SMITH SCHOOL OF ENTERPRISE AND THE ENVIRONMENT

UNIVERSITY OF OXFORD

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RE: Stranded Assets and Thermal Coal 18 February 2016

To Whom It May Concern:

In January 2016, researchers from the Stranded Assets Programme at the University of Oxford's Smith School of Enterprise and the Environment published a technical report entitled: "Stranded Assets and Thermal Coal: An analysis of environment-related risk exposure." The principal aim of this report is to turn the latest research on environment-related risk factors facing thermal coal assets into actionable investment hypotheses for investors. By examining the fundamental drivers of environment-related risk, creating appropriate measures to differentiate the exposure of different assets to these risks, and linking this analysis to company ownership, debt issuance, and capital expenditure plans, our research can help to inform specific investor actions related to risk management, screening, voting, engagement, and disinvestment. Throughout the research process, major obstacles to analysis were asset disclosure and report transparency, affecting estimates of exposure to various risk factors; in particular, carbon- and environmental-related risks. We overcame this challenge by bringing together a wide range of different datasets and sources for the first time. To our knowledge, this report contains the most comprehensive and up-to-date analysis of the environment-related risks facing thermal coal companies that is publicly available.

Implications for disclosure and reporting

Financial disclosure and reporting is critical for the functioning of efficient capital markets. Disclosure and reporting comes from a wide array of voluntary and regulated activities, but generally seeks to resolve principal-agent problems of information asymmetry and agency[1]. Information asymmetry between investors and companies leads to the inefficient allocation of capital as investors do not know the relative merits of each company. Disclosure resolves agency problems as investors are able to evaluate the performance of the managers they have delegated to run their companies. Greater disclosure has been empirically observed to improve market liquidity, lower costs of capital, increase market valuations, and improve investment efficiency[2].

Companies with securities listed on regulated exchanges must submit the required information periodically to the regulator. This information is provided to the public so that they can make informed investment decisions. Companies may also voluntarily submit information to the regulator, public, or private investors. *The Economist* writes that it is the

[1] Healy, P. & Palepu, K. (2001). 'Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature', *Journal of Accounting and Economics*, 31: 405-440
[2] Leuz, C. & Wysocki, P. (2015). 'The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research' *SSRN*.

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symmetry of information between investors that is important for functioning capital markets, not the degree of transparency[3].

In policy design, mandated disclosure or transparency is increasingly used in lieu of other regulations to incentivize or elicit changes in corporate behaviour[4]. The evidence for this approach to policy design is built largely on the informal and non-mandatory compliance literature base[5], as well as literature on consumer choice[6], corporate social responsibility[7], and company stakeholder obligations[8]. Where voluntary disclosure regimes have been successfully implemented by and for investors, the results linking ESG performance to corporate operating and financial performance are convincing[9].

Climate Change Risk Disclosure

Climate change risk disclosure has currently achieved acceptance as an objective in non-financial information disclosure. In these reports, climate change impacts are included as risk factors or topics of management discussion and analysis[10]. Non-financial disclosures may be regulated[11] however their content is discretionary to company management.

Voluntary sustainability and climate change risk reporting platforms have made progress attracting disclosure from early adopters. Frameworks from organisations like the CDP (formerly the Carbon Disclosure Project) and the Global Reporting Initiative connect investors with sustainability performance data from companies worldwide. A wide variety of reporting frameworks exist.

As accounting standards have become more globally aligned under the International Financial Reporting Standards, an opportunity has emerged to align account standards with sustainability risk disclosure. Organisations like the Sustainable Accounting Standards Board and the Climate Disclosure Standards Board are helping to align sustainability reporting with financial rigor. The challenge for investors remains that the multitude of standards produces insufficient 'decision-ready' information, and preparing and interpreting the reporting is burdensome for both companies and investors[12].

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[3] The Economist (2009) 'Full Disclosure: The case for transparency in financial markets is not so clear-cut', *Economist.*
[4] Leuz, C. & Wysocki, P. (2015). Op. Cit.
[5] US EPA (2014). 'Chapter 4: Regulatory and Non-Regulatory Approaches to Pollution Control' in *Guidelines for Preparing Economic Analyses.* Washington, US.
[6] For example, Brouhle, K. & Khanna, M. (2007). 'Information and the Provision of Quality Differentiated Products', *Economic Inquiry*, 45: 377-394.
[7] For example, Lyon, T. (2002). 'Voluntary Approaches to Environmental Protection: A Survey' (with John W. Maxwell), in *Economic Institutions and Environmental Policy: Past, Present and Future.*
[8] For example, Pargal, S., Hettige, H., Singh, M., et al. (1996). 'Formal and Information Regulation of Industrial Pollution', *The World Bank Economic Review*, 11:433-450.
[9] Clark, G., Feiner, A., & Veihs, M. (2015). *From the Stockholder to the Stakeholder*, University of Oxford, Arabesque Partners. London, UK.
[10] Securities and Exchange Commission (2010). *Commission Guidance Regarding Disclosure Related to Climate Change.*
[11] EU (2014). 'Directive 2014/95/EU', *Official Journal of the European Union,* 57:1-10; Institut RSE Management (2012). *The Grenelle II Act in France: a milestone towards integrated reporting.*
[12] Thistelthwaite, J. (2015). *The challenges of counting climate change risks in financial markets,* Center for International Gonvernance Innovation. Waterloo, Canada.

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In November 2015, the World Federation of Exchanges (WFE) issued their guidance on ESG reporting[13]. WFE issued a list of 34 recommended ESG metrics to it 64 member exchanges, including 10 environmental metrics specifically. Many of the WFE's member exchanges already adopt some form of sustainability reporting[14].

Also in late 2015, the Financial Stability Board launched its Task Force on Climate-Related Financial Disclosures (TCFD). The Task Force is to develop consistent, comparable, reliable, clear, and efficient climate-related disclosures and is expected to release its recommendations by the end of 2016[15].

Insights from our research

Our work to date has highlighted some of the challenges associated with turning an understanding of environment-related factors facing particular sectors into analysis that is decision-relevant for financial institutions. These experiences are germane to extant processes on disclosure and corporate reporting, particularly the TCFD.

To take one specific example, without accurate geo-location data for assets it is very hard to accurately overlay spatial datasets or to use remote sensing and satellite data to further research assets. Existing datasets for coal-fired power stations only have precise geo-location data for 30% of power stations and only regional or city level geo-location data for the remaining power stations. This means that spatial datasets representing certain types of risk (e.g. air pollution) are not uniformly accurate – they become less useful for power stations with inaccurate geo-location data. It also means that when, for example, we wanted to use satellite imagery to identify the type of cooling technology installed on a power station (for assets where cooling data was missing from existing datasets), we could only do this for assets with accurate coordinates. Unfortunately, tracking down power stations on satellite imagery when the geo-location data is inaccurate is challenging and time consuming. This means that we have only been able to secure 71% coverage for the type of cool technology installed on coal-fired power stations, though we aim to improve this through further work.

One simple way around this particular problem would be for companies that are signed up to voluntary or mandatory reporting frameworks to disclosure the precise coordinates of their key physical assets. But a more general principle would be for companies, especially those with portfolios of large physical assets, to disclosure asset specific characteristics so that researchers and analysts can undertake their own research on the risks and opportunities facing company portfolios. Natural resources companies, particularly those involved in upstream fossil fuel production, appear reluctant to disclose any asset specific

[13] World Federation of Exchanges (2015). *Exchange Guidance & Recommendation – October 2015,* WFE Sustainability Working Group.
[14] Ibid.
[15] Financial Stability Board (2015). *FSB to establish Task Force on Climate-related Financial Disclosures,* Press Release.

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information, instead suggesting that their investors should simply trust their judgement.[16] We would suggest that this is a highly questionable approach and one that the TCFD and other related processes should take on.

More generally, it is noteworthy that very little of our analysis has actually depended on existing corporate reporting or data disclosed through voluntary disclosure frameworks. This is both a cause for hope and concern. It demonstrates that significant strides can be made to understand company exposure to environment-related risks even in the absence of consistent, comprehensive, and timely corporate reporting on these issues. But it also highlights how existing frameworks on environment-related corporate disclosure might be asking the wrong questions – they generally attempt to support and enable top down analysis, but might not do enough to support a bottom up, asset-specific approaches. Reporting needs to link back to a fundamental understanding of risk and opportunity and to specific assets within company portfolios, especially for companies with portfolios of large physical assets (e.g. power stations, mines, oil and gas fields, processing plants, and factories). In the absence of that, what is reported may not be actionable from an investor perspective.

The other task is to reduce the cost of accessing and using data that can underpin the analytical approach we have used here. Where possible we use non-proprietary datasets, but this is insufficient. The cost is really the cost of data integration – to have all the relevant data points on asset characteristics merged from a variety of data sources, as well as overlays that allow us to measure the relative exposure of assets to different risks and opportunities. The costs associated with assuring datasets and finding novel datasets are also significant. Fortunately, these are all areas where costs can be reduced and this could be a significant public good.

Company Data Intelligence Service

An initiative to find and integrate all the relevant asset-specific data points for companies in key sectors would almost certainly yield much more (and probably more accurate) investor-relevant information that what is currently disclosed. The initiative, call it the Company Data Intelligence Service (CDIS), would have the benefit of transcending mandatory and voluntary schemes as all companies would be in scope. CDIS would seek out data on company assets in key sectors, make this public where possible, and give companies the opportunity to correct mistakes and provide enhanced disclosure. It would operate in a completely transparent and accountable way and could collaborate with researchers and civil society to track down, assure, and release data on company assets.

Critically, CDIS would not be dependent on companies disclosing data. Such a public goods initiative, focused on putting into the public domain accurate and relevant information to

[16] See Rook, D. & Caldecott, B. (2015). *Evaluating Capex Risk: New Metrics to Assess Extractive Industry Project Portfolios,* Smith School of Enterprise and the Environment, University of Oxford. Oxford, UK.

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improve the analysis of company exposure to environment-related risk and opportunity, would not be particularly costly – it would certainly be much cheaper, quicker, and more plausible than all companies actually disclosing all the asset specific data needed for bottom analyses of environment-related factors.

CDIS could support the development of new techniques and approaches to secure data that was hard to get or inaccessible due to cost or other barriers, whether through 'big data' or remote sensing, and foster the developments of new techniques to analyse data. CDIS could also have the task of integrating all existing environment-related corporate reporting into one system, allowing for analysis of data provided via a wide range of initiatives.

Through our research process it has become clear to us that the current company-level reporting paradigm – where some companies annually disclose data; where reported data might not actually be relevant for assessing real exposure to environment-related risk and opportunity; where reported data may be inaccurate and out of date; where companies that report spend a significant amount of time filling in forms for different reporting systems; and where third parties spend significant effort trying to assure reported data – could be significantly improved. Current reporting is slow moving, unable to achieve universal coverage of companies, and currently disconnected to the requirements of bottom up analysis. While current reporting efforts are an incredibly important contribution that we commend, much more can be done and more cost-effectively. In addition to putting more emphasis on asset specific disclosures in current and emerging reporting regimes, the development of a public goods CDIS-type initiative is something that the TFCD should consider recommending as part of its deliberations.

Yours faithfully,

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