# THE IMPLICATIONS OF THE KYOTO PROTOCOL AND THE GLOBAL WARMING DEBATE FOR BUSINESS TRANSACTIONS

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## I.
## INTRODUCTION

Unquantifiable risks kill deals. They prevent a seller from establishing a credible price or reaping the full rewards of its bargain if a price is set. They present substantial obstacles to a buyer, who will not agree to assume a liability of unknowable dimensions. They chill the marketplace for publicly-traded securities by creating the need for daunting disclosure. And they dampen the appetite of commercial banks to lend.

Notwithstanding these axioms of the marketplace, well into the second decade of serious, widely-publicized debate about man-made climate change, the deal-making world has not yet truly begun to account for the risks associated with global warming, arguably the most daunting and pervasive environmental threat in the history of the planet. Are we in collective denial? Is the risk of loss so imponderably large, and thus so outside the boundaries of ordinary deal math, that all parties are pretending it doesn't exist? Are we fiddling while Rome burns—or comes to a slow boil?

The answer is yes and no. Some stated risks of climate change, such as massive dislocation of populations as ocean levels rise, are beyond business solutions and have been consciously put to the side in ordinary transactions. Many other

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dimensions of the issue, however, have come into focus rapidly in the last five years. The data being gathered as part of the supporting science for the global warming phenomenon, the cost of emission credits in certain markets, public perception of global warming (and derivatively, the political will to enact and enforce mandates on greenhouse gas ("GHG") emissions),[1] corporate management's public and strategic responses to the issue, and the costs of alternative technologies and strategies, now, for the first time, all can be—and should be—dealt with explicitly, with clear thinking and precise language, at the deal table.

Although the phrases "global warming" and "climate change," and the international community's long-negotiated first step towards a response, the Kyoto Protocol to the United Nations Framework Convention on Climate Change,[2] sound monolithic, for business transactions in the coming decade their consequences will be far from uniform. In fact, for the foreseeable future, the business story is likely to be the intense fractionalization of responses—country by country, region by region, industry by industry, company by company and even facility by facility—to new regulations, mandates, restrictions and litigation.

This fractionalization will lead to a wide variety of results in business transactions. Buying, selling, lending, and positioning a company on its public disclosure will soon come to involve particularized risks and opportunities, depending on the company's GHG emission posture. Each transaction may require new due diligence strategies, followed by customized and carefully crafted analyses and answers. This article provides an overview of the salient issues in the business transactions most likely to be affected, and some checkpoints in these

1. Greenhouse gases, the most significant of which is carbon dioxide ($CO_2$), are the key contributors to the so-called greenhouse effect. *See* Environmental Protection Agency, *Global Warming: Emissions, available at* http://yosemite.epa.gov/oar/globalwarming.nsf.

2. *See* KYOTO PROTOCOL TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, 3D SESS. (Dec. 10, 1997), U.N. DOC. FCCC/CP/1997/7/ADD.2, 37 I.L.M. 22 (1998) [*hereinafter* "Kyoto Protocol"], *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf.

transactions where the risks and opportunities should be evaluated and existing legal obligations addressed.[3]

## II.
## KYOTO PROTOCOL OVERVIEW

The Kyoto Protocol took effect on February 16, 2005, obligating 137 signatory, industrialized countries, including Canada and all of the current member states of the European Union ("EU"), to cut $CO_2$ and other emissions by a combined 5.2% from 1990 emission levels by 2012.[4] To implement the Kyoto Protocol, members of the EU and other industrialized countries are establishing national plans allocating $CO_2$ emissions among private companies. These allocations may be bought or sold in the new EU Greenhouse Gas Emissions Trading Scheme.[5]

It is arguable that, if significant reductions in GHG emissions could be achieved simply by making existing clean air

3. Some have argued recently and stridently that the nature of climate change risk necessarily implicates well-settled principles of fiduciary duty on the part of corporate boards of directories. *See* CERES Sustainable Governance Project Report, Coalition for Environmentally Responsible Economics, *Value at Risk: Climate Change and the Future of Governance* 27 (2002), *available at* http://www.ceres.org/pdf/climate.pdf [*hereinafter* "CERES 2002 Climate Change Report"].This article neither directly refutes nor supports these arguments, which have both practical and aspirational appeal for corporate management. Rather, this article argues that the possible consequences of climate change have quickly risen to the status of business necessity, and that to ignore them may risk violation of U.S. securities laws and, independent of that, would be economic folly.

4. The period between 2008 and 2012 is known as the "first quantified emission limitation and reduction commitment period" or "first commitment period." Among the significant non-participatory nations are the United States, China, India and Australia.

5. Council Directive 2003/87/EC Establishing a Scheme for Greenhouse Gas Emission Trading within the Community and Amending Council Directive 96/61/EC, 2003 O.J. (L275) 32, *available at* http://europa.eu.int/comm/environment/climat/emission/implementation_en.htm. The European Union Emission Trading Scheme (EU ETS) is established in Directive 2003/87/EC of the European Parliament and of the Council (from the Official Journal of the European Union), which entered into force on October 25, 2003. The Directive's implementation plan is Commission Regulation (EC) No 2216/2004 of December 21, 2004 for a standardized and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

technology—such as scrubbers[6]—work better, the debate over the Kyoto Protocol specifically, and climate change more generally, would have lost its stridency many years ago. As matters have developed, however, global warming will continue to require that governmental and private entities create new technology and new law, as well as make new public policy and economic trade-offs. GHG[7] emissions are not formally regulated under the Clean Air Act ("CAA") in the United States,[8] although the CAA requires some entities to report them.[9] Without U.S. participation in the Kyoto Protocol as a regulatory driver, the debate over federal legislative initiatives in the U.S. and the rapidly proliferating state and regional initiatives have created a forum for new political alliances.[10] Similarly, because traditional end-of-stack scrubber technologies that reduce $SO_2$, $NO_x$, and mercury do not control $CO_2$ emissions, many of the technical choices are not merely additive to previous capital expenditures or minor modifications to existing plans, but rather are potentially expensive excursions into dramatically different manufacturing and control technologies. Not only does this require a new scientific debate, but it changes the nature of business decision making on capital de-

6. Traditional end-of-stack devices have proven effective in reducing sulfur dioxides ($SO_2$), nitrogen oxides ($NO_x$), and (with modification and much more recently) mercury, all of which, like $CO_2$, are by-products of fossil fuel consumption.

7. 42 U.S.C. § 7651k (2005). *See also* Note on Section 821 of Pub. L. 101-549.

8. *But see* Massachusetts v. United States Envt'l Prot. Agency, Civ. No. 03-1361 (argued D.C. Cir. Apr. 8, 2005) (state plaintiffs are seeking to have EPA regulate $CO_2$ as a criteria pollutant under § 108(a)(i) of the CAA).

9. 42 U.S.C. § 7401 *et seq.*

10. For example, the Regional Greenhouse Gas Initiative ("RGGI") is a voluntary, cooperative effort by nine Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions. In addition, Maryland, Pennsylvania, the Eastern Canadian Provinces and New Brunswick are observers in the process. Since 2003, RGGI-participating states have been developing a regional strategy for controlling emissions, which includes the implementation of a multi-state cap-and-trade program with a market-based emissions trading system. The proposed program will initially focus on electric power generators in participating states in order to reduce $CO_2$ emissions. The program's design is not yet complete, and the participating states are still negotiating what legal mechanisms will be required to implement the program in each state, as well as about data gathering and analysis, model rule development and economic cost/benefit analysis. *See* Regional Greenhouse Gas Initiative (RGGI), *at* http://www.rggi.org/about.htm (last visited May 17, 2005).

ployment, and thus helps shape the political debate on the timing and stringency of regulation.

Globally, increasing GHG emissions from rapidly developing economies, such as China and India, will continue to play a significant role in disagreement about whether a global emission reduction-sharing model is viable, and if so, what form it should take. Because the basic construct of any market-based emission model is a numerator (or cap) made of a determined ideal level of emissions, and a denominator, made up of the countries—and ultimately the industries—that will share in the allowances, to have any major contributors unaccounted for in either number (or both numbers) severely skews the system, at least, and may render it farcical. As a result, the Kyoto Protocol may prove to be an elaborately negotiated experiment with no long-term real world application. Doubts about its future may in turn fuel reluctance on the part of businesses to commit capital to GHG reduction, just as the relative certainty of a regulatory roadmap has recently helped prompt U.S. power companies to settle long-standing litigation over emission reduction technologies for $SO_2$, $NO_x$ and mercury.[11]

Overall, for businesses contemplating transactions during the first commitment period in GHG sensitive industries, the Kyoto Protocol is both more and less than what it appears to be. It is less because the absence of significant players—the U.S. and Australia among developed countries,[12] China among developing countries, and India among those compelled to make GHG emission reductions—leaves a significant proportion of the GHG-emitting world unobligated to take any action—at least as a matter of international law. It is also less because the Kyoto Protocol commitments are modest, par-

11. See *infra* notes 42-64 and accompanying text.

12. As part of its ongoing attempt to chart its own course on GHG emission regulation while mitigating the political fallout from its non-participation in Kyoto, on March 10, 2005, the Australian government announced a Greenhouse Challenge Plus program, in which participation will be mandatory for certain energy projects and mining operations. Companies in the so-called "leadership" tier of this two-tiered program must issue public statements about their emissions and GHG emission reduction activities. The program has a target period of 2008-2012, loosely correlated with the first commitment period. *See* Greenhouse Challenge Plus, *About Greenhouse Challenge Plus, at* http://www.greenhouse.gov.au/challenge/about/index.html (last visited May 17, 2005).

ticularly when viewed against the potential magnitude and scope of the problem. Finally, it is less because the Kyoto Protocol, by its nature, requires such long-term planning that the participants are already well beyond the first commitment period in their thinking. In the same countries and international organizations in which the Kyoto Protocol's ratification is being celebrated, planners have already turned to a post-Kyoto world, anticipating that the U.S. will remain on the sidelines and the Chinese government will remain unwilling to risk a move that might dampen economic growth by making emission reduction commitments.[13] In short, Kyoto is not a platform on which to plan capital expenditures with a long life span.

On the other hand, the Kyoto Protocol is more than the sum of its requirements, because it has become an international rallying point for the global warming issue. Ironically, its role on the public stage has been enhanced by the Bush Administration's summary dismissal of its structure and refusal to submit it to the Senate for ratification, making it the poster child for U.S. unilateralism.[14] It is also more because it signals that a significant segment of the developed world has agreed to "do something" about anthropogenic climate change. This has already started other dominoes falling in a way that seems sure to lead to greater corporate acknowledgment of the issue,[15] greater regional regulation of GHG emissions as an in-

13. Pew Ctr. on Global Climate Change, BEYOND KYOTO: ADVANCING THE INTERNATIONAL EFFORT AGAINST CLIMATE CHANGE 49 (Dec. 2003), *available at* http://www.pewclimate.org/global-warming-in-depth/all_reports/beyond_kyoto/index.cfm.

14. For example, shortly after the Administration's rejection of the Kyoto Protocol, it was reported that "the reaction from Berlin to Beijing has been one of concern that an American president who walks away from so many treaties might be one who wants to walk away from the world—or, at least, one who will demand that the world live by terms dictated by America alone. Thom Shanker, *White House Says the U.S. is Not a Loner, Just Choosy*, N.Y. TIMES, July 31, 2001, at A1.

15. Ford Motor Company announced on March 31, 2005 that it will issue a report on climate change by the end of the year. Ford will draft its report in consultation with the Interfaith Center on Corporate Responsibility ("ICCR") and CERES. The report will examine the business implications of greenhouse gas emissions, with reference to government policies and regulations, Ford's product and manufacturing facilities, and technology development in the automotive industry. Ford Motor Co., *Ford to Issue Report on Global Climate Change* (Mar. 31, 2005), *available at* http://media.ford.com/

terim measure, and likely to spur federal regulation in the U.S.[16] It is becoming increasingly intolerable to appear to be standing idle on climate change, either as a governmental authority or a corporate board.[17] Finally, the Kyoto Protocol is more than it appears, because the logistics of emission credit allocation in the EU already have compelled numerous industries to make their respective economic and business cases for a greater share of credits.[18] The data used in these efforts is

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newsroom/release_display.cfm?release=20566. Similarly—and with potentially dramatic ramifications both for the utility industry and for legislative negotiators on Capitol Hill—on April 7, 2005, Paul Anderson, the chairman and CEO of Duke Energy Corporation, announced that his company would lobby for a tax on $CO_2$ emissions to reduce fuel consumption and address global warming. Staff, *Duke Energy Presses for Carbon Dioxide Tax*, N.Y. TIMES, Apr. 8, 2005, at C3. Shortly after this announcement, Duke announced that it had agreed to buy Cinergy. Rebecca Smith, *Leading the News: Duke to Buy Cinergy for $9.1 Billion*, WALL ST. J., May 10, 2005 *at* A3. This transaction combines Duke's predominantly natural gas and nuclear powered energy production facilities with Cinergy's coal-fired plants, thus creating a deal-wide hedge on both GHG emissions risk and the cost of generator feedstock. *Id.*

16. *See* Interview with Former EPA Administrator, Christine Whitman, BNA DAILY ENVT'L REPORTER B-1 (Mar. 22, 2005) (in which Whitman predicts that the U.S. eventually will set limits on $CO_2$ emissions "because multinational corporations are going to want to see it" to level the playing field with the "other countries in which they operate."). *See also* CERES, ELECTRIC POWER, INVESTORS, AND CLIMATE CHANGE: A CALL TO ACTION (2003) (in which various stakeholders, including utility representatives, asset managers and representatives of various non-governmental organizations, conclude that "[t]he issue is not whether the U.S. government will regulate [GHG] emissions, but when and how.").

17. *See, e.g.*, CERES, CLIMATE CHANGE REPORT 2-7 (2002) (arguing broadly that since climate change is the world's most pressing environmental issue, it follows logically that companies' response to the threats and opportunities of climate change—or their lack of response—could have a material bearing on their financial performance and therefore on shareholder value.).

18. For example, in February 2004, when the German government released its plans for an emissions allocation system, trade unions argued that the distribution of credits did not fairly compensate for previous voluntary carbon reductions. Erhard Ott, chairman of the services union, Verdi, predicted the regulations would place thousands of jobs at coal-fired plants at risk. Companies such as E.ON and Ruhrgas argued for additional pollution rights as compensation for the planned phasing out of nuclear energy. Many in the cement, chemical and steel industries feared the government would reach a deal with utility companies at their expense. *See* DW Staff, *German Industry and Greens at Loggerheads Over Emissions Plan*, DEUTSCHE WELLE WORLD (Feb. 25, 2004), *available at* http://www.dw-world.de/dw/arti-

readily translatable to the deal table—into prices, prospects and quantification of risk. Markets and financial institutions understand this calculus. Once it exists in one jurisdiction, they are likely to demand it in others. Once it has geographical reach, it will become a mandatory deal topic.

## III.
## FEDERAL LEGISLATIVE INITIATIVES

It is, of course, impossible to draw an objective correlation between the absence of a unified Federal regulatory scheme and the multiplicity of state and regional regulatory initiatives and related private lawsuits concerning climate change issues. The CAA itself, widely considered to be the most technically detailed and sophisticated piece of environmental legislation ever enacted, clearly did not preempt controversy, and in fact has a well-established record of engendering litigation from all quarters.[19] Similarly, the brief experience to date of the member states of the EU on allocation issues to meet Kyoto Protocol targets strongly suggests that, had the U.S. ratified the Kyoto Protocol, there would have been comparably intense lobbying and litigation concerning regional and industry allocation issues in this country. Finally, the asbestos litigation crisis tells us that there are no guarantees in the U.S. system that even the best intentions of all stakeholders gathered in a single room to implement an agreed-upon plan of action will necessarily yield a supportable result.[20] Logic strongly suggests, however, that the absence of a lightening rod has contributed greatly to the currently regulatory proliferation and confusion in the United States.

This phase of legislative history arguably began in the run up to the CAA Amendments of 1990, which introduced "cap and trade" regulation in the United States. Under this approach, Congress set a nationwide maximum quantity (or cap) of allowed emissions expressed in tons. The EPA, or the states if delegated with the authority, then distributes or sells allowances to companies. These allowances are, in effect, per-

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cle/0,,1123308,00.html; Jens Thurau, *Emissions Trading Plan Riles Industry*, DEUTSCHE WELLE WORLD (Feb. 4, 2004), *available at* http://www.dw-world.de/dw/article/0,1564,1103957,00.html.

19. See *infra* notes 52-61 and accompanying text.

20. *See, e.g.*, Amchem Products, Inc. v. Windsor, 521 U.S. 591 (1997).

mits to release a specified amount of pollutant per year, based on a standardized allocation system. Companies may reduce their emissions to (or below) the level of their allowances, or purchase allowances from companies that have allowances available, depending on their view of the economics of the choice.

Today, rather than focused congressional efforts on a single piece of legislation that would be necessary to meet the obligations of the Kyoto Protocol, there is a crowded field of pending legislation, most of them employing fundamentally similar cap-and-trade principles, but differing, sometimes significantly, from one another in their scope, timing, and stated objectives.[21] This has clouded the picture for businesses, and made commitment of capital more difficult to plan and justify.

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21. The major pieces of currently pending federal legislation are:

*The Clear Skies Act of 2003* (S. 1844): The Clear Skies Act of 2003 ("Clear Skies") requires reductions in $SO_2$, $NO_x$ and mercury. As the centerpiece of the Bush Administration's policy on air emissions, Clear Skies' stated purposes were to: (1) eliminate inconsistencies in existing EPA regulations under the CAA; (2) provide an additional 75 percent reductions in $SO_2$ emissions; and (3) set timetables to meet those reductions. Clear Skies met resistance in Congress, which culminated in a tie vote in Committee on March 9, 2005, effectively tabling the bill unless and until additional compromises can be worked out. Shortly after the failure of Clear Skies, the EPA proposed regulations, known as the Clean Air Interstate Rule ("CAIR"), designed to accomplish some of Clear Skies' goals within the existing framework of the CAA. Published in the Federal Register on March 11, 2005, CAIR requires generating stations in 28 states and the District of Columbia to reduce $SO_2$ and $NO_x$ emissions significantly. The EPA has also proposed rules that will require substantial emissions reductions from the transportation sector. The CAIR proposal employs a "cap and trade" program in two phases, with Phase I starting in 2010 and Phase II in 2015. Taken together these phases will lead to a 76 percent reduction in $SO_2$ and a 75 percent reduction in $NO_x$. The regulations also create new requirements for fine particulates (known as PM 2.5, and generally defined as particles 2.5 microns or less in diameter) and eight-hour and one-hour ozone standards.

*Clean Air Planning Act of 2003* (S. 843): The Clean Air Planning Act ("CAPA"), first introduced in 2002 and re-introduced in 2003, includes mandated reductions in $SO_2$, $NO_x$, mercury, and $CO_2$. It also adopts a cap and trade approach, based on historical records of electric generation, irrespective of the fuel used. Generators would receive allowances for $CO_2$, even though some would not be required to make reductions, because their emissions are already under threshold limits. The bill also would force $CO_2$ cuts, almost exclusively from the electric utility sector.

*Climate Stewardship Act of 2003* (S.A. 2028): The Climate Stewardship Act calls for nationwide $CO_2$ emission reductions to 2000 levels by 2010 through

## IV.
## INDUSTRY FRAGMENTATION

While the relative contributions of various industries to GHG emissions have been studied and dissected,[22] there is no agreed-upon taxonomy for ordering or ranking industries or companies based on the way in which they might be affected economically by climate change and GHG emissions issues.[23] It is readily apparent, however, that vastly different economic consequences, business perspectives, short and long-term planning strategies and available solutions pertain to different industrial subsectors and to different companies within each subsector.[24] The groupings below can be applied to the

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a cap and trade program that includes most industrial sectors and allows for trading within and between sectors. Reductions following the 2010 cap would require that 85 percent of a company's $CO_2$ reductions occur within its own operations.

*The Clean Smokestacks Act* (H.R. 1451): This legislation was introduced by Reps. Henry Waxman and Sherwood Boehlert on March 17, 2005. It would reduce power plant emissions of nitrogen oxides and sulfur dioxide by 75%, mercury emissions by 90%, and would cap carbon dioxide emissions from power plants at 1990 levels by 2010. It would allow the use of market-based mechanisms (i.e., allowance trading). The reductions are more stringent than those in the Clear Skies Act.

22. For example, it is well settled that the electric utility industry in the United States is responsible for approximately 26 percent of worldwide $CO_2$ emission from electricity and heat production and almost 10 percent of man-made $CO_2$ emissions worldwide. Public Service Enterprise Group, BENCHMARKING AIR EMISSION OF THE 100 LARGEST ELECTRIC GENERATION OWNERS IN THE U.S.-2000 (2002).

23. CERES 2002 Climate Change Report, *supra* note 17, at 10, 34-44.

24. *See, e.g.*, REPETTO & HENDERSON, ENVIRONMENTAL EXPOSURES IN THE U.S. ELECTRIC UTILITY INDUSTRY (concluding that quantitative analysis of 48 United States electric utilities' environmental exposures to impending air quality and climate policies shows potentially material and highly differentiated financial impacts, and that fragmented regulatory requirements would have the highest compliance costs.). Repetto & Henderson argue that "for most companies dealing with all four pollutants in an integrated way would be less costly than delaying the control of carbon emissions until steps to control the other pollutants had already been taken" and that "counter intuitively" an integrated policy requiring reductions in all four emissions, i.e., $SO_2$, $NO_x$, mercury and $CO_2$, "might be less costly for many electric utilities than a policy that exempted carbon emissions from controls altogether." *Id.* at 4. *See also* CERES 2002 Climate Change Report, *supra* note 17, at 15, 20-21 (arguing that while certain reports have contended GHG mitigation will result in high costs of for U.S. companies, many of these estimates assume worst-case scenarios regarding technological improvements.).

discussion that follows as a framework of reference.[25]

First-tier companies, which include major, direct GHG emitters, such as the utility industry. Because their principal products are major GHG emitters, this group also includes automobile makers and the manufacturers of agricultural equipment and heavy industrial equipment using internal combustion engines. Finally, the first-tier includes primary suppliers to the major GHG emitters—the coal mining industry and petroleum exploration, production, refining and marketing.

Second-tier companies include those that consume substantial amounts of electricity, and thus burn fossil fuels and emit GHGs at rates that are significant, but below the first-tier companies. Second-tier industries include petrochemical and petroleum refining, the pulp and paper industry, integrated steel mills and electric arc "mini-mills," aluminum smelters,[26] and cement kilns.

Third-tier companies include those in all industries whose principal business is as a supplier of components or technology to first or second-tier industries, such as those dependent on sales to manufacturers of internal combustion engines. These companies are one step removed in market consequences from GHG issues, but are almost entirely dependent on the continuing profitable operations of the "first-tier" industries. This tier also includes suppliers for whom a material portion of their business involves the coal mining and petroleum exploration and production industries.

Fourth-tier companies include those in industries with major natural resource assets that straddle the climate change issue, in that it provides them with both a risk of materially

25. As market forces evolve, comparable groupings can also be developed for companies with material opportunities related to GHG emissions, including, for example: equipment suppliers for building products enabling builders, developers and owners to meet EPA's Energy Star for Buildings program; designers or manufacturers of back pressure turbines or combined cycle gas turbines, both of which are widely recognized as efficient generators of electricity; and manufacturers of energy efficient appliances, which may become more significant in the marketplace as developed economies address GHG emissions from the demand side.

26. As a benchmark, in 1999 the aluminum industry in the United States consumed 65 billion *kwh* of electricity, more than the output of electricity from wind, biomass and geothermal sources combined. *See* EERE: Industrial Technologies Program, *Aluminum Industry of the Future, at* http://www.eere.energy.gov/industry/aluminum (last visited May 17, 2005).

diminished operations and an opportunity, driven either by regulatory or market response to changes, to become major suppliers to alternative technologies or GHG emission reduction strategies.[27] Companies in this tier may include any integrated oil and gas companies that have substantial reserves of fossil fuels, and thus may be negatively affected if demand for gasoline is driven down by emission control regulation or alternative technologies, such as hybrid electric power or fuel cells, but may also reap substantial profits from conversion of power plants from coal to natural gas feedstock. Large-scale timber operations may also straddle the climate change issue, benefiting from carbon sequestration opportunities and the demand for bio-mass as a "clean" fuel, but simultaneously at risk from high energy costs, and direct emissions reduction requirements on their production side.

In a tier all by itself is the insurance industry. Several major participants recently have made public pronouncements recognizing their particular vulnerabilities to the most adverse consequences of climate change, including the property and casualty risks associated with severe weather, flooding, and similar natural disasters.[28] These statements suggest that certain members of the industry see themselves as bio-accumulators of climate change risk which, depending on their portfolios, could make them peculiarly susceptible to the phenomenon.[29]

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27. Recent studies suggest, for example, that, after a brief hiatus, technology companies focusing on alternative energy solutions are once again attracting significant interest from venture capital firms. Ken Silverstein, *Energy Tech Companies Attracting Venture Capital*, IssueAlert (Apr. 11, 2005), *available at* http://utilipoint.com/issuealert/article.asp?id=2438.

28. *Cf.* Munich Re Group, *The Great Weather and Flood Catastrophes Over the Last Forty Years* (1999), *reprinted in* Environmental Emergencies News 2 (Sept. 2004), *available at* http://www.unep.org/DEPI/PDF/EEsnewsletterissue3.pdf.

29. In October 2003, Christopher Walker, the Managing Director of Swiss Re, testified before the U.S. Senate Committee on Commerce, Science and Transportation that:

> climate change has the potential to affect the number and severity of . . . natural catastrophes and result in very significant impact on our business . . . . Climate change-driven natural disasters are forecasted to cost the world's financial centers as much as $150 billion per year within the next 10 years, according the UN Environment Program's (UNEP) finance initiative report . . . [C]limate change will impact various insurance lines such as: property and casualty insurance . . . and life and health insurance . . . responsible busi-

It is critical to recognize, however, that while the insurance industry's concerns understandably focus on calamities, climate change will also create significant operational, capital expenditure and facility siting issues in the near term, even in the absence of any calamities. Dealing with these issues will involve tough questions for most other industries.

## V.
## CLIMATE CHANGE DUE DILIGENCE

Performing traditional due diligence in a field so fraught with variables and rapid changes is a highly problematic task. In many instances the results will still defy quantification, whether from the perspective of a buyer, an underwriter or a lender. It is a task that should not be avoided, however, particularly in a transaction involving a first- or second-tier company. While climate change risks and opportunities are unlikely to have material effects over the short term, especially for companies with a multinational presence, and therefore some *de facto* hedging of the regulatory aspects of the risk, questions related to GHG emission positioning are increasingly likely to yield interesting insights both into the substantive position of the company on climate change issues[30] and into management's

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nesses are taking action, but do so blindly without government leadership.

The transcript of his testimony is *available at* http://www.swissre.com. Munich Re and others helped initiate research regarding the greenhouse gas emission market. The World Summit for Sustainable Development in South Africa included a panel partially regarding these findings. *See* Press Release, United Nations Environment Programme, UNEP Finance Initiatives, *Finance Sector Ready to Implement Kyoto Protocol: Multi-bullion USD Market is Waiting* (Sept. 11, 2001), *available at* http://www.unepfi.org/fileadmin/events/2001/cop7/cc_unep_press_release_20011101.pdf. *See also* United Nations Environment Programme, UNEP Finance Initiatives, *Finance and Insurance as a Partner for Sustainable Development* (Aug. 29, 2002), *available at* http://www.unepfi.org/fileadmin/events/2002/wssd/20020829_reinhard_wssd.pdf.

30. Voluntary corporate GHG reduction programs, whether under Climate Savers—sponsored by the World Wildlife Federation, or comparable private/public umbrellas—are assuming an increasingly important role. They often mimic, in miniature, reductions that might have been mandatory had the U.S. ratified the Kyoto Protocol. Companies including IBM, Alcoa, Kodak, DuPont and Royal Dutch Shell have set corporate-wide GHG emission reduction targets. *See infra* note 56, and accompanying text. In addition, General Motors, Ford Motor Company, DaimlerChrysler Corporation, Nissan North America, Inc., Toyota Motor North America, Inc., Noranda,

capacity for medium and long-range planning.[31] For any company unfavorably situated geographically or behind the curve in making capital expenditures for plant and equipment to reduce GHG emissions, the inquiry may reveal substantial capital needs in the short term with direct impacts on the deal.

Applying a top-down approach appropriate for what may be a company-wide issue, buyer's strategic management and operational staff, together with their technical advisers and counsel, should make sure that the acquisition target's management has assessed its position on global warming issues retrospectively, currently, and prospectively. Did management anticipate the consequences of global warming for their company as the issue matured over the last decade, or is it a recent surprise, for which viable plans are yet to be put in place? How is the company positioned to deal with the business consequences of its own risk exposure and those of its customers? If the company has extensive operations in EU countries that have chosen to meet their Kyoto Protocol targets by means of a carbon tax or similar targeted mechanism, will the company be disproportionately affected?[32]

How are the key members of the company's supply chain or its key customers positioned on the issue, either as a matter of reputation or their own business survival? Is the company disproportionately exposed to a regional regulatory risk? If, for example, the company itself is a sole source supplier to a

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BPAmerica, Sunoco, Inc., ChevronTexaco Corporation, Johnson & Johnson, Dow Chemical Company, Rolls Royce, Bristol-Myers Squibb Company, Pfizer Pharmaceuticals, LLC, Advanced Micro Devices, Inc., and IBM participate in the Voluntary Reporting of Greenhouse Gases Program, established by the Energy Information Administration through § 1605(b) of the Energy Policy Act of 1992. The latest report is *available at* http://www.eia.doe.gov/oiaf/1605/vrrpt/pdf/0608(03).pdf.

31. A study by Friends of the Earth argues that forward-looking, progressive and proactive steps towards climate change disclosure and risk mitigation is the mark of a strong and successful company. *See* Michelle Chan-Fishel, *Second Survey of Climate Change Disclosure in SEC Filings of Automobile, Insurance, Oil & Gas, Petrochemical, and Utilities Companies* 3, 20 (FRIENDS OF THE EARTH Nov. 2003).

32. For example, the Swiss government recently announced what it characterized as a "carbon incentive charge," a tax mechanism that included natural gas, coal and heating oil, but excluded motor vehicle fuels. Daniel Pruzan, *Swiss Government Offers Compromise to Meet Kyoto Targets on Emissions Cuts*, DAILY ENV'T REPORT, Apr. 1, 2005, at A-3.

coal company in a region where the states are taking aggressive steps towards mandating renewables, is management beginning to look to expand its markets, or are they flat-footed? Is the company at risk of becoming Blockbuster in a 1,000 channel world?[33]

Prospectively, does the company have operational flexibility that will allow it to prosper in any one of a number of regulatory scenarios? Is management discussing ways to move production capacity away from areas where GHG emission costs are already at a premium? To what extent has management evaluated trading credit markets, non-capital intensive alternatives to meet impending emission limits, and emission trading credits and/or futures contracts to account for and hedge any GHG emission risk?[34] To what extent has the company partici-

33. There are several recent significant sources of benchmarking information, which also might suggest an analytical framework for diligence efforts. Typically, these have been initiated by international agencies, with substantial contributing expertise from the private sector. For example, financial institutions, brought together by the United Nations and the U.N. Global Compact, recently prepared a report on integration of environmental, social and governance issues. It argued that the way a company handles these issues is a good indicator of long-term success, and that a successful company will not focus only on single issues, but rather will anticipate regulatory changes, consumer trends and will access new markets. *Who Cares Wins: Connecting Financial Markets to a Changing World,* GLOBAL COMPACT (Jan. 2004), *available at* http://www.unglobalcompact.org/content/NewsDocs/WhoCaresWins.pdf. *See also* Brokerage House Analysts, *The Materiality of Social, Environmental and Corporate Governance Issues to Equity Pricing: 11 Sector Studies by Brokerage House Analysts at the Request of the UNEP Finance Initiative Asset Management Working Group* (2004). Similarly, a Goldman Sachs report on the oil and gas industry identified specific environmental and social issues that were likely to be material for company competitiveness and reputation. It found that consistent success will depend upon a company's ability to manage these issues in the future. *See* Goldman Sachs Investment Research, *Global Energy: Introducing the Goldman Sachs Energy Environmental and Social Index* (Feb. 24, 2004), *available at* http://www.unepfi.org/fileadmin/documents/materiality1/eesi_goldman_sachs_2004.pdf. The fact that this report has a clear marketing objective may cast some doubt on its objectivity, but is nevertheless an affirmation of the perceived economic viability of the issue.

34. As a counterpoint to a program of prudent traditional business due diligence, it is instructive to note that certain stakeholder groups have outlined what they have posited as oversight duties for members of the board of directors of any company with potential GHG emission issues. These duties include: (1) ensuring that the company has sufficient expertise to make informed and responsible decisions regarding climate change; (2) insisting

pated successfully in trade and industry groups seeking to balance the load of GHG emission reductions among various industrial sectors? If the company operates principally in countries in which trading markets are established, and the buying and selling of these credits will be the medium-term strategy for meeting GHG emission reduction requirements, has it made appropriate calculations and projections about current and likely future market prices for these credits, in the same manner as it would if engaged in commodities price hedging, or other comparable futures trading activities? Is a significant percentage of a company's sales in states or regions where local attempts to regulate GHG emissions may have a material effect?[35]

In short, climate change due diligence, even if only to measure preparedness for future challenges, is likely to yield useful information today—and will soon become an indispensable facet of inquiry in any transaction involving first and second-tier companies.

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that management thoroughly assesses the company's current and probable exposure to the financial and competitive consequences of climate change; (3) insisting that management thoroughly examine opportunities that climate change may present for new or expanded business activity and/or cost reduction; (4) requiring that the company benchmark itself against industry competitors and against best practices from other industries; (5) developing and implementing a strategy on climate change that is integrated into the company's business strategy; (6) linking executive compensation to the company's performance on climate change objectives; (7) exploring new strategic alliances and business arrangements; (8) following best practices for disclosure of climate risk to shareholders; and (9) creating formal lines of accountability to monitor progress on all the issues above. *See* CERES 2002 CLIMATE CHANGE REPORT, *supra* note 17, at 2-4.

35. For example, the California Air Resources Board adopted regulations on September 24, 2004 governing reduction of greenhouse gas emissions from passenger cars and light trucks sold in California. These regulations are being challenged by the automobile industry. *See* Central Valley Chrysler-Jeep Inc. v. Witherspoon, Civ. No F-046663 REC LGO (filed E.D. Ca. Dec. 7, 2004). The Senate of the State of Washington is considering similar legislation. *See* Nancy Wetherton, *Washington Senate Considers Measure to Adopt California Emission Standards,* DAILY ENV'T REPORT, Mar. 29, 2005, at A-2.

## VI.
## DISCLOSURE OBLIGATIONS UNDER U.S. SECURITIES LAWS

For companies subject to the Securities Act of 1933 (the "'33 Act") or the Securities Exchange Act of 1934 (the "'34 Act"), the dynamic flux of GHG emission regulation presents substantial, and immediate, disclosure challenges.[36] Disclosure obligations in three traditional areas of SEC regulation may have ripened as a result of the simultaneous onset of legislation, regulation and litigation, combined with the corporate responses to each of these developments.[37]

In addition, several new trends are already apparent. First, there are sharp divisions between seemingly similarly situated entities. Two Midwestern power companies with plants in adjacent states (or even adjacent counties) could have vastly different disclosure obligations, depending on factors as simple as fuel feed stock or as complex as long-range corporate planning for capital improvements.[38] Similar divisions of both substance and timing are likely to play out across all of the first- and second-tier industrial sectors in the relatively near term. Second, management of many of the first- and second-

36. Meaningful disclosure is, of course, a product of each company's individual situation, notwithstanding the substantial pressure that has been exerted recently on entire industries, such as the utility sector, petroleum refiners and automobile makers, to recognize and make disclosures about climate change issues.

37. It has also been argued that current SEC disclosure mechanisms are outdated and ill-suited to allow a company to communicate effectively with its investors on climate change issues. *See* CERES, ELECTRONIC POWER, INVESTORS, AND CLIMATE CHANGE: A CALL TO ACTION, (Sept. 2003), *available at* http://www.ceres.org. In part to gather data on this point, the Carbon Disclosure Project ("CDP"), a collaboration of 35 institutional investors representing more than $4 trillion in assets, sent a greenhouse gas questionnaire to approximately 500 of the largest companies in the world. In this questionnaire, the CDP sought disclosure of information on GHG emissions that could be relevant to investors. The CDP concluded, *inter alia*, that approximately 80% of companies responding to the survey acknowledge the importance of climate change as a potential financial risk but less than half of this number, i.e., less than 40% of the total questioned, were taking action either relating to climate change risk mitigation or exploring business opportunities. *See id.* at 14.

38. *See, e.g.*, REPETTO & HENDERSON, *supra* note 24 (arguing that different companies within the electric power sector are exposed in markedly differing degrees to future GHG legislation and related, anticipated emission restriction programs).

tier companies will have to contend with a timeline anomaly in disclosing their climate change responses. Although the capital needed to redirect a company's resources to less carbon-intensive emissions is deployed over a long period, generally outside the range of the technical requirements of SEC disclosure rules, because of the length and significance of this capital commitment, disclosure may be appropriate and required at the time that a strategy is chosen, rather than beginning in—and then only in—the years when the bell curve of capital deployment peaks. Simply stated, materiality[39]—and the obligation to disclose—may ripen when the die is cast—for example, when procurement contracts for pollution contract equipment are signed, and the company has chosen a way forward to meet emission reduction requirements or commitments.

Finally, GHG disclosure (and accounting) issues are maturing at a delicate time for upper-level management, which is under new scrutiny as a result of the certification requirements of the Sarbanes-Oxley Act of 2002.[40] Knowing that their certifications must meet a standard of "fair presentation," which

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39. Materiality is a much debated (and litigated) standard. The Supreme Court has determined that it refers to something that has "significantly altered" the "total mix" of information available to an investor. TSC Industries Inc. v. Northway, Inc. 426 U.S. 438, 448 (1976). Material information is defined under the Securities Act and Exchange Act as information "to which there is a substantial likelihood that a reasonable investor would attach importance in deciding to buy or sell the securities registered." 17 C.F.R. § 240.12b-2 (2005) (Exchange Act). *See also* 17 C.F.R. § 230.405 (2005) (Securities Act); Securities & Exchange Commission, *Materiality*, SEC Staff Accounting Bulletin Release No. SAB 99 (Aug. 12, 1999) (emphasizing that materiality should be measured by a "reasonable investor" standard; i.e., without reference to numerical rules of thumb). Accounting literature imposes a reasonable person standard for investors where, "in the light of surrounding circumstances, the magnitude of the item is such that it is probable that the judgment of a reasonable person relying upon the report would have been changed or influenced by the inclusion or correction of the item". QUALITATIVE CHARACTERISTICS OF ACCOUNTING INFORMATION, STATEMENT OF FINANCIAL ACCOUNTING CONCEPTS 2 (1980). It has also been argued that traditional notions of materiality, however defined, are poorly suited to environmental risks generally and should be abandoned in favor of more meaningful measurements and greater qualitative, narrative-type disclosure. *See* Peter Lehner, *Environmental and Social Disclosure and the Securities and Exchange Commission: Meeting the Information Needs of Today's Investors* (July 10, 2003), *available at* http://www.corporatesunshine.org/sympsumm.pdf.

40. *See* Sarbanes-Oxley Act of 2002 § 404. See also infra notes 46-63 and accompanying text.

will almost certainly be seen in the next few years as more all-embracing than the clinical limits of materiality, senior management may feel increasingly pressed to be forward-looking in their company's disclosure, recognizing that medium to long-range planning could involve material expenditures that would be substantial surprises to the marketplace without some form of advance notice.[41]

*Item 101—Disclosure of Capital Expenditures*

Under Item 101 of Regulation S-K,[42] a company must disclose any material effects that costs of environmental compliance may have on its earnings, capital expenditures and competitive position.[43] Generally, the company must also project environmental compliance costs for two years and compare

41. There is a strong and rapidly growing institutional audience for disclosure on climate change data, particularly among institutional investors representing public funds, and/or investors for whom social good is a valued metric and those with long-term investment horizons. For example, on February 14, 2005, the California State Public Employees Pension fund ("CalPers")—which has been active in linking its investment strategy to social responsibility and issues of environmental transparency—announced a plan to increase corporate disclosure of environmental liabilities, data and impacts as well as improving overall transparency for shareholders. The specifics of the plan include having the companies sign on to the Carbon Disclosure Project; supporting shareholder proposals in the auto industry, specifically for Ford and General Motors (Ford has since agreed to report voluntarily to shareholders on climate change issues. *See supra* notes 15-17 and accompanying text); create a reporting project for the utilities industry that will standardize greenhouse gas disclosure; and recognize particular companies demonstrating best practices in environmental data transparency. CalPers is managed by the office of the State Treasurer, Philip Angelides, who is a recently-announced candidate for governor, emblematic of the fact that climate change issues are increasingly situated at the confluence of money, public policy and politics. Similarly, the office of the Connecticut State Treasurer, the principal fiduciary for six pension funds and eight trust funds, and the New York City Comptroller's Office, which manages over $70 billion in pension fund assets, have been increasingly active in the climate change disclosure arena. Finally, in the U.K., the Universities Superannuation Scheme, a pension fund with over $30 billion in assets, has actively convened stakeholder disclosure on climate change. *See* Mark Mansley & Andrew Dlugolecki, CLIMATE CHANGE—A RISK MANAGEMENT CHALLENGE FOR INSTITUTIONAL INVESTORS (Universities Superannuation Scheme, Ltd. 2001), *available at* http://ww.usshq.co.uk/INVMENT/climch/framclim.htm.

42. 17 C.F.R. § 229.101 (2005).

43. *See* Securities Act Release No. 5569, Exchange Act Release No. 11236, 40 Fed. Reg. 7013 (Feb. 18, 1975). *See also* Securities and Exchange Commis-

these costs to those of its competitors.[44] In times of major regulatory initiatives, the resulting capital expenditures may be among a company's most significant disclosure.

Item 101(c)(xii) requires the disclosure of effects that environmental matters may have on the financial condition of the registrant.[45] This language requires the disclosure of contingent effects as well as those of which the company knows. The SEC has also stated that "to the extent any foreign [environmental] provisions may have a material impact upon the company's financial condition or business such matters should be disclosed."[46] The SEC has emphasized that information involving decisions and expenditures beyond the required time period may be necessary to prevent the disclosure from being misleading. This is especially true when the costs expected in the traditional disclosure period are a small percentage of the expenditures that would be necessary to comply with the environmental requirements in question.[47]

Against this backdrop, a brief look at a truncated decision tree gives some insight into the complexities—both of timing and of substance—created by the current GHG regulatory picture. Under the current regulatory regime, it is possible that a multinational company with facilities in both the United States and Europe may choose, or be compelled, to make material capital expenditures in Europe that are not currently required in the United States. This may require disclosure under Item 101, but not on a company-wide basis. Having made the cost comparison between EU emission trading credits and facility improvements in Europe, however, the company also may be poised to make capital commitments in the United States, although it is unlikely to do so in the absence of legislative certainty. It is a nice question whether the issuer's analysis of the problem, taken to the brink of commitment of capital, would trigger a disclosure requirement. The better view is—not yet;

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sion, Staff Accounting Bulletin No. 92, 17 C.F.R. § 211 *et seq.*, 58 Fed. Reg. 32,843 (June 14, 1993).

44. *See id.*

45. *See id.*

46. Air Products and Chemicals, Inc., SEC No Action Letter (June 11, 1973) (interpreting precursor to Item 101(c)(xii)).

47. *In re* U.S. Steel Corp., Exchange Act Release No. 16,223, Fed. Sec. L. Rep. (CCH) ¶ 82,319, at 82,376 (SEC Admin. Proc. Sept. 27, 1979) (interpreting precursor to Item 101(c)(xii)).

but circumstances could change quickly. If a clear Federal legislative or regulatory mandate emerges, for example, the company may decide to act on its previous calculations. This decision may immediately trigger disclosure requirements under Item 101, keeping in mind the SEC's stated preference for "whole picture" capital expenditure disclosure.[48] If these expenditures are going to be significant, query whether the best posture for the company is to have signaled to the market that a contingency could involve such expense. Put another way, it would be embarrassing, at least, for management to have complex and expensive calculations in its back pocket—and undisclosed—if the risk of the contingency occurring was more than notional. If, however, a regional rather than a national, regulatory regime is the dominant, or the sole, source of GHG emission reduction mandates, the company may reach different conclusions concerning the economies of capital expenditure on a region-by-region basis within the United States. Disclosure under Item 101 may then be appropriate with respect to its strategies in Ohio and Indiana, for example, while plants in the Southwest may be unaffected, and their future capital expenditure prospects appropriately undisclosed.

This calculus will be shaped, in part, by the emerging math of the climate change marketplace. While the EU emission trading scheme is in its infancy and has relatively limited geographical scope, the mere effect of its existence on internal corporate capital expenditure calculations seems likely to be far-reaching. In an equation in which, for many years and until just recently, neither the regulatory mandates nor the costs of compliance were known or knowable, there is now a market price—not the market price or a fixed market price, but a market price nevertheless—as a benchmark against which a company can begin doing the math before deciding whether it is going to be a buyer or seller of credits or an investor in alternative, upgraded equipment to achieve any GHG emission reductions that may be required in jurisdictions in which it is doing business. The presence of this price point will not necessarily alter the timing of capital deployment, but it will accelerate internal analyses in a way that in turn will lead to earlier, and eventually more robust, disclosure of capital expenditure programs to address climate change challenges.

48. *Id.*

*Item 103—Disclosure of Legal Proceedings*

In the U.S., the CAA has a long (and ongoing) history of regulation by litigation.[49] This litigation has involved enforcement actions by the EPA against individual companies, industry-wide proceedings, and both individual and industry-wide challenges to the EPA's regulatory authority. Often the stakes in this litigation have been enormous—material, using any definition, for all the companies involved and for the affected industry as a whole. Recently, settlement agreements resolving these cases have more closely resembled company-specific regulatory templates, and have come with price tags to match. This may foreshadow the outlines of settlements under which future GHG cases will be resolved. For some industries, such settlements may dictate a GHG emission reduction strategy. This, in turn, will put the spotlight on the climate change implications of litigation disclosure.

Under Item 103,[50] a company must disclose administrative or judicial proceedings arising under environmental laws if (1) the proceeding is material to its business or financial condition; (2) it includes a claim for damages or costs in excess of 10 percent of current consolidated assets; or (3) a governmental authority is a party to the proceeding, or is known to be contemplating such proceedings, unless any sanctions are reasonably expected to be less than $100,000. This black letter financial threshold, which is well below traditional materiality for many reporting companies, and the burden that the regulation places on the reporting company to prove a negative—i.e., that a pending proceeding could not lead to a fine in excess of $100,000—makes this the least understood, and most often ignored, SEC disclosure mandate.[51]

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49. *See* JOHN-MARK STEBSVAAG ET AL., CLEAN AIR ACT 1990 AMENDMENTS: LAW AND PRACTICE 1-1, 1-4 (Aspen Law and Business ed. 1991); MICHAEL B. GERRARD, ENVIRONMENTAL LAW PRACTICE GUIDE: STATE AND FEDERAL LAW, 17-1, 17.12[1][a]-17.12[1][b] (LexisNexis ed. 1992). *See also* Massachusetts v. United States Envt'l Prot. Agency, Civ. No. 03-1361 (argued D.C. Cir. Apr. 8, 2005). Most recently, nine states filed litigation on March 29, 2005, over the new mercury emission cap and trade rules promulgated under Section 112 of the CAA. Anthony Depalma, *E.P.A. Sued Over Mercury in the Air*, N.Y. TIMES, Mar. 30, 2005, at B5.

50. 17 C.F.R. § 229.103 (2005) (Instruction No. 5).

51. *See* Environmental Protection Agency, *Guidance on Distributing the Notice of SEC Registrants' Duty to Disclose Environmental Legal Proceedings in EPA*

Item 103 requires the disclosure of proceedings which are pending or "known to be contemplated by governmental authorities."[52] Although Item 103 does not specifically require a prediction about the effects of litigation, it has become increasingly common to disclose whether management considers the litigation to be material. The SEC has construed the meaning of "sanctions" broadly for purposes of Instructions 5(B) and (C). In addition, aggregation of sanctions is required for purposes of Instructions 5 (A) and (B) in proceedings "which present in large degree the same issues".[53]

In a matter which may foreshadow future resolutions, on March 18, 2005, Ohio Edison Company entered into a consent decree in which it agreed to spend approximately $1.1 billion for pollution controls and other measures to settle allegations of violations of the new source review ("NSR") and new source performance ("NSPs") provisions of the CAA at a power plant in Ohio.[54] This settlement, for which negotiations had been ongoing, and which intensified after the liability phase of a trial concluded in 2003 with a verdict adverse to Ohio Edison, occurred immediately after publication of CAIR, which was announced on March 10, 2005 after Clear Skies stalled in Senate Committee.[55]

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*Enforcement Actions*, Presentation to the American Bar Ass'n Conference on Environmental Law (Mar. 2001).

52. 17 C.F.R. § 229.103 (2005) (Instruction No. 5).

53. *Id.*

54. The consent agreement included undertakings to install pollution control devices, such as flue-gas desulphurization "scrubbers," not only at the plant that was the subject of the enforcement action, but also at two other Ohio plants and a plant in Pennsylvania. The scrubbers will reduce emissions of $SO_2$ and $NO_x$. United States v. Ohio Edison Company S.D. Ohio, No. C-2-99-1181 (S.D. Ohio 2005). In addition to the pollution controls, Ohio Edison agreed to pay $8.5 million in civil penalties and $25 million for various supplemental environmental projects ("SEPs"), including approximately $14.4 million on renewable energy projects, such as wind power, in Pennsylvania, New Jersey and New York. In similar litigation, the Dominion Power Company agreed to pay approximately $1.2 billion for pollution control devices, SEPs and fines. NSR litigation against American Electric Power is scheduled to go to trial in June, 2005. United States v. American Electric Power, No. C-2-99-1182 (S.D. Ohio 2005).

55. See *supra* notes 19-24 and accompanying text. The company's disclosure on the litigation risk in its 2004 10-K was as follows:

> In 1999 and 2000, the EPA issued NOV or Compliance Orders to nine utilities covering 44 power plants, including the W.H. Sammis

Although the Ohio Edison matter did not explicitly involve GHG issues, they are implicated in two significant ways, one specific and the other general. First, Ohio Edison is unlikely to have entered into the consent agreement without also having clearly formed a decision tree on its capital requirements for eventual GHG emissions reduction requirements.[56] Second, the cycle of regulation, litigation, resolution and capital commitment may well play out again in the medium-term—for the utility industry and others—in the GHG arena. For Ohio Edison, the clear indication of regulatory direction through CAIR made commitment of capital possible.

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Plant, which is owned by OE and Penn. In addition, the U.S. Department of Justice filed eight civil complaints against various investor-owned utilities, which included a complaint against OE and Penn in the U.S. District Court for the Southern District of Ohio. These cases are referred to as New Source Review cases. The NOV and complaint allege violations of the Clean Air Act based on operation and maintenance of the W.H. Sammis Plant dating back to 1984. The complaint requests permanent injunctive relief to require the installation of "best available control technology" and civil penalties of up to $27,500 per day of violation. On August 7, 2003, the United States District Court for the Southern District of Ohio ruled that 11 projects undertaken at the W.H. Sammis Plant between 1984 and 1998 required pre-construction permits under the Clean Air Act. The ruling concludes the liability phase of the case, which deals with applicability of Prevention of Significant Deterioration provisions of the Clean Air Act. The remedy phase of the trial to address any civil penalties and what, if any, actions should be taken to further reduce emissions at the plant has been delayed without rescheduling by the Court because the parties are engaged in meaningful settlement negotiations. The Court indicated, in its August 2003 ruling, that the remedies it "may consider and impose involved a much broader, equitable analysis, requiring the Court to consider air quality, public health, economic impact, and employment consequences. The Court may also consider the less than consistent efforts of the EPA to apply and further enforce the Clean Air Act." The potential penalties that may be imposed, as well as the capital expenditures necessary to comply with substantive remedial measures that may be required, could have a material adverse impact on FirstEnergy's, OE's and Penn's respective financial condition and results of operations. While the parties are engaged in meaningful settlement discussions, management is unable to predict the ultimate outcome of this matter and no liability has been accrued as of December 31, 2004.

56. The breadth of the consent agreement compared with the relatively narrow focus of the EPA's original complaint on a single facility reinforces this view.

Several elements of the settlement process may soon have consequences on disclosure related to climate change issues. First, a pattern for the structure of consent agreements that will be acceptable to the EPA in the NSR context appears to have been established, making it increasingly difficult for other, similarly-situated defendants to argue that they will be able to avoid the payment of substantial civil penalties should they seek to resolve their outstanding litigation. The threat of such a penalty is clearly a disclosable issue under Item 103, in whatever context it occurs. Second, at least in the utility sector, since several major players have chosen to settle these cases by implementing systemic and far-reaching solutions, involving clearly material capital expenditures, negotiations for other similarly-situated companies appear to have comparable capital expenditure implications. This strongly suggests that Item 101 requirements may be triggered as well. Third, although reduction of GHG emissions will be addressed by the agreed-upon control technology,[57] to the extent that other interested parties conclude that this decree signals that the capital expenditure train for reducing currently regulated air emissions is leaving the station—and while there remains a regulatory void on GHG emissions that may be filled, either by litigation or otherwise—these settlements may spawn a new round of disclosable litigation risks relating to GHG emissions and reduction strategies. Finally, if corporate management of the defendants in any future GHG cases can anticipate that these cases will be resolved by a new round of capital deployment and additional facility reconfiguration, a new round of litigation disclosure soon may be appropriate under Item 103.[58]

57. In fact, there is fear in some quarters that a failure to address $CO_2$ emissions in this round of capital restructuring in the energy industry—whether in the context of settling NSR litigation or otherwise—will "lock in" inefficiencies and make GHG emission reduction less attainable. *See* WORLD WILDLIFE FEDERATION, THE PATH TO CARBON DIOXIDE—FREE POWER (2003). *See also* CINERGY 2004 STAKEHOLDER REPORT 2 (filed in 2005).

58. See *supra* notes 7-9 and accompanying text.

*Item 303—Management Discussion and Analysis (MD&A)*

In addition to the numerically-driven mandates of Items 101 and 103,[59] the SEC casts a broader, more subjective net, with its requirements for MD&A disclosure under Item 303. The SEC views MD&A disclosure[60] as an opportunity to give investors "a look at the company through the eyes of management."[61] In practice, this exercise generally requires the company to disclose "currently known trends, events, and uncertainties that are reasonably expected to have material effects."[62] It has been interpreted to require two distinct inquiries. First, management must determine whether an uncertainty is reasonably likely to occur. Unless management can conclude that the event is not reasonably likely to occur, management must assume that it will occur. Second, the trend or event must be disclosed unless management can determine that its occurrence is not reasonably likely to have a material effect on the company.[63] Disclosure is optional when management is merely anticipating "a future trend or event, or

59. A full discussion of the accounting rules pertinent to financial statement disclosure is beyond the scope of this article. Nevertheless it should be noted that Generally Accepted Accounting Principles ("GAAP") require a company to accrue and disclose environmental costs in its financial statements. FASB No. 5 mandates that a loss contingency be accrued by a charge to income and that the nature of the contingency be described in a footnote to the financial statement if it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated. FASB No. 5, § 8. If a loss contingency is only reasonably possible, or if the loss is probable but the amount cannot be reasonably estimated, then the company is not required to accrue the loss contingency, but its nature must be disclosed in a footnote. *Id.* § 10. *See also* Jonathan S. Klavens, *Environmental Disclosure Under SEC and Accounting Requirements: Basic Requirements, Pitfalls, and Practical Tips, available at* http://www.abanet.org/environ/committees/counsel/newsletter/aug00/kla.html.

60. 17 C.F.R. § 229.303 (2005).

61. Richard Y. Roberts, *Address at the Colorado Bar Association: Update on Environmental Disclosure* (Sept. 28, 1991).

62. Concept Release on Management's Discussion and Analysis of Financial Condition and Operations, Exchange Act Release No. 6211, 52 Fed. Reg. 13,715, 13,717 (Apr. 26, 1987).

63. *See* Management Discussion and Analysis of Financial Condition and Results of Operations: Certain Investment Company Disclosures, Securities Act Release No. 6835, 54 Fed. Reg. 22,427, at 22,430 (May 24, 1989).

anticipating a less predictable impact of a known trend, event or uncertainty."[64]

Item 303 requires the disclosure of "known uncertainties,"[65] an oxymoronic term that captures knowable doubts that are less than trends but that could result in material consequences. The SEC has also stated that required disclosure is characterized by trends which are "currently known" and "reasonably expected to have material effects."[66] The predictability of the event at issue has as much significance for disclosure purposes as the size of the consequences.

The instructions to Item 303 state that the information provided in the MD&A "need only include that which is available to the registrant without undue effort or expense and which does not clearly appear in the registrant's financial statements."[67] The SEC has advised that such information must be detailed "to the extent necessary to an understanding of the registrant's business as a whole."[68] Item 303(a) also states that if, in the registrant's judgment, a discussion of subdivisions of the registrant's business would be appropriate to an understanding of the business, the discussion should focus both on the subdivision and on the company as a whole.[69]

Notwithstanding the latitude implicit in these requirements, in the (albeit scanty) enforcement history of this provision, the SEC has required registrants to state "the amount, or describe the nature or extent of the potential [environmental] liabilities" in the disclosures.[70] The SEC has further advised that even when an exact calculation of potential environmen-

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64. *Id.* The SEC has expressly rejected as "inapposite to Item 303 disclosure" the probability/magnitude balancing test for disclosure of contingent events set forth by the Supreme Court in Basic v. Levinson. 485 U.S. 224, 238 (1986). *See* Securities Act Release No. 6835, 54 Fed. Reg. 22,427, at 22,430 n.27.

65. 17 C.F.R. § 229.303(a)(1) (2005).

66. Securities Act Release No. 6711, Fed. Sec. L. Rep. (CCH) ¶ 84,118, at 88,624 (Apr. 20, 1987).

67. 17 C.F.R. § 229.303 (2005) (Instruction 2). *See also* Securities Act Release No. 6835, 54 Fed. Reg. 22,427, at 22,430 (stating that MD&A requires quantification of potential liability "to the extent reasonably practicable").

68. *See* Securities Act Release No. 6231, 20 S.E.C. Docket 1059, 1072 (Sept. 2, 1980).

69. 17 C.F.R. § 229.303(a) (2005).

70. *In re* Occidental Petroleum, 57 S.E.C. Docket 330, 571 (July 2, 1980) (discussing precursor to Item 303).

tal liability is not possible, the effects of such liability should be "quantified to the extent reasonably practicable."[71]

With the ratification of the Kyoto Protocol, for companies with operations in any of the 137 participating nations, climate change has ripened from being an "uncertainty" or a "trend" to being an "event." Just as clearly, however, it is likely not a single event. For companies with operations spread throughout the EU, other non-European Kyoto Protocol ratifying countries, and the U.S., climate change, and the issuer's planned responses, it is a multitude of events, a trend, and an uncertainty. In all such circumstances, disclosure may be warranted under Item 303.

The cutting edge of disclosure, and the tougher questions, occur when management has to determine whether the accumulation of issues related to climate change and GHG emission control are, or are likely to become, material for their company. Closely related to this determination is management's view of the level of diligence, calculation or reasonable estimation that it will have to undertake in order to make this determination in a manner that passes SEC muster.

Five years ago, a fair reading of Item 303 might have justified silence on climate change on the part of most public companies for several reasons. The scientific view of the phenomenon, while coalescing, was far from certain and was being publicly dismissed in many quarters as speculative.[72] Finishing touches were being put on the Kyoto Protocol, and the long road to ratification still lay ahead. There was no GHG emission trading marketplace. As a consequence, the effects on production, demand for products, and other business metrics translatable into financial data were unquantifiable, irrespective of the effort on the part of management. In fact, it could have been argued that any disclosure involving the "math" of climate change would have been misleading, in that it would have created an illusion of precision when none was possible. These uncertainties for first-tier companies were magnified for second- and third-tier companies, for which GHG emission risks were further attenuated, both in the marketplace and the

71. Securities Act Release No. 6835, 54 Fed. Reg. 22,427, at 22,430.

72. *See* James Glanz, *The Nation: Blue Sky; Sure, It's Rocket Science, but Who Needs Scientists?*, N.Y. TIMES, June 17, 2001, at D1 (quoting various administration sources as "dismissive" of climate change science).

regulatory landscape. What meaningful disclosure could an engine manufacturer, for example, make at a time when it was unclear how, if at all, the market risk of GHG emission reduction would be apportioned among petroleum refiners and car manufacturers, even though it was possible that some jurisdictions, such as California, were going to focus on auto makers as the primary source of such reductions?[73]

Today, doubts on the baseline science are evaporating,[74] and a trading marketplace has been established. On the regulatory front, a reasonably broad-based consensus for cap and trade programs is forming (irrespective of the life-span of the Kyoto Protocol itself), and there are many developing regional and local variations on regulatory mandates for GHG emissions.[75] A few giant multinationals, for which materiality, under any available measure, is expressed in the billions of dollars, may still be justified in their view that there is no analysis that can currently be performed in any jurisdiction which would reasonably be expected to translate global warming into

73. For example, both the 1999 and 2000 10-K filings for Cummins Engine, a major manufacturer of heavy duty diesel engines, included detailed disclosure on the consequences for the company's products of Federal and State regulations under the CAA but were silent on climate change issues.

74. The Intergovernmental Panel on Climate Change ("IPCC"), established in 1988 by the United Nations and World Meteorological Organization to assess climate change science, has released three reports, the most recent being in 2001. Intergovernmental Panel on Climate Change, *Summary for Policymakers to Climate Change 2001: Synthesis Report of the IPCC Third Assessment Report* (Oct. 1, 2001), *available at* http://www.climnet.org/resources/TAR%20synthesis%20report.pdf. This Third Assessment concluded that "[t]here is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities." *Id.* at 4. The National Academy of Sciences also concluded that human activity continues to be a contributing factor to climate change. National Research Council, *Climate Change Science: An Analysis of Some Key Questions* (2001).

75. For example, in 2004 the California State legislature passed a law requiring the California Air Resources Board (CARB) to develop a plan to regulate and reduce the emission of GHGs from vehicles starting in 2009. The CARB regulations aim to cut exhaust emissions in cars and light trucks by 25 percent and in larger trucks and SUVs by 18 percent. Under this plan automakers would be required to use better air conditioners, more efficient transmissions and smaller engines. Automobile manufacturers are challenging these rules, principally on preemption grounds. *See* Central Valley Chrysler-Jeep, Inc. v. Witherspoon, Civ. No. F-04-6663 (E.D. Ca. 2004).

a material financial risk.[76] Third-tier companies may also justifiably remain silent for now, because market forces creating definable economic effects of GHG emissions on their customers may still be too abstract or too far removed in time. It is increasingly clear, however, that for publicly traded companies for which stringent regulation or unfavorable economic tradeoffs in even a single country or at a major facility could translate quickly into material economic or strategic consequences, the window for well-founded silence on climate change is closing rapidly.

*Sarbanes-Oxley Requirements*

In 2002, Congress responded to high-profile accounting controversies and public outcries for corporate transparency with the passage of the Sarbanes-Oxley Act ("Sarbanes-Oxley" or the "Act").[77] Although the Act does not specifically alter environmental disclosure requirements, it clearly has implications for a company's environmental disclosure practices generally, and for the analysis of climate change issues in particular. The most pertinent requirement involves "disclosure controls and procedures." Under Sarbanes-Oxley and its implementing regulations, a corporation's Chief Executive Officer and Chief Financial Officer must certify, in the company's quarterly and annual reports to the SEC (i.e., 10-Q and

76. This position is represented by companies such as ExxonMobil and ChevronTexaco, both of which filed 10-K reports in 2004 that made no mention of climate change. At the other end of the disclosure spectrum, Sun-Cor, a Canadian-based company with substantial gas and reserves, calculated for its 2004 Tenth Annual Progress Report on Climate Change that Canada's ratification of the Kyoto Protocol would cost between $0.20 and $0.27 per barrel of oil in 2010. It should also be noted that the SEC recently refused to allow ExxonMobil Corp. to omit from its proxy materials shareholder proposals dealing with global warming. *See* Securities & Exchange Commission, No-Action Letter (Mar. 15, 2005) (dealing with the company's views on available global warming science); Securities & Exchange Commission, No-Action Letter (Mar. 23, 2005) (dealing with the company's plans for meeting GHG emission reduction targets in Kyoto-signatory countries). In both instances, the SEC staff said that it was unable to concur that exclusion was proper under Securities Exchange Act Rule 14a-8(i)(7) as dealing with a matter of ordinary business operations. In making its determination, the SEC staff also implicitly rejected the adequacy of the company's 2004 voluntary report on energy trends, GHG emissions and alternative energy. *See id.*

77. Pub. L. 107-204, 116 Stat. 745.

10-K, respectively), that the company has implemented an internal management system, including "disclosure controls and procedures," that ensures that information which must be disclosed under SEC regulations is accumulated and communicated to corporate management.[78] These controls and procedures must be periodically evaluated by the CEO and CFO, and any significant deficiencies must be reported to the company's financial auditors and the audit committee of the company's Board of Directors.[79]

In addition to assuring that adequate disclosure controls and procedures have been implemented, under Section 302 of the Act, the CEO and CFO must sign a certification statement to be included with the company's 10-K and 10-Q. Specifically, the officers must certify that each report filed with the SEC meets all requirements of the Securities Exchange Act, and that the information contained in the report "fairly represents in all material respects" the financial condition and results of operations of the company.[80] Further, the officers must certify that (2) they have reviewed the report; (2) based on their knowledge, there are no untrue statements of material fact or omissions of material facts necessary to make the report not misleading; and (3) the financial information provided in the report fairly reflects the financial condition and results of operations of the company.[81] A second and potentially more onerous certification requirement is imposed by Section 906 of the Act. Under that section, the CEO and CFO must provide an additional certification with each periodic report filed with the SEC containing financial statements, stating that the report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act, and that information contained in the periodic report fairly presents, in all material respects, the financial condition and results of operations of the company. Section 906 imposes criminal liability upon the certifying officers for false certifications.[82]

Another noteworthy provision of the Act's implementing regulations prohibits improper influence on the conduct of

78. *See* 17 C.F.R. §§ 232, 240, 249 *et seq.* (2005).
79. *See id.*
80. *See* Pub. L. 107-204, 116 Stat. 745 § 302.
81. *See id.*
82. *See id.*, § 906.

the company's financial audits.[83] The regulation applies not only to corporate officers and directors, but to any person acting under their direction,[84] including, presumably, in-house and outside counsel, environmental compliance officers and plant managers, and outside environmental consultants, such as those who might be engaged to perform an analysis of GHG risk exposure. Specifically, the rule prohibits such persons from taking certain actions that mislead an independent public accountant engaged in an audit of the corporation.[85]

The certifications required by Sarbanes-Oxley will put ongoing pressure on management to account for and disclose, in financial statements or otherwise, any aspect of climate change risk which could fairly be said to be quantifiable. As the regulatory picture changes, marketplaces for emission credits develop, and prices fluctuate, companies that place material reliance on this mechanism for meeting GHG emission reduction requirements will have to be nimble in their analyses. Similar light-footedness will be required in evaluating the financial effects of rapidly evolving regulations, and in assuring investors that any litigation risk related to climate change is fairly presented in the company's financials.

## VII.
## MERGERS AND ACQUISITIONS

### *Strategic Issues*

For those familiar with doing deals in environmentally intensive industries, assessing GHG risk and opportunity will combine the familiar with the unchartered. Evaluating a target company for which climate change is likely to be an issue will be like buying (1) any company whose operations involve natural resources reserves, the magnitude of which cannot be ascertained with mathematical certainty; (2) a petrochemical refining plant, for which the integrity of operating permits

83. *See* 17 C.F.R. §§ 240.13b2-1, 240.13b2-2 (2005).

84. *See id.*

85. See id. Other provisions of Sarbanes-Oxley that may be implicated in the broad context of GHG risk analysis include standards of conduct governing attorneys appearing and practicing before the SEC, 17 C.F.R. § 205 (2005). This includes environmental attorneys preparing analyses of climate change risks for inclusion in disclosure narrative, financial statements or management presentations to substantiate Sarbanes-Oxley certifications.

under the CAA and the Clean Water Act are, in effect, the lifeblood of the business; and (3) any highly regulated or closely monitored industry, such as defense manufacturing or healthcare, in which the medium and long-term success or failure of the business rests at the confluence of political, public policy and regulatory issues. In short, it will be wise to check reserves, check permits and get the best available data on the target's regulatory posture.

In transactions in first- and second-tier industries, in particular, the trick will be solving simultaneously for three semi-interdependent variables—legislative outcome, technical capability and economic consequences. For example, the purchaser of a United States-based utility will have to determine whether $CO_2$ is likely to come under legislative mandate in the near term. This in turn will dictate the deployment of capital (and guide a buyer's appraisal of management's use of resources and its strategic planning abilities), since $SO_2$, $NO_x$, and mercury emissions are controlled by technologies different from the ones that would be employed if $CO_2$ were in the regulatory mix. A company that had spent heavily on the three former pollutants might be unwilling, or unable, to do more if $CO_2$ emissions were to become regulated later. Economic efficiency is not determined in a vacuum, however. Notwithstanding the importance of the analysis above, the ability of a coal-fired plant to compete against a generally cleaner natural gas-fired utility is largely dependent on the price of natural gas as a feedstock. Economic models of five years ago predicted one result, making natural gas a feasible alternative. Current economic realities are quite different. Five years from now, market conditions and natural gas pricing might change again, tipping the balance of economic prudence.[86]

Even today, before precise GHG emission math is possible, careful analysis, coupled with economic projection and modeling (with a little political soothsaying thrown in) can yield results that may shape thinking on a transaction. For example, a target company that has not assessed the relative posi-

86. *See* CINERGY 2004 STAKEHOLDERS REPORT, *supra* note 57, at 23. *See also* Organization for Economic Cooperation and Development, *Projected Costs of Generating Electricity—2005 Update* (Mar. 16, 2005), *available at* http://www.nea.fr (projecting a decade-long increase in natural gas prices).

tion of each of its facilities on GHG emission restrictions or the cost of credits may be making incorrect decisions about positioning its production capacity and, in the medium term, may have to pay material amounts, either to buy credits or to upgrade existing equipment, to continue operating at current capacity. On a larger scale, if the company's strategic planning staff has not assessed the portfolio-wide risk of the cost of GHG emissions, it may be at risk over the medium to long-term of getting boxed in, being compelled to spend money to remain in business in a jurisdiction in which GHG emissions are relatively costly, and late to enter, or excluded from, marketplaces where GHG emissions are relatively inexpensive. Further down the supply chain, a third-tier company may be unaware of its vulnerability as a maker of components for a first-tier industry that will come under increasing GHG emission reduction pressure. Conversely, the company may not have begun to map out a strategy for taking advantage of GHG-related opportunities.[87]

In many circles, efficient environmental management is considered a bellwether for more general operational competence.[88] This viewpoint may soon prove to be singularly valid

87. A similarly complex calculus would be required to account for the political likelihood, the technical feasibility, and the economic consequences of a new mandate or initiative on fuel sources or "alternative" power. For example, at least eighteen states have enacted so-called Renewable Portfolio Standards ("RPS"), which dictate, by legislation or rule making rather than by market forces, that a specified percentage of a state's electricity must be derived from renewable sources, such as wind, solar, hydroelectric, or biomass. Although, generally speaking, the price per kilowatt hour for each of these sources has declined in recent years, they are still, as a group, more expensive than coal-fired generation and are likely to remain so for the foreseeable future. The impetus for the imposition of these standards is, therefore, almost exclusively political, as is the definition of what qualifies as a "renewable" source. Estimating the business-worthiness of a transaction involving renewable energy, whether it is a wind farm, a photovoltaic cell maker, or a "traditional" power company that may be forced to incorporate the higher marginal cost of the RPS into its operating budget without a guarantee of pass-through to the consumer, involves an estimation of whether there is the political will power to stay the course on the RPS issue. It also involves technical analysis of the feasibility of various sources available to meet RPS requirements and an economic analysis of the consequences of the mandated requirements.

88. Recent studies from the Assabet Group and Innovest Strategic Value Advisors, for example, have supported the belief that companies who take advantage of environmental opportunities can gain a competitive advantage

for GHG risks and opportunities, either for the obvious reason that they are so substantial that only management verging on incompetence would ignore them, or for the less obvious reason that the implications of the issue are so nuanced that they provide a true test of management foresight, vision and subtlety.

In the short term, an operating company with a network of similar facilities in both the Kyoto Protocol and non-Kyoto Protocol signatory jurisdictions may have an opportunity to balance or trade emission credits or production capacity with no material adverse effect. This strategy might not be available to less well-positioned competitors. In the longer term, deal evaluation may well include a GHG emission "synergy analysis"—a side-by-side comparison of the emission footprints, production locations and cost per ton of $CO_2$ emissions of companies contemplating a combination. As the analytical tools sharpen and predictive tools are developed, dollars saved in the rationalization of this aspect of the companies' cost structure may be just as measurable, and will certainly be as important, as those saved in, for example, the combination and rationalization of information technology departments. GHG-compatible firms might make good combinations. A buyer that recognizes a target with a profile that substantially reduces its own GHG cost risk, or substantially increases its GHG emission opportunities—and can make that analysis without paying seller a deal premium—will be a smart buyer.

By contrast, a private equity firm buying assets in the EU without the appropriate forward-looking diligence may find itself with no ability to rationalize production in a manner that minimizes GHG emission cost and no alternative but to seek credits in the marketplace. This may disadvantage it as a buyer. Although the marketplace for companies is still a long way away from auctions being won or lost on the basis of GHG emission portfolios, we are just as clearly entering a time in

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over their peers through cost reductions, quality improvements, increased profitability, and access to new and growing markets. RALPH EARLE, THE EMERGING RELATIONSHIP BETWEEN ENVIRONMENTAL PERFORMANCE AND SHAREHOLDER WEALTH (2000), *available at* http://www.assabetgroup.com/page4.html; INNOVEST STRATEGIC VALUE ADVISORS, NEW ALPHA SOURCE FOR ASSET MANAGERS: ENVIRONMENTALLY-ENHANCED INVESTMENT PORTFOLIOS (Apr. 2003), *available at* http://www.innovestgroup.com/index.html.

which GHG risk and opportunity assessment should be part of any smart strategic bid.

*Contract Issues*

While few, if any, standard form stock or asset purchase agreements currently address GHG issues explicitly, once the artillery of strategic planners has incorporated the issue into their analysis, the infantry of drafters should be poised to follow behind and occupy the territory. It is tempting to conclude that, because the strategic considerations discussed above are familiar to environmental practitioners, existing contract structure and standard form language should be flexible enough to handle the issue without amendment. As the complexities of GHG issues play out, however, and diligence reveals the opportunity to make particularized deals on GHG issues, it will be more prudent to draft an agreement that explicitly reflects the intentions of the parties on this issue, rather than missing the opportunity to negotiate and capture the terms of a good bargain or relying on the mercy of a court in the event of a dispute about general language.[89]

Taking a relatively narrow issue—the rapidly developing matrix of enforcement, tax and credit allocation matters that will follow implementation of the Kyoto Protocol—as an example, there are already significant reasons to seek specific contractual understanding on responsibility for future developments. While it seems beyond doubt that, as of February 17, 2005, the Kyoto Protocol was an environmental law and/or treaty with binding force and effect, of the type typically described in a contractual definition of the body of environmental laws,[90] seller's counsel should ask whether her client really

89. *Compare* Kerr-McGee Chemical Corp. v. Lefton Iron & Metal Co., 14 F.3d 321 (7th Cir 1994) (giving effect under Comprehensive Environmental Responsibility, Cleanup, and Liability Act ("CERCLA") to indemnity drafted before CERCLA's passage for any claim concerning pollution or nuisance), *with* Wiegmann & Rose Int'l Corp. v. NL Industries, 735 F. Supp. 957 (N.D. Cal. 1990) (holding that pre-CERCLA "as-is where is" clause was insufficient to transfer CERCLA liability to seller).

90. A standard contract definition of environmental laws is as follows:

> "Environmental Laws" means all treaties, laws, rules, regulations, codes, ordinances, orders, decrees, judgments, injunctions, notices or binding agreements issued, promulgated or entered into by any governmental authority, relating in any way to the environment,

intends to be bound by all of the consequences that flow from the ratification of the Kyoto Protocol. A seller's strict view of a standard form contract might be that, as long as its business was doing everything that it had to do at the time of the closing, subsequent developments related to the Kyoto Protocol were, in effect, changes in law as to which it reaped no business benefit and therefore should bear no ongoing responsibility.[91]

A buyer, on the other hand will doubtlessly see the situation differently. A buyer might argue that, without its implementing allocations, taxes and other directives, the Kyoto Protocol is meaningless. Therefore, he might continue, at the time of closing, every EU jurisdiction in which the seller does business had effectively committed to establish a way to meet $CO_2$ reduction requirements within its borders, making the financial consequences of those commitments appropriate issues for the seller. Anyone who believes there are the makings of a viable dispute here owes it to the client to anticipate, negotiate and frame a contractual resolution.

Drafters also can benefit from identifying areas in which the similarities of GHG issues to older, more familiar concepts

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the preservation or reclamation of natural resources, the management, release or threatened release of any Hazardous Material or to health and safety matters. "Hazardous Materials" means all explosive or radioactive substances, materials or wastes and all hazardous or toxic substances, materials, wastes or other pollutants, including petroleum or petroleum distillates, asbestos or asbestos containing materials, polychlorinated biphenyls, radon gas, infectious or medical wastes and all other substances, materials or wastes of any nature regulated pursuant to any Environmental Law.

91. A standard form representation on issues related to environmental law is as follows:

> Environmental Matters. Except as disclosed in Schedule [x] the Selling Companies are in compliance with all applicable Environmental Laws, (ii) the Selling Companies have all Permits required under Environmental Laws for the operation of the Retained Business as presently conducted ("Environmental Permits") and there are no violations, investigations or proceedings pending with respect to such Environmental Permits and (iii) none of the Selling Companies has received any written notices or demand letters from any Governmental Entity or any other person, or any requests for information from any Governmental Entity that remain outstanding and assert that any of the Selling Companies may be in violation of, or liable under, any Environmental Law.

outweigh the differences, making new language unnecessary. For example, it does not appear that a principled argument can be made that emission credits traded on any exchange that exists or is to be developed can be distinguished from futures trading and price and risk hedging in well-established commodities or currency markets. While emission trading markets may be less active, and there may be less derivative instruments available, thus limiting the flexibility of an emission credit trading customer, the contracts are not so different as to require protections apart from those for a company's positioning on its other commodity risks. Once again, however, if the parties intend to include GHG emission credits in their treatment of the issues, specificity in contract language is like chicken noodle soup—it rarely hurts.

In their commercial dealings, private parties are seldom voluntary guarantors of political stability. Because so much of climate change risk and related regulation in the U.S. is, in effect, tied up in the political process, however, it is interesting to contemplate defying that principle, at least on limited issues and in the short term. Even today, early in the game, some essentially political risks related to GHG emissions can be expressed as more traditional contractual contingencies. Allocation of liability can then be made to depend on the political outcome. A binary contractual solution—i.e., if it happens, then X, if it doesn't, then Y—can be applied to a single risk, such as the passage of Clear Skies, for example, on which several hundred million dollars of capital expenditure might hinge for the target company.[92] It is also true, however, that to play this thinking out along a full political decision tree involving all GHG issues would result in contractual mayhem.

Treading on equally hallowed contractual ground, counsel should consider whether to include the financial consequences of any short term "bad bets" by a seller on GHG emission reduction, emission credits or capital of improvements within newly crafted language for the age-old deal worry

92. Equally clearly, these issues should be discussed at length between the respective chairpersons of buyer and seller and/or the diligence teams. They can then be analyzed and then accounted for in the purchase price and/or the reserves rather than as a contingency in the contract.

bone—post-closing balance sheet adjustments.[93] A buyer should also consider requiring that the seller, as part of its covenant dealing with "ordinary conduct of business,"[94] to maintain a consistent public posture on GHG-related issues during the period between signing and closing, particularly if its past conduct has been high profile or significant to the success of an industry lobbying group. On issues such as settlement of the Ohio Edison litigation, described above, there should be no ambiguity as to whether the consent decree, the subsequent commitment of capital, and the apparent choice of long-term strategic direction for emission reduction, is ordinary or extraordinary, nor should the drafters leave any doubt about the contractual consequences of either determination.

Finally, GHG negotiators must always keep in mind the oldest of deal-making axioms: follow the money. Artfully crafted contractual relief is of no use if an indemnitor does not have the capacity to make good. Similarly, successful negotiation on risk protection for calamitous consequences of GHG issues will be counter-productive if the money spent to solve them erodes or eliminates contractual protections on

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93. *See, e.g.*, ZUBER & RANKER, ARBITRATION OF PURCHASE PRICE DISPUTES, UNITED STATES LITIGATION YEARBOOK (1998) (arguing that even standard language such as the provision below can lead to significant post-closing disputes when not reconciled with other contractual provisions relating to balance sheet issues).

> Within 60 days after the closing date, the buyer shall prepare a closing date balance sheet in accordance with generally accepted accounting principles consistently applied. If the net assets as shown in the closing date balance sheet are greater than the net assets as shown in the company's balance sheet as of December 31, 200X included as Exhibit T to this agreement, then the purchase price shall be increased by the amount of such excess. If the net assets as shown in the closing date balance sheet are less than the net assets as shown in the company's balance sheet as of December 31, 200X, then the purchase price shall be reduced by the amount of such decrease.

94. A standard form covenant to this effect is as follows:

> Ordinary Course. The Business will be conducted in the ordinary course, consistent with past practice (including, without limitation, not taking any actions out of the ordinary course to generate cash, such as delaying payables or accelerating receivables), and Seller will use commercially reasonable efforts to keep available the services of key employees engaged primarily in the Business and to preserve the relationships with key customers, suppliers and others having business dealings with the Business.

tax, pension, litigation or other liability issues. Just as in the past ten years there has been a rise in stand-alone general environmental indemnification arrangements, it may be appropriate in a deal with significant potential GHG issues to establish a separate indemnity basket to address climate change risk.

## VIII.
## CONCLUSION

The time has come to engage the details of climate change issues at the deal table. For all transactions, there are emerging due diligence questions and techniques uniquely applicable to climate change risk. For issuers and underwriters whose interests lie in equity or debt traded in U.S. markets, there are immediately applicable constraints under U.S. securities laws. For senior corporate management, there are significant information gathering and management systems issues raised by Sarbanes-Oxley. For buyers and sellers of assets, divisions and companies, there is a brave new world of risk and opportunity where, as in the old world, the prize will most often go to the persistent and well-informed.