Weak Disclosure on Climate Risk and the Fossil Fuel Crash

Boston Climate Research

127 Raymond Street

Cambridge, MA 02140

Info@BostonClimateResearch.com

+1-617-821-0422

12/13/2012

Since coal, petroleum, and natural gas were first produced, their use around the world has grown. Governments, citizens, and corporations are now increasing efforts to curtail fossil fuel use, but disclosure of climate-related business risks by fossil fuel companies is inconsistent and poses challenges to investor and markets. Without improvements to standards and enforcement, inconsistent disclosures set the stage for a fossil fuel bubble and crash.

Weak Disclosure on Climate Risk and the Fossil Fuel Crash

There are limits to growth in fossil fuel sales, but one wouldn't know it by reading the annual reports of the companies that produce them. Annual reports from leading fossil fuel companies extrapolate growth years and decades into the future, but considering the need to respond to global warming, past performance will not be a reliable indicator of future growth. With global production of coal[1], petroleum[2] [3], and natural gas[4] at all-time highs, any drag on demand can take a heavy toll in declining share prices of fossil fuel companies. To support market efficiency and help avoid a disorderly bursting of a fossil fuel bubble, more consistent disclosure of risks is needed.

Over time, legislatures, regulators, and courts are increasing their responses to climate change both in United States and around the world. As stronger laws, regulations, and legal torts increase drag on fossil fuel sales, investors need to be advised of the impacts. The Securities and Exchange Commission's (SEC's) 2010 "Guidance Regarding Disclosure Related to Climate Change"[5] and associated topics from Financial Accounting Standards Board[6] [7] provide rules and guidance for disclosing climate related risks. The disclosures under these rules have been uneven and lacking. As a result, investors and markets do not have information needed to make sound decisions and efficiently allocate capital.

[1] World Coal Association, "Coal Facts 2012", http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDMQFjAA&url=http%3A%2F%2Fwww.worldcoal.org%2Fbin%2Fpdf%2Foriginal_pdf_file%2Fcoal_facts_2012(06_08_2012).pdf&ei=T3OyUNyCIujG0QHk_YCIDQ&usg=AFQjCNEIpcUTV44kFrg_Ns-JWDS8OVo9hQ&sig2=EgsQRdmr8WZp7r8d75OQIg&cad=rja; Global Coal Production in 2011 was 7678 Mt with an annual average increase since 1999 of 4.4%.

[2] US Energy Information Administration, "2011 World Oil Production Data" http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=57&aid=1&cid=regions&syid=2007&eyid=2011&unit=TBPD

[3] OilPrice.com "What the EIA's World Oil Production Data for 2011 Tells Us About 2012" http://oilprice.com/Energy/Crude-Oil/What-the-EIAs-World-Oil-Production-Data-for-2011-tells-us-about-2012.html

[4] International Energy Association, "Gas FAQs", http://www.iea.org/aboutus/faqs/gas/, 3284 Billion Cubic Meters in 2010, up 7.4% from 2009.

[5] Securities and Exchange Commission, "17 CFR parts 211, 231 and 241", http://www.sec.gov/rules/interp/2010/33-9106.pdf

[6] Financial Accounting Standards Board (FASB), "Accounting Standards Codification (ASC) 275"

[7] Financial Accounting Standards Board (FASB), "Accounting Standards Codification (ASC) 450"

A tax on carbon or similar law will cause a drag on fossil fuel demand. In an October 8 Wall Street Journal poll, 63% of readers favored a carbon tax and an additional 11% of readers favored cap and trade regulation for carbon.[8] In the weeks following Hurricane Sandy, The Washington Post, CNN, and Huffington Post all ran articles suggesting a tax on carbon. Thirty-three states plus the District of Columbia have enacted mandatory renewable portfolio standards that require increases in use of renewable energy[9] in addition to fossil-fuel-penalizing laws in other states.[10] Although legislation to curb carbon emissions has been in progress for years, and in spite of SEC guidance, most leading fossil fuel producers do not disclose the risks that a carbon tax or other restrictive legislation poses to their business. BP and Suncor's 2011 annual reports are exceptions that demonstrate how inconsistent disclosures are. Both disclose that anticipated legislative or regulatory cost burdens from $15 to $45 per ton of carbon emissions are already factored into their businesses. Investors are challenged to compare these companies to others who make no similar disclosure.

SEC guidance requires disclosure of certain climate-related litigation when the litigation involves a government entity.[11] In spite of the specific SEC guidance, disclosures remain inconsistent. For example, the Village of Kivalina sought climate-related damages against more than a dozen fossil fuel companies. One of the co-defendants, Peabody Energy, made an explicit disclosure of the Kivalina litigation in its 2011 SEC filing, while other co-defendants make none. In the climate damage case, State of Connecticut v American Electric Power, the codefendants' disclosures range from explicit to none. As an example, the US Supreme Court heard the case in 2011, but the defendant, Southern Company, does not mention the case in its 2010 or 2011 annual reports. Other defendants, such as Excel Energy identify the Connecticut case explicitly. Whether compared to their peers or alternative investments, inconsistent disclosures by energy companies unfairly make the non-disclosers more appealing to investors.

Tar sands in the Canadian province of Alberta are unique as an alternative source of petroleum, boasting reserves second in size only to those of Saudi Arabia.[12] They also present a laboratory for climate-related disclosure. Many fossil fuel companies have acquired tar sand reserves in Alberta, and their disclosures vary widely. For example, Suncor explicitly discloses strategic permitting issues related to the Keystone XL Pipeline while others do not. The Pembina Institute, a Canadian think tank, estimates that undisclosed tar sands liabilities will be between $17 billion and $33

[8] Wall Street Journal, 10/8/2012, page R4. "Should there be a Price on Carbon?"
[9] EPA, "Renewable Portfolio Standards Fact Sheet April 2009", http://www.epa.gov/chp/state-policy/renewable_fs.html
[10] Rickerson et. al., "Feed in Tariffs and Renewable Energy in the USA – a Policy Update" and http://www.wind-works.org/FeedLaws/USA/Feed-in_Tariffs_and_Renewable_Energy_in_the_USA_-_a_Policy_Update.pdf
[11] SEC 17 CFR parts 211, 231 and 241, p14, item C, http://www.sec.gov/rules/interp/2010/33-9106.pdf
[12] Ceres, Canada's Oil Sands Shrinking Window of Opportunity", http://www.ceres.org/resources/reports/oil-sands-2010

billion by 2025.[13] In the past, the assumption that tar sand reserves would be economically produced and transported to consumer markets may have been reasonable. Today, efforts to bring tar sands to market have been hindered by strategic climate-related permitting issues in Canada and the United States, but these significant risks are not disclosed.

A buy recommendation for a fossil fuel company will cite the company's proven reserves and indicate the years of revenue that would be supported by those reserves. For example, a buy recommendation for ExxonMobil indicates ExxonMobil had enough proved crude oil and natural gas reserves at year end to last 15 years at current production levels.[14] Methodologies for estimating reserves vary and dependence on current production levels does not take into account scenarios where sales of carbon-emitting fuels are constrained by legislation or regulation. Even general disclosures that carbon emissions are a dangerous pollutant linked to global warming are exceptions. Decades of investor momentum is on the side of the buy investment decision, and so prices stay aloft in spite of the era of peak-fuel, settled science on greenhouse gases, and actuarial findings on climate change.

A Boston Climate Research survey of disclosures relating to climate change shows specific areas of divergence. Business projections in 10-K filings include forecasts of steady fossil fuel growth years into the future. A forecast far into the future is speculative by nature and straight-line extrapolation is contrary to consensus scientific findings showing continued fossil fuel growth will result in dire consequences for the planet. The survey reveals different approaches to disclosure of reserves, all with qualifications such as "reasonable certainty", "economically feasible", and "existing economic conditions", but without valuations or specific disclosures regarding carbon control impacts on the value of the reserves. Impairment, an accounting process by which assets such as reserves are reduced in value, is disclosed differently across the companies. The survey also shows that when multiple companies are defendants in the same litigation with a government entity, as specifically covered by SEC guidelines, some disclose the litigation while others do not. Selected results from the survey are shown in the following exhibits.

[13] The Pembina Institute, "Environmental liabilities in Canada's Oilsands: Perspective for Investors" http://pubs.pembina.org/reports/full-disclosure.pdf
[14] The Motley Fool, "Big Oil ExxonMobil, Chevron, BP, and Total are Cheap" http://beta.fool.com/iamgreatness/2012/09/11/big-oil-exxon-mobil-chevron-bp-and-total-are-cheap/11191/

Exhibit 1: If quantitative business projections were made, were they accompanied by disclosure about impact of global warming?

The following table shows North American Fortune-200-class[15] fossil fuel companies who focus on exploration and discovery ("upstream"). Companies whose primary business is refining, pipeline operation, retail sales, and oil services are excluded. The survey is based on disclosures in 2011 annual reports, SEC 10-K filings, and letters to shareholders. ExxonMobil's projections are the most extreme. They extend to the year 2040 without consideration for the quantitative impact of climate change on ExxonMobil's business.

Anadarko Petroleum	Apache	Chevron	ConocoPhilips	ExxonMobil	Hess	Marathon Oil	Murphy Oil	Occidental Petroleum	Suncor Energy
N	N	N	N	PND	N	PND	N	N	PD

N = No quantitative business projection; PD = Quantitative business projections made, accompanied by quantitative disclosure of business impact of global warming; PND = Quantitative business projections made, but *not* accompanied by quantitative disclosure of business impact of global warming.

Exhibit 2: Did defendants in Kivalina v ExxonMobil explicitly disclose the litigation?

The following table shows disclosures by defendants in Kivalina v ExxonMobil in SEC 10-K filing, or 20-F filing as applicable, for 2011. Six out of 17 defendants did not explicitly disclose the litigation.

AES	American Electric Power	BP	Chevron	Conoco Philips	DTE Energy	Duke Energy	Dynegy Holdings	Edison Internati onal	Exxon-Mobil	Genon Energy	Mid-American Energy Holdings	Peabody Energy	Pinnacle West Capital	Shell Oil	The Southern Company	Xcel Energy
ED	ED	NED	NED	NED	ED	ED	ED	ED	NED	NED	ED	ED	ED	NED	ED	ED

ED = Explicitly disclosed; NED = N*ot* explicitly disclosed.

Exhibit 3: Did defendants in Connecticut v American Electric Power explicitly disclose the litigation?

The following table shows disclosures by defendants in Connecticut v American Electric Power in SEC 10-K filing for 2011. One out of 5 defendants did not explicitly disclose the litigation.

American Electric Power (incl. AEPS)	Duke Energy Corporation (Cinergy)	Tennessee Valley Authority	The Southern Company	Xcel Energy Inc
ED	ED	ED	NED	ED

ED = Explicitly disclosed; NED = Not Explicitly disclosed.

[15] The list of North American fossil fuel exploration and development companies is from 2012 Fortune 500 rankings from 1 to 200 per Money.cnn.com, "Annual Ranking of America's Largest Corporations" http://money.cnn.com/magazines/fortune/fortune500/2012/full_list/index.html and Canadian fossil fuel exploration and development companies in the Global 500 per money.cnn.com "Annual Rankings of the World's Largest Corporations". http://money.cnn.com/magazines/fortune/global500/2012/full_list/. The resulting list is North American Exploration and Development Companies with more than US$13 billion in revenue. Rankings for all companies shown

Companies not willing to wait for establishment of a more detailed set of rules can voluntarily take guidance from third party disclosure organizations, such as Climate Registry, Carbon Disclosure Project, and Global Reporting Initiative. Together these third party offerings serve over 5,000 disclosing companies.[16] Other companies receive advice from law firms with specialties in climate disclosure. These third party options assist corporations in moving beyond regulatory mandates. The corporations find value in the disclosure, but the variety of disclosure offerings from a range of third parties leads to additional inconsistency.

Like the housing bubble and the dot-com bubble before it, we face the potential of a fossil fuel bubble caused by a misdirection of capital via flaws in information and decision making. As with all bubbles, new information will change the valuation of fossil fuel assets, making old assumptions about their valuation increasingly risky or obsolete. The disclosure of previously-immaterial information about the value of coal, oil, natural gas, and the businesses that produce them, is now critical to investment decisions and market efficiency. What were previously immaterial risks are now important pieces of information in investment decisions.

The economist, Nicholas Stern, characterizes the current phenomenon of man-made global warming as "the worst market failure in history."[17] More and better disclosure is required to help the markets allocate capital, and help individual investors make informed decisions. Consistent disclosure of climate change risks and evolving legislative, regulatory, and litigation contexts will make us all smarter in choosing investments. There is potential for mistakes in defining and enforcing disclosure standards. There will be protests and confrontation regarding any change. Regardless of the perils of change, continuing on the current path of uneven disclosure would be the poorest decision, and would set the stage for a fossil fuel bubble destined for a violent crash.

Boston Climate Research fosters transition to a sustainable planet by distilling knowledge from public information, from communities of interest, and from innovation programs. Please send comments to info@bostonclimateresearch.com.

[16] 1) http://www.sec.gov/rules/interp/2010/33-9106.pdf p9 "2,500 companies report to Carbon Disclosure Project"; http://www.theclimateregistry.org/members/ "250 members of The Climate Registry"; https://www.globalreporting.org/information/news-and-press-center/press-resources/Pages/default.aspx "2300 companies using The Global Registry"

[17] The Guardian 11/29/2007, "Climate Change a Market Failure", http://www.guardian.co.uk/environment/2007/nov/29/climatechange.carbonemissions

Boston Climate Research

127 Raymond Street
Cambridge, Massachusetts, USA
02140
+1-617-821-0422
info@bostonclimateresearch.com
www.bostonclimateresearch.com

Knowledge is the path to sustainability