (anthropogenic, sources owned or leased by reporting entity), indirect (releases, sources not owned or leased but occur as a result of entity's activities), and in terms of sequestration. Companies can report cumulative GHG reductions in CO₂e as well as annual CO₂e emission reductions. EIA, Voluntary Reporting of Greenhouse Gas Program (date unknown), *available at* www.eia.doe.gov/oiaf/1605/frntvrgg.html (last visited Nov. 17, 2007). While AEP, Exelon, TXU, and Xcel report cumulative GHG emission reductions, they do not report emissions for the year. Southern, Entergy, and Duke report for both. Because the data reported for the EIA covered 2005, it is not possible to compare across reporting mechanisms. However, because the EIA displays the emissions for each company in spreadsheets that include historic data, this reporting mechanism provides the most comparable data across time and between companies.

Another issue is the type of GHG emission disclosed. The GHG listed in the Kyoto Protocol and their global warming potential equivalents in CO₂ are listed below. EPA, Emission Facts: Metrics for Expressing Greenhouse Gas Emissions: Carbon Equivalents and Carbon Dioxide Equivalents (July 30, 2007) *available at* www.epa.gov/otaq/climate/420f05002.htm#1 (last visited Oct. 16, 2007).

Greenhouse Gas in CO₂ equivalent units (CO₂e)

- Carbon dioxide—1
- Methane—21
- Nitric oxide—310
- Hydrofluorocarbons—1,300
- Perfluorocarbons—6,500
- Sulfur hexfluoride— 23,900

Because there is not a universally agreed upon set of guidelines for GHG emissions disclosures, a company reporting GHG emissions in more than one report faces the challenge of ensuring the information it discloses in various reports formats is consistent.

Currently, there is a plethora of methodologies. Some of them are:

- WRI & WBCSD Greenhouse Gas Protocol
EIA Voluntary Reporting of Greenhouse Gases
- API Compendium of Greenhouse Gases Emissions Methodology for Oil and Gas Industry
 - Petroleum Industry Guidelines for Reporting. Greenhouse Gas Emissions
 - California Climate Action Registry General Reporting Protocol
 - EPA Climate Leaders, Design Principles
 - ISO 14064 Emerging Greenhouse Gas Accounting and Verification Standard
 - The Climate Registry General Verification Protocol—Draft

The WRI and WBCSD's GHG Protocol is often cited and used in voluntary reports. In 2007, the International Standards Organization determined that for its standard on social responsibility (ISO 26000), the GHG Protocol, with the ISO 14066, will refer to such.

Once the EPA issues GHG reporting requirements, there should be a greater consistency among corporate GHG reporting methods, at least with respect to emissions from operations in the United States.

Managing GHG Reporting Accuracy

Third-party monitors and verification schemes are another way to manage risks associated with disclosure of reporting GHG emissions. Of the companies surveyed, AEP reports in its carbon disclosure project filing that it uses a continuous emissions monitoring (CEM) system on smokestacks for carbon emissions. As it participates in the Chicago Climate Exchange, its emissions are independently audited by the National Association of Securities Dealers. Duke Energy reports in the Carbon Disclosure Project that it submits is carbon emissions data gathered from CEM and reported to EPA but not other emissions data, which is calculated by applying standard carbon emission factors to the amount of energy consumed at a facility. In its Carbon Disclosure Project filing, Entergy reports that it uses CEMs to monitor carbon emissions and verifies using certified quality assurance regulators as well as external third-

party consultants for some emissions. Exelon used a software system and CEMs certified under the Acid Rain Program to measure carbon emissions. At Exelon, certification is accomplished through operator tests as well as Relative Accuracy Test Audits and bias test for which results are submitted to the EPA and appropriate state agency. Exelon also uses third-party consultants. Southern Company's carbon emissions data is audited or checked by a governmental agency. Xcel Energy uses CEMs that are certified by EPA. Again, should GHG regulations be enacted, companies will most likely be required to monitor and verify GHG emissions.

To date, reporting of GHG emissions in sustainability reports and SEC 10K filings is voluntary and so may not fall under the purview of auditors. The EPA Climate Partners program suggests but does not enforce third-party monitoring and auditing. The EIA requires certification with a signature but not third-party verification. *See* EIA, General Guidelines (Oct. 1994) available at: www.eia.doe.gov/oiaf/1605/1605b.html#gg8 (last visited Oct. 29, 2007). The GRI includes a protocol for companies that wish ensure verification of CSR reports.

Third-party verification or auditing of corporate GHG emission measurements would provide an additional level of credibility to a companies GHG emissions reporting.



Conclusion

Among the public, governmental agencies, and special interest groups there is a growing awareness about the effects of climate change. There is also a growing acceptance that anthropomorphic GHG emissions contribute to global warming and climate volatility—McKinsey & Company, *Reducing U.S. Greenhouse Gas Emission: How Much and at What Cost?* December 2007. The consumption of electricity produced by utility companies is the largest contributor to GHG emissions in the U.S Environmental Protection Agency, *U.S. Greenhouse Gas Inventory* (Sept. 21, 2007) available at epa.gov/climatechange/emissions/usgginventory.html (last visited Oct. 10, 2007). Thus, electrical utility companies and other

power plants are a major focus of regulations seeking to reduce GHG emissions.

As companies look to future EPA regulations on measuring and reporting GHG emissions, starting early is advisable, since larger companies may find it takes a substantial period of time to conduct a GHG inventory. Preparing for disclosure or reporting of GHG emissions is more effective if the company fully understands what is being reported, the purpose of the disclosure (GHG reporting versus financial reporting), where it is being disclosed (in voluntary reports, mandatory environmental reporting, or financial reports), and the methodology for such disclosure.

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