The State of Sustainability in China

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The term "sustainability" has entered the common lexicon, although its meaning is ill-defined and will probably always remain so. Sometimes it is used interchangeably with the term "corporate social responsibility" (or "CSR"), which is the more common term in China. Broadly speaking, sustainability and CSR both refer to the growing recognition that companies and investors must take more account of environmental, social, and governance (ESG) issues in producing economic returns.

Sustainability is a global concern and, as such, it is the responsibility of everyone—from citizens to companies to governments. However, it is the world's largest countries and companies that will largely determine whether we have a sustainable society or not. Of the 191 reporting countries in the world, the top 10 countries account for over 64% of global GDP.[2] Similarly, the largest 1,000 companies in the world (the "Global 1000") account for almost 80% of the sales of all publicly listed companies.[3] Most large global companies today profess their commitment to sustainability, sometimes in the language of "corporate social responsibility," although it is difficult to separate rhetoric ("greenwashing") from reality, which means taking hard decisions around the negative externalities produced by a company's operations and a longer-term perspective over which corporate performance is evaluated. This article examines the state of sustainability in China from a policy and company perspective, with a focus on its largest 100 companies. What China does to address the environmental and social issues that are a consequence of its economic growth is important not just for China but for the world as a whole.

This article is organized into three parts. The first discusses the need for a greater focus on sustainability in China, both for its own sake and for the world's. The second summarizes the key government policies regarding sustainability. The third and final part looks at some broad sustainability indicators of the largest 100 Chinese companies and compares them to their U.S. counterparts.

The Need for Sustainability in China

China is one of the world's most important and controversial countries for a wide range of political, economic, social, and environmental reasons. China's economic growth has been phenomenal. In 1960, China's GDP was just $59.2 billion.[4] Deng Xiaoping's economic reforms in the late 1970s were the catalyst for years of rising prosperity.[5] Since 1980, China has enjoyed a compound annual growth rate of over 12.5%. In 2013, this rapid expansion secured China's position as the second largest economy in the world. China's 2013 GDP of $9.2 trillion places its economy behind the U.S. ($16.8 trillion) but ahead of Japan ($4.9 trillion) and Germany ($3.6 trillion).[6] While this growth is expected to slow to 7.75% over the next six years, China is expected to surpass the U.S. in GDP as early as 2019, although U.S. GDP per capita will be about six times that of China.[7]

This economic growth has come at high environmental and social costs. Since 1960, China's CO_2 emissions have grown at a rate of 4.8%, as compared to a U.S. compound annual growth rate of 1.3% over the same period. From 2008 to 2010, China's CO_2 emissions grew by over 17%. During that same period, U.S. CO_2 emissions actually decreased by 3.8%. In 2010, China's CO_2 emissions were 2.85 million kilotons above total U.S. emissions.[8] Electricity production from coal resources

1. The authors would like to thank Shannon Gombos, Nancy Lin, and Qiwa Tang for expert research assistance on this article. It would not have been possible without them.

2. "GDP (Current US$) | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries.

3. Datastream marks total sales for all publicly listed companies in December 2013 at $45.6 trillion. "World-DS Market, Sales (Revenue)," available from Datastream, accessed August 2014. The Global 1000's total sales are $36 trillion. "tf. Sales USD," available from Thomson Reuters via Thomson ONE, accessed August 2014. According to the World Federation of Exchanges, there are 43,407 publicly listed companies in December 2013. "Monthly Reports," World Federation of Exchanges, accessed August 2014, http://www.world-exchanges.org/statistics/monthly-reports.

4. All data are from 2013 unless otherwise noted. "GDP (Current US$) | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries.

5. Barry Naughton, "Deng Xiaoping: the economist," *The China Quarterly* 135 (1993): 491-514.

6. "GDP (Current US$) | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries.

7. S.R. and D.H., "Chinese and American GDP Forecasts: Catching the Eagle," *The Economist*, August 22, 2014, accessed August 2014, http://www.economist.com/blogs/graphicdetail/2014/05/chinese-and-american-gdp-forecasts. The IMF predicts that China's GDP per capita in 2019 will be $10,586 while the US's GDP per capita will be $66,633. "Report for Selected Countries and Subjects," International Monetary Fund, accessed September 2014, http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/weorept.aspx?pr.x=56&pr.y=12&sy=2019&ey=2019&scsm=1&ssd=1&sort=country&ds=.&br=1&c=924%2C111&s=NGDPDPC&grp=0&a=.

8. In 2010, China's total CO_2 emissions were 8,286,891.95 kilotons (kt) while the U.S. CO_2 emissions were 5,433,056.54 kt. "CO2 emissions (kt) | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/EN.ATM.CO2E.KT/countries/1W?display=map.

grew at a similar rate, 17.7%, whereas the U.S. witnessed a negative growth rate of 5.9% over the same period.[9] What's more, China now uses more energy than the U.S.[10]

Increased emissions have resulted in massive pollution of China's growing cities. According to the 2010 Global Burden of Disease Study, China's "outdoor air pollution contributed to 1.2 million premature deaths ... nearly 40 percent of the global total."[11] In 2012, the Chinese government introduced new air quality standards for its major cities. But, as of August 2014, only nine out of 161 cities (under six percent) had met the new standards.[12] In the Jingjinji area—which counts Beijing among its major cities—only 37.5% of the days of the year met minimum quality standards.[13] The U.S. Environmental Protection Agency sets standards to measure air quality from 0 to 500—with a measurement of 500 being 20 times the safe level for particulate matter in the air. In January 2013, Beijing reported an unprecedented reading of 755. (In contrast, New York City's level was recorded at 19 the following day.)[14] The statistics for water pollution are no better. An April 2014 report released by *Xinhua* estimated that 59.6% of underground water was not potable—and this number had increased 2.6% from its 2012 report (57.4%).[15]

There have been social costs as well. China is now the most populous country in the world, with 1.36 billion people, followed by India, the United States, and Indonesia.[16] Much of China's economy is based on labor-intensive manufacturing.[17] Working conditions and workers' rights are often below Western standards, and worker safety is a major issue. A 2001 article in *The New York Times* described factory working conditions as follows: "[Chinese factory workers] are willing to work 12 hours a day or more for a pittance, living 12 to a room and putting aside any questions about legal rights . . . [The worker interviewed] was not aware that her wages and hours violated local labor regulations."[18] More recently, the Chinese government has issued policies designed to combat income inequality and improve workers' conditions—and some workers have been successful in protesting factory conditions and forcing company officials to the negotiating table.[19] According to SAWS, the Chinese equivalent of OSHA[20] in the U.S., there were 336,988 workplace accidents in 2012, though this was down by 3.1% from the year before.[21] These accidents resulted in over 70,000 fatalities (down 4.7% from the year before), or an average of 200 worker deaths per day,[22] as compared to 4,628 workplace fatalities in the U.S. in the same year.[23]

Urbanization has been both a cause and a consequence of economic growth, as well as a source of social problems. The World Bank credits China's GDP growth—aided by rapid urbanization—with lifting 500 million people out of poverty over the past 36 years.[24] In 2011, the number of people living in urban areas surpassed those living in rural areas.[25] By 2030, projections estimate that one billion Chinese people, or around 70% of the total population, will live in cities.[26] Although *The Economist* estimates that 54% of China's people currently live in urban areas, only 36% of China's population has an urban *hukou*, an official household registration system that qualifies residents for social benefits in their designated demographic area.[27] Under the bifurcated system, residents holding an urban *hukou* are provided for by the state sector—they enjoy access to subsidized health care, food, housing, education, and retirement benefits—whereas rural *hukou* holders receive little, if any, support from the state. If a rural resident wished to move to a city, she would have to obtain a moving-in certification from

9. "Electricity Production from Coal Sources (kWh) | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/EG.ELC.COAL.KH.

10. "China: Overview," U.S. Energy Information Administration, February 4, 2014, accessed August 2014, http://www.eia.gov/countries/cab.cfm?fips=ch.

11 Edward Wong, "Air Pollution Linked to 1.2 Million Premature Deaths in China," *The New York Times*, April 1, 2014, accessed August 2014, http://www.nytimes.com/2013/04/02/world/asia/air-pollution-linked-to-1-2-million-deaths-in-china.html?_r=1&adxnnl=1&adxnnlx=1409781720-+LkBaVbcfszRTA05H3RFCw.

12. Bree Feng, "Only 9 Chinese Cities Pass Clean Air Test," *The New York Times*, August 7, 2014, accessed August 2014, http://sinosphere.blogs.nytimes.com/2014/08/07/only-9-chinese-cities-pass-clean-air-test/.

13. Sun Xi and Gu Bowen, "Asia Insight: Air Pollution in China: A Hazy Future?" Sustainalytics, August 2014, pg. 6, accessed August 2014.

14. Edward Wong, "On Scale of 0 to 500, Beijing's Air Quality Tops 'Crazy Bad' at 755," *The New York Times*, January 12, 2013, accessed August 2014, http://www.nytimes.com/2013/01/13/science/earth/beijing-air-pollution-off-the-charts.html.

15. Mu Xuequan, "China's Underground Water Quality Worsens: Report," *Xhinhua*, April 22, 2014, accessed August 2014, http://news.xinhuanet.com/english/china/2014-04/22/c_126421022.htm.

16. "Population, total | Data | Table," The World Bank, accessed August 2014, http://data.worldbank.org/indicator/SP.POP.TOTL. In 2026, the World Databank estimates that China will have a population of 1.427 billion, India with 1.430 billion, U.S. with 348.6 million, and Indonesia with 284.4 million. 2026 is the first year India's population is expected to surpass China's. "Health Nutrition and Population Statistics: Population estimates and projections," World Databank, accessed August 2014, http://databank.worldbank.org/Data/Views/VariableSelection/SelectVariables.aspx?source=Health%20Nutrition%20and%20Population%20Statistics:%20Population%20estimates%20and%20projections.

17. Karel Eloot, Alan Huang, and Martin Lehnich, "A new era for manufacturing in China," *McKinsey Quarterly*, June 2013, accessed September 2014, http://www.mckinsey.com/insights/manufacturing/a_new_era_for_manufacturing_in_china.

18. Erik Eckholm, "Worker's Rights are Suffering in China as Manufacturing Goes Capitalist," *The New York Times*, August, 22, 2001, accessed August 2014, http://www.nytimes.com/2001/08/22/world/workers-rights-are-suffering-in-china-as-manufacturing-goes-capitalist.html.

19. Vikas Bajaj, "Chinese Workers' Rights" *The New York Times*, February 8, 2014, accessed August 2014, http://takingnote.blogs.nytimes.com/2013/02/08/chinese-workers-rights/.

20. SAWS is the acronym for the State Administration of Work Safety. SAWS' website describes itself as a "[Chinese] agency directly under the State Council for overall supervision and regulation for work safety." "State Administration of Work Safety," Gov.cn, accessed August 2014, English.gov.cn/2005-10/20/content_80531.htm.

OSHA is the acronym for the Occupational Safety and Health Administration and its website describes itself as "the main [US] federal agency charged with the enforcement of safety and health legislation." "Occupational Safety & Health Administration," United States Department of Labor, accessed August 2014, www.osha.gov.

21. "SAWS: Mainland per day 200 people were killed in accident," CCTV, January 18, 2013, accessed August 2014, http://news.ifeng.com/mainland/detail_2013_01/18/21340127_0.shtml.

22. Ibid.

23 "Injuries, Illnesses, and Fatalities," Bureau of Labor Statistics, accessed August 2014, http://www.bls.gov/iif/oshcfoi1.htm.

24. "China Overview," The World Bank, April 1, 2014, accessed August 2014, http://www.worldbank.org/en/country/china/overview.

25. "Web CEIC Data Manager," CEIC Global Database, accessed August 2014, http://webcdm.ceicdata.com/cdmWeb/dataManager.html?languageCode=en.

26. "China: A New Approach for Efficient, Inclusive, Sustainable Urbanization," The World Bank, March 25, 2014, accessed August 2014, http://www.worldbank.org/en/news/press-release/2014/03/25/china-a-new-approach-for-efficient-inclusive-sustainable-urbanization.

27. "China's Cities: The Great Transition," *The Economist*, March 22, 2014, accessed August 2014, http://www.economist.com/news/leaders/21599360-government-right-reform-hukou-system-it-needs-be-braver-great.

the designated city's police force, a difficult process that limits movement for many rural residents—which is the intended purpose of the *hukou* system.[28] However, in March 2014, the Chinese government announced its "National New-type Urbanization Plan (2014-2020)," which sets a target for the expansion of full urban *hukou* benefits to 45% of its population by 2020. Chinese authorities are counting on the influx of an estimated 100 million rural workers into their cities to boost consumer spending and contribute to Chinese economic growth.[29] It remains to be seen if the subsequent massive movement to cities will smooth or strain China's urban vs. rural social divide.

Support for Sustainability in China

In China, CSR or sustainability is being supported in a variety of ways, including laws, pronouncements by Party political leaders, and guidelines issued by regulators, stock exchanges, trade associations and think tanks. According to the *Blue Book of Corporate Social Responsibility* (referred to hereafter as the "Blue Book"), the concept of corporate social responsibility (CSR) was introduced to China as early as the 1980s.[30] However, it was only in the 1990s that CSR started to become understood and at least partially accepted by companies, in large part because of changes in regulation.

Laws

The first version of The Company Law of the People's Republic of China (Company Law) was promulgated on December 29, 1993.[31] It established the legal basis for companies and the role of companies in Chinese society. Subsequent laws gave further clarity to the role of the corporation in society in terms of encouraging eco-friendly operations, advocating basic labor rights for employees, and standardizing national charity and philanthropy regulations.[32] But since none of these laws even mention CSR, a company's obligations with respect to environmental and social issues were more implied than stated.

This changed on January 1, 2006, when the amended Company Law came into effect and CSR was officially adopted as part of the Chinese legal system regarding corporations. In the words of Article 5 of the Company Law, "when undertaking business operations, a company shall comply with the laws and administrative regulations, social morality and business morality. It shall act in good faith, accept the supervision of the government and the general public, and bear social responsibilities."[33] Two months later, in March 2006, the State Grid Corporation of China, a Central State-Owned Enterprise (CSOE),[34] published the first CSR report in China. Rapid development followed in the next decade. According to the Blue Book, there were only 32 CSR reports in 2006. By 2013, there were 1,231 reports, representing a 40-fold increase in eight years.[35]

Pronouncements by the Party, Its Leaders, and Researchers

Although the amended Company Law is China's only legally binding document that bears on CSR, Article 5 functions more as a suggestion or aspiration than a requirement because it does not impose any specific legal obligations on corporations and is too vague and ambiguous to give companies guidance on what they need to do in practice regarding CSR. Nevertheless, some recent developments supplement the Company Law by providing support through their political importance and social influence, such as a report from the Third Plenary Session of the 18th Central Committee of the Communist Party of China (CPC) regarding the obligation of SOEs for CSR.[36]

At this Third Plenary Session, which was held near the end of 2013, the CPC also decided to focus on giving the free market a decisive role in allocating resources as part of the process of economic reform. Moreover, a number of

28. Tiejun Cheng, and Mark Selden, "The origins and social consequences of China's hukou system." *The China Quarterly* 139 (1994): 644-668.

29. Dexter Roberts, "China Wants Its People in the Cities" *Bloomberg Businessweek*, March 20, 2014, accessed August 2014, http://www.businessweek.com/articles/2014-03-20/china-wants-its-people-in-the-cities.

30. Qunhui Huang et al., *Blue Book of Corporate Social Responsibility (2013).* Beijing: Social Sciences Academic Press (CHINA), 2013.

31. Scholars offer a variety of interpretations on when China had her first Company law. According to William C. Kirby, prior to the Company Law (Gongsilü) issued by the Ministry of Commerce (Shangbu) of the Qing government in January 21, 1904, "very little in written Chinese law addressed the regulation of private economic activity." The Company Law of 1904 aimed at encouraging and regulating commercial activities. It defined four types of company—partnership, limited partnership, simple joint-stock company, and the company of limited shares. Kirby indicates that the Qing's Company Law of 1904 is relatively along the lines with the development of other country's company law: for instance, Code de Commerce of France in 1807, Handelsgesetzbuch of Germany in 1861, and the Commercial Code of Japan in 1899. As Kirby examines the history of China's company law in the Twentieth Century, Kingsley T. W. Ong and Colin R. Baxter emphasize its development after 1949. According to Ong and Baxter the "open door policy," inaugurated by the Communist Party of China in 1978, accelerated the economic development of China and created "the need for a national company law." PRC Joint Venture Law was promulgated in July 1979 and the Company Law of 1993 is described as "the first national corporation law of China [that] represents a key element in the programme of economic reform that China began in 1978." William C. Kirby, "Company Law and Business Enterprise in Twentieth-Century China," *The Journal of Asian Studies*, Vol. 54, No.1 (Feb., 1995), 43-63; Kingsley T. W. Ong and Colin R. Baxter, "A Comparative Study of the Fundamental Elements of Chinese and English Company Law," *The International and Comparative Law Quarterly*, Vol. 48, No. 1 (Jan., 1999), 91-92.

32. These include: (1) Environmental Protection Law of the People's Republic of China: Adopted at the 11th Meeting of the Standing Committee of the Seventh National People's Congress on December 26, 1989, promulgated by Order No. 22 of the President of the People's Republic of China on December 26, 1989, and effective on the date of promulgation; (2) Labor Law of the People's Republic of China: Adopted at the Eighth Meeting of the Standing Committee of the Eighth National People's Congress on July 5, 1994, promulgated by Order No.28 of the President of the People's Republic of China on July 5, 1994, and effective as of January 1, 1995; and (3) Welfare Donations Law of the People's Republic of China: Adopted at the 10th Meeting of the Standing Committee of the Ninth National People's Congress on June 28, 1999 and promulgated by Order No. 19 of the President of the People's Republic of China on June 28, 1999.

33. "The Company Law of the People's Republic of China (revised in 2005)," The Standing Committee of the National People's Congress, accessed July 2014, http://www.saic.gov.cn/zcfg/fl/xxb/201206/t20120612_126990.html.

34. A Central SOE is state-owned enterprises (SOEs) directly under the central government;

"Corporate Social Responsibility Report 2005," State Grid Corporation of China, March 10, 2006, accessed July 2014, http://www.sgcc.com.cn/images/ywlm/socialresponsiility/brief/2010/12/13/D39BD4831BDC3C828F7B8579373B5831.pdf.

35. Qunhui Huang et al., "Blue Book of Corporate Social Responsibility (2013)," Beijing: Social Sciences Academic Press (CHINA), 2013.

36 The CPC proposed that SOEs have an obligation to fulfill their social responsibility. In the words of the report, "SOEs must adapt modernization and globalization. SOEs should also regulate business decisions, strive for the preservation and appreciation of assets, engage in fair competition, improve efficiency, enhance vitality and >>

changes to the current evaluation system that now governs the planned economy were proposed, including changes designed to "improve the development outcomes evaluation system; correct the tendency of evaluating official performance simply based on [the] economic growth rate; pay more attention to employment, income, social security, and people's health status; and increase the weight of the indexes such as [those reflecting] resource consumption, environmental damage, ecological benefits, excess capacity, technological innovation, production safety, new debt, and other indicators."[37] These goals are all consistent with the intent, articulated two years ago by then President Hu Jintao, that Chinese policymakers "should leverage to a greater extent … the basic role of the market in allocating resources, improve the system of macro-regulation, and perfect the open economy to ensure more efficient, equitable and sustainable economic development."[38]

As with all such high-level pronouncements, making this goal a reality has been quite a different matter, in large part because it requires policymakers to make difficult tradeoffs between economic growth and environmental and social objectives. During the most recent formulation of its "Five-Year Plan,"[39] the CPC called for a "transformation of China's economic development" that emphasizes "the importance of building a resource saving and environment-friendly society … to save energy, reduce greenhouse emissions and actively tackle global climate change." What's more, the plan envisions development of "a circular economy and low carbon technologies" by "striking a balance between economic development and population growth."[40]

More recently, on July 15, 2014, President Xi Jinping gave a speech at the Sixth BRICS Summit called "New Start, New Prospect and New Impetus,"[41] which called for the "unswerving promotion" of "sustainable economic growth." Xi went on to say:

BRICS countries' economic growth has recently seen a slowdown. It is a result of both internal economic adjustment and external influences. The next step is to enhance domestic impetus to maintain stable economic growth through necessary economic reforms. We should insist on the concept of inclusive growth, with social policies underpinning macroeconomic policies, weave a firm social safety net and promote the transformation of quantity-oriented to quality-oriented economic growth. We should coordinate economic and social development as well as environmental protection greater opportunities for economic development.[42]

Consistent with these expressions of support for sustainable economic development by the Party and its leadership, research is now being carried out at the China Central Party School under the direction of one of this article's co-authors (Duan).[43] This work has identified three main challenges that China is now faced with in achieving sustainable development: (1) transforming the Chinese economy, which is now experiencing slower momentum, from a low-cost manufacturer to an economy based on innovation, value-added products, and high-end services; (2) reducing the economy's excessive reliance on—and depletion of—environmental resources, such as non-renewable energy, water, clean air, and soil; and (3) halting the increase in harmful products sold by some private enterprises and limiting the counterproductive behavior of some public institutions.

Duan's proposal to address these challenges begins with the establishment of a new evaluation system that would include indices of economic and environmental performance, as well as criteria for assessing social responsibility.[44] To achieve a comprehensive evaluation, such a system would have to be applied at three levels: national actors, regional actors, and individual enterprises. In essence, Duan's proposal is a call for mandatory "integrated reporting" by the entire country—that is, provinces and cities as well as companies.

To implement this new evaluation system, the plan offers three specific recommendations:

1. Design an economic performance index on the basis of the statistical system of the National Bureau of Statistics and the World Bank, but with certain structural adjustments to reflect the relative importance (priority) of economic performance indicators.

2. Establish an environmental performance index in accordance with the international EPI system.[45] It might also

take social responsibility." The Third Plenary Session of the 18th CPC Central Committee was held from November 9 to 12, 2013 in Beijing. Such sessions are held five or six times at irregular intervals between each CPC National Congress, which is held once every five years. During the plenary session, major issues concerning the direction of reforms are discussed, and the Political Bureau reports its work to the CPC Central Committee, which is responsible to the National Congress, the highest leading body of the Party. "The Decision on Major Issues Concerning Comprehensively Deepening Reforms," The Third Plenary Session of the 18th CPC Central Committee, accessed July 2014, http://www.ce.cn/xwzx/gnsz/szyw/201311/18/t20131118_1767104.shtml.

37. Ibid.

38. Hu Jintao,"18th Party Congress Report," 18th CPC National Congress, November 17, 2012, accessed July 2014, http://news.xinhuanet.com/english/special/18cpcnc/2012-11/17/c_131981259.htm.

39. CPC's Twelfth Five-Year Plan, which covers the period 2011-2015. The five-year plans (FYP) of the People's Republic of China are a range of economic, political and social development initiatives for every five-year period since China introduced its first FYP in 1953, under the influence of Soviet Union.

40. "China's Twelfth Five-Year Plan (2011-2015)," The National People's Congress (NPC), accessed July 2014, http://www.britishchamber.cn/content/chinas-twelfth-five-year-plan-2011-2015-full-english-version.

41. BRICS is an annual diplomatic conference held among five major emerging countries—Brazil, Russia, India, China and South Africa.

42. Xi Jinpig, "New Start, New Prospect and New Impetus," accessed July 2014, http://www.china.org.cn/report/2014-08/15/content_33244826.htm.

43. The Central Party School is subordinate to the Central Committee as the party's top institution in China. It is one of the most important think tanks and is regarded as the best training institute where the provincial and ministerial level officers have been trained.

44. Peijun Duan and Robert G. Eccles, "Framework for China's novel sustainable evaluation system strategy," Bulletin of Chinese Academy of Sciences, August 21, 2014, accessed August 2014, http://www.bulletin.cas.cn/ch/reader/view_full_html.aspx?file_no=20140401&flag=1.

45. The EPI system is established by Yale Center for Environmental Law and Policy of Yale University and Center for International Earth Science Information Network of Columbia University. According to Yale University, the EPI systems measures "how well countries perform on high-priority environmental issues in two broad policy areas: protection of human health and protection of ecosystems." The latest issue, 2014 EPI Report can be accessed at http://issuu.com/yaleepi/docs/2014_epi_report.

be helpful to redistribute the weights of existing indicators of the Ministry of Environmental Protection and to systematize these indicators into a comprehensive assessment system that covers regional actors and individual enterprises.

3. Encourage the study of existing CSR standards, standardize the social responsibility reporting of enterprises and public institutions, and establish a transparent social responsibility evaluation mechanism.

Regulation

Because State-Owned Enterprises (SOEs) play such a dominant role in the Chinese economy, those organizations that coordinate and oversee the activity of SOEs have a key role to play in implementing sustainability. The main responsibility for supervising SOEs falls to SASAC, which is short for the State-owned Assets Supervision and Administration Commission.[46] In a 2008 pronouncement, SASAC called for all SOEs directly under the central government (CSOEs) to "actively implement CSR" by seeking to be models of "legal and honest business operation" that also emphasize the conservation of resources and protection of the environment. CSOEs are also urged to become "human-oriented and harmonious" enterprises that promote the goals of CSR while at the same time strengthening the Chinese economy.[47] Thus, along with its calls for CSOEs to remain profitable and strive for continuous improvement in product quality and service, SASAC places considerable emphasis on the goals of sustainability: workplace safety, protection of the legal rights of employees, and participation in social public welfare programs, as well as the conservation of resources and environmental protection.

Stock Exchanges

The country's two stock exchanges also support sustainability, primarily through setting and enforcing disclosure requirements for their listed companies.[48] In 2013, for example, the Shanghai Stock Exchange (SSE) began to require SSE-listed companies—especially those companies in the steel, metallurgy, and electric power sectors—to file "social responsibility reports" along with their annual reports. Moreover, as the SSE noted in its 2013 report, "If a listed company discloses its social responsibility report, its directorate should discuss the report separately and disclose the report on the SSE's website in the form of separate reports."[49] Nevertheless, publication of a CSR report is not mandatory.[50]

The Shenzhen Stock Exchange (SZSE), in its "Guidelines for the Social Responsibility of Listed Companies,"[51] stipulates that "listed companies, as social members, shall bear due responsibilities to such relevant parties of interest as workers, shareholders, creditors, suppliers and consumers." In addition to measures designed to protect shareholders' interests and rights, the guidelines encourage listed companies to formulate environmental protection policies that reflect the effect their operations have on the environment. And, where appropriate, the guidelines also suggest that the companies "appoint concrete personnel to be responsible for the setting-up, implementation, maintenance and improvement of the environment protection system" while providing "essential manpower, material resources, technology and financial support to environment protection tasks."[52] But, as in the case of the SSE, the guidelines for the SZSE are voluntary.[53]

Trade Associations and Think Tanks

Finally, government think tanks and industry associations are also playing an important role in supporting sustainability in China. Unlike SOEs, private enterprises do not operate under a central supervisor. Moreover, until recently private enterprises have not had legal supervisory documents like the "Guidelines." But, on December 18, 2013, the China Association of Small and Medium Enterprises (CASME) published its "Guidelines to Small and Medium Enterprise on Corporate Social Responsibilities."[54] This is the first document to provide instructions to small and medium-sized enterprises (SMEs) with the aim of raising the awareness of CSR. Based

46. According to the Constitution of the PRC, the State Council (that is, the Central People's Government of PRC), is the executive body of the highest organ of state power and state administration. Its function and power includes the authority of administrative legislation, the right to submit proposals, the power of administrative leadership, the power of diplomatic administration and so on. Directly under the State Council, SASAC is a special commission who has the responsibility as an investor: to supervise and to enhance the management of the state-owned assets, to guide the reform and reconstructions of SOEs and so on. For a more detailed explanation see: "Main Functions and Responsibilities of SASAC," accessed July 2014, http://www.sasac.gov.cn/n2963340/n2963393/. On January 4, 2008, SASAC published "Guidelines for State-owned Enterprises directly under the Central Government on Fulfilling Corporate Social Responsibilities," accessed July 2014, http://www.sasac.gov.cn/n2963340/n2964712/4891623.html. On the same day, SASAC published Answer Questions from the Press on "Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities" explaining the Guidelines in detail, accessed July 2014, http://www.sasac.gov.cn/n1180/n1566/n259760/n264866/3621552.html.

47. Ibid.

48. In May 14, 2008, the Shanghai Stock Exchange (SSE) published "Guidelines of Shanghai Stock Exchange for Environmental Information Disclosure of Listed Companies," accessed July 2014, http://www.sse.com.cn/lawandrules/sserules/listing/stock/a/sseruler20080514a.pdf, and on December 12, 2012 it published "Guidelines for the Preparation of the "Report on Performance of Corporate Social Responsibility." These two documents offer considerable support to corporations, like Commercial Bank of China Limited, when preparing and publishing their CSR report. Each year SSE also publishes "Notice on Doing Good Job in Listed Companies' Annual Reports." SSE issues the Notice every year to guide its listed companies to file annual reports with special attention to certain important issues. The Notice of 2013 was prepared according to the "Rules No. 2 on Contents and Format of Information Disclosure by Companies Publicly Issuing Securities—Contents and Format of Annual Reports" of the China Securities Regulatory Commission (CSRC) and the "SSE Stock Listing Rules."

49. "Notice on Doing Good Job in Listed Companies' Annual Reports of 2013," Shanghai Stock Exchange (SSE), accessed July 2014, http://english.sse.com.cn/aboutsse/news/c/c_20140108_3762103.shtml.

50. "The social responsibility report should be released (if applicable)." Ibid.

51. "Guidelines for Social Responsibility of Listed Companies," Shenzhen Stock Exchange (SZSE), accessed July 2014, http://www.szse.cn/main/zxgx/9300.shtml.

52. "SZSE Promulgates Guidelines for Social Responsibility of Listed Companies," Shenzhen Stock Exchange (SZSE), accessed July 2014, http://www.szse.cn/main/en/AboutSZSE/SZSENews/9641.shtml.

53. SZSE encouraged "adopted the voluntary information disclosure system for implementation conditions of social responsibility of listed companies." Ibid.

54. "Guidelines to Small and Medium Enterprise on Corporate Social Responsibilities," China Association of Small and Medium Enterprises (CASME), accessed July 2014, http://www.baidu.com/link?url=BuzXcRkFkSm6_nGhin28d51Rs8ZCwa-gRa0uCXLzVgtpwqXcJB-j0N2GWwghEHS_LIplphgf48H1pbXCCFp7BFK.

on the core interest of stakeholders of SMEs, these guidelines urge enterprises to recognize four main categories of social responsibility: employment, environment, market, and community.[55]

According to this report, SMEs account for over 99% of the total number of enterprises in China, represent about 60% of the total economy, and generate about 50% of fiscal revenue. At the same time, they have created nearly 80% of urban jobs, while developing more than 60% of the country's invention patents and 75% of its technological innovations.[56] Thus, their role in sustainable development is as important as that of the CSOEs, although changing their practices will be more difficult given that CASME does not have the authority of the Chinese government in the way that SASAC does.

An especially important industry association is the CEO-led and member-driven China Business Council for Sustainable Development (CBCSD). Founded in October 2003,[57] the CBSCD is a coalition of 72 leading Chinese and foreign enterprises registered and operating in China and is a national organization sponsored by the Ministry of Civil Affairs. Its three major objectives are: (1) to be the leading business advocate on issues related to sustainable development; (2) to provide input to the government and assist in policy development in order to create a framework that allows business to effectively contribute to sustainable development; and (3) to promote exchange and cooperation between Chinese and foreign business enterprises on a broad range of issues related to sustainable development and corporate social responsibility. In pursuing this third objective, the CBCSD works closely with the World Business Council on Sustainable Development by implementing relevant projects in China and co-hosting seminars and workshops.

The CBCSD sponsors both industry-specific projects (such as low-carbon eco-cites, smart grid and electrical utilities, and sustainable development in mining and minerals) and "cross-cutting themes" (like ecosystems, technological innovation, risk management, and the "circular economy"). The CBCSD was the first organization in China to initiate the compilation of a sustainable development report. During each of the last 10 consecutive years, the CBSCD has held an annual workshop on the latest trends in sustainable development. Other industry associations have also announced their own guidelines that have had a profound influence in their respective industries.[58] These standards have been playing an important role in helping enterprises to develop sustainable business models and to prepare CSR reports with respect to the unique features of different industries.

Government think tanks are also playing an important role in supporting sustainable development in China. For example, the Research Center for Corporate Social Responsibility, which is part of the Chinese Academy of Social Science (CASS-CSR), is a strong advocate of CSR reporting and the criteria on which such reports should be based. Besides publishing the Blue Book[59] from 2009 to 2013 and the *White Book of Chinese CSR Reports*[60] from 2011 to 2013,[61] CASS-CSR also published (in March 2011) the "China Corporate Social Responsibility Reporting Guidelines" (known as "CASS-CSR 2.0"), which are now followed by many Chinese companies.[62]

CASS-CSR 2.0 is based on a "four-in-one" model that, in turn, derives from the traditional "triple bottom line" and "stakeholder" concepts. The implementation of CASS-CSR 2.0 involves the monitoring of 21 indicators of "responsibility management" that cover each of the six major aspects of CSR: strategy, governance, integration, performance, communication, and research.[63] CASS-CSR 2.0 also recognizes the importance of tailoring CSR reporting and requirements to reflect differences in industry characteristics. Thus, besides the general indicators, CASS has established "supplementary" indicators that have been customized for 46 industries, identifying the different features of each industry with respect to CSR.[64]

Sustainability in the Top 100

55. Ibid.

56. Ibid.

57. Information on the China Business Council on Sustainable Development was obtained in a meeting with them on August 22 in Beijing and materials sent by Ji Qing, Secretariat Director, on that same day.

58. For example, see: "China Industrial Enterprise and Industrial Associations Social Responsibility Guidelines in 2008," the China Federation of Industrial Economics (CFIE), accessed July 2014, http://www.csr-china.net/templates/node/index.aspx?nodeid=3596d7f3-799a-4e48-bb94-e492f49538df&page=contentpage&contentid=7884215c-3041-450c-94cc-03091327e56d&l=cn. The Responsible Supply Chain Association published its own standard "China Social Compliance 9000 for Textile & Apparel Industry" in the same year, accessed July 2014, http://www.csc9000.org.cn/PDF/2008_CSC9000T_CN_Final.pdf; and the China Banking Association issued "Guidelines for Corporate Social Responsibility of Chinese Banking and Financial Institutions" in 2009 China Banking Association issued Guidelines for Corporate Social Responsibility of Chinese Banking and Financial Institutions" in 2009, accessed July 2014, http://www.china-cba.net/bencandy.php?fid=42&id=1183.

59. In the *Blue Book,* Research Center for CSR in Economics Division of Chinese Academy of Social Science (hereinafter referred to as "the Research Center for CSR of CASS") discusses the history and current situation of CSR in China, and releases a series rankings of enterprises (SOE, Private Enterprise and FOE) based on their CSR reports' score evaluated by CASS-CSR's rating committee.

60. In the *White Book*, the Research Center for CSR of CASS rates 1084 CSR reports from different industries according to *China Corporate Social Responsibility Reporting Guidelines (CASS-CSR 2.0)* and analyzes the characteristics of the current CSR development in China.

61. Qunhui Huang et al., *Blue Book of Corporate Social Responsibility (2013).* Beijing: Social Sciences Academic Press (CHINA), 2013; Zhong, Hongwei et al., *White Book of Chinese CSR Reports (2013).* Beijing: Economy & Management Oyblishing House, 2013.

62. Huagang Peng, ed. *China Corporate Social Responsibility Reporting Guidelines (CASS-CSR 2.0).* Beijing: Economy & Management Oyblishing House, 2011. The section, "Principle of the CSR Report" in Chapter 2 of CASS-CSR 2.0 is composed with reference to the G3 Gridlines published by GRI in 2006.

63. Ibid, 130.

64. The industry-specific method that CASS-CSR chose is very much along the lines of the approach that other organizations in the international society adopted. Independent 501(c) 3 non-profit organization, the Sustainability Accounting Standards Board (SASB) developed sustainability accounting standards for more than 80 industries in 10 sectors.

65. "tf. Sales USD," available from Thomson Reuters via Thomson ONE, accessed August 2014.

As we pointed out at the beginning of this article, the world's largest companies are as important, if not more important, than governments in creating a sustainable society. Wal-Mart, the largest company in the world, and China Petroleum & Chemical Corp. (Sinopec), each had approximately $475 billion in sales in 2013,[65] with 2,200,000 and 1,015,039, employees, respectively.[66] While governments can make policies, we must rely on individual companies to put them into practice. Whether these policies are effective depends on the quality of company implementation and the effectiveness of government monitoring—both of which are often problematic in China. To compound the issue, companies have to make numerous choices about how they use and allocate resources that are not covered by laws and regulations. When companies take the initiative to voluntarily support sustainability, it is an important indicator of company commitment to the movement.

The above section shows that China, at least in terms of legislation and rhetoric, is increasingly recognizing the importance of sustainability. But are actions matching words? We can offer a crude assessment using some basic indicators that provide a basis for comparing the largest 100 publicly listed Chinese companies (China 100) with their publicly listed U.S. counterparts (U.S. 100). In 2013, the total revenues of the U.S. 100 were $7.7 trillion, nearly twice that of the China 100's $4.0 trillion.[67] The differences in market cap and profitability are even larger. Total profits for the U.S. 100 were $732.7 billion, or 9.6% of sales, as compared to $52.3 billion in profits for the China 100, which amounted to 1.3% of their total sales and less than 10% of the profits of their U.S. counterparts. As a further indicator of the profitability of the U.S. 100, these companies account for 42.6% of the profits of the Global 1000.[68] What's more, the U.S. companies also dominate in terms of market cap, at a ratio of 3.5 to 1.[69] And they have an average P/E ratio of 16, as compared to about 10 for their Chinese counterparts.[70]

These differences in relative profitability and market cap are partly attributable to the large percentage of SOEs in the China 100. Fifty-eight of these companies are State-controlled in that the government owns 50% or more of the company; the P/E ratio for this group is 4.81. Although all of the China 100 companies have outside shareholders, this group may be placing relatively more emphasis on other stakeholders and objectives beyond profitability, at least in the short term.[71] The government owns between 20% and 50% in 16 other China 100 companies, and less than 20% in three others. For this group of 19 "shareholder-controlled" companies, the P/E ratio is 15.05, close to the U.S. average. The remaining 23 companies have little, if any, state ownership. These companies have an average P/E ratio of 13.63—which is actually smaller than that of the shareholder-controlled group.

Table 1 **Percent of Companies Preparing a GRI Sustainability Report by Quartile**

Quartile	China	U.S.
First (1-25)	76	80
Second (26-50)	56	68
Third (52-75)	44	60
Fourth (76-100)	40	56

We examined two, admittedly imperfect, indicators of sustainability on the part of these companies: participation in the UN Global Compact (Global Compact)[72] and publication of a sustainability report that uses guidelines from the Global Reporting Initiative (GRI).[73] These indicators are imperfect because both can be a form of "greenwashing," a practice in which a company presents itself as committed to sustainability, while their actual business operations belie the claim. As relatively small nonprofit organizations, neither one of these organizations has the authority, let alone the resources, to monitor and ensure that each company is following the "spirit" of their intent. Thus, it is possible that what a company claims to be doing through its membership in the Global Compact or in its sustainability reporting may be at odds with how it is run on a day-to-day basis.

Imperfect is not the same thing as meaningless. If these two indicators were both easy and costless forms of greenwashing, every company would be doing them. One of the objections to sustainability reporting is that it takes resources.

66. "Global 500 2013," *Fortune*, accessed August 2014, http://fortune.com/global500/2013/royal-dutch-shell-plc-1/.

67. The U.S. companies are also larger in terms of employees with an average of 62,335 compared to 31,635. All averages here and below were determined using the Thompson Tau technique to remove outliers. "tf. Sales USD," available from Thomson Reuters via Thomson ONE, accessed August 2014. "tf. Employees," available from Thomson Reuters via Thomson ONE, accessed August 2014.

68. Net Profit data was available for 997 out of 1000 top companies; they had a sum of $1.72 trillion. (Ninety-six companies reported net loses.) Of the G1000, the US accounts for 268 companies. "ws.NetProfit12MonthMovingUSD," available from Thomson Reuters via Thomson ONE, accessed August 2014.

69. "tf. YrEndMarketCap," available from Thomson Reuters via Thomson ONE, accessed August 2014.

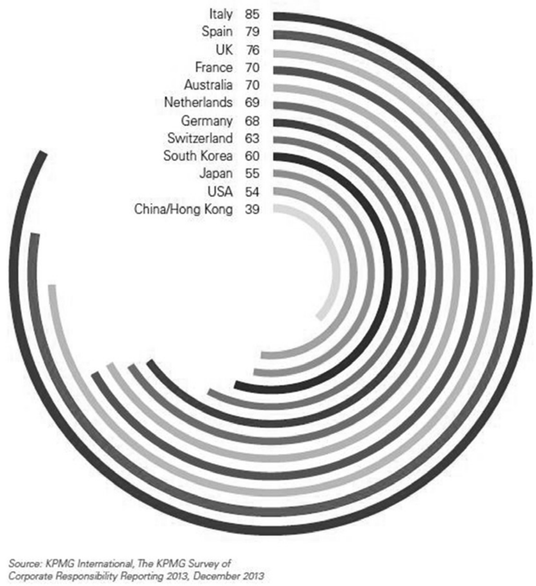
70. "tf. PERatioClose," available from Thomson Reuters via Thomson ONE, accessed August 2014.

71. Ibid.

72. "The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption. By doing so, business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere." "Overview of the UN Global Compact," United Nations Global Compact, accessed August 2014, http://www.unglobalcompact.org/AboutTheGC/index.html. Signatories to the Global Compact agree to follow 10 principles: two regarding human rights, four regarding labor, three regarding the environment, and one regarding anti-corruption. "The Ten Principles," United Nations Global Compact, accessed August 2014, http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html.

73. "The Global Reporting Initiative (GRI) is a leading organization in the sustainability field. GRI promotes the use of sustainability reporting as a way for organizations to become more sustainable and contribute to sustainable development." "About GRI," Global Reporting Initiative, accessed August 2014, https://www.globalreporting.org/information/about-gri/Pages/default.aspx.

Figure 1 **Average Quality of G250 Reports by Country**[1]



UN Global Compact LEAD Company Highlights[2]

How are LEAD companies committing to sustainability?

Environmental	Social	Governance
• The Dow Chemical Company made it a company priority to reduce their GHG emissions. Dow reports preventing over 308 million metric tons of GHG, or the average footprint of 48 million single-family homes since 1990. • In 2012, The Coca-Cola Company helped recycle 371 million pounds of aluminum and PET plastic containers in the US and Canada. Coca-Cola continues to inspire consumers to recycle through their various country-specific initiatives including Zero Waste Scotland and the Keep America Beautiful campaign.	• In 2013, China Development Bank offered small loans to youth entrepreneurs. The loans put over 2,000 women into work which helped raise their average annual income by 8,000 yuan. • Intel Corporation announced in its 2013 CSR Report that it was able to manufacture microprocessers that are 100% "conflict-free."	• Sinopec announced that it was the first Chinese company to build an information sharing platform and organizational structures to combat corruption. • In 2012, China Minmetals Corporation received an award from SASAC for "Outstanding Enterprise." China Minmetals continues to work to improve managements and its services to decrease costs and improve efficiency. China Minmetal's Iron Ore and Steel Strategic Business Unit was able to reduce its management costs in 2012 by 16.9%.

1. Rated by top 250 companies as determined by the Fortune Global 500 ranking for 2012. "The KPMG Survey of Corporate Responsibility Reporting 2013," KPMG International, December 2013, accessed September 2014, https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013-exec-summary.pdf.

2. "Sustainability Disclosure Database: Dow 2013 Sustainability Report," Global Reporting Initative, accessed September 2014, http://database.globalreporting.org/reports/view/21654. "Coca-Cola: 2012-2013 Sustainability Report," The Coca-Cola Company, accessed September 2014, http://www.coca-colacompany.com/sustainability/. "China Development Bank: Sustainability Report 2013," China Development Bank, accessed September 2014, http://www.cdb.com.cn/english/Column.asp?ColumnId=190. "Intel Look Inside: 2013 Corporate Responsibility Report," Intel Corporation, accessed September 2014, http://csrreportbuilder.intel.com/PDFFiles/CSR_2013_Full-Report.pdf. "Sinopec: 2012 Communication on Progress for Sustainable Development," Sinopec Corp., accessed September 2014, http://english.sinopec.com/download_center/reports/2012/20130324/download/2013032523.pdf. "2012 China Minmetals Sustainability Report," China Minmetals Corporation, accessed September 2014, http://www.minmetals.com.cn/upload/attachment/1371430065447a.pdf.

For instance, those companies that choose to become a signatory to the Global Compact must also report through the required "Communication on Progress."[74] That said, it is highly unlikely that resource limitations are an issue for the top 100 in each country, so this should not be a significant barrier to companies intent on misleading their investors and the public by wrapping themselves in a "green mantle."

In fact, the decision to participate in the Global Compact

74. "Business participants in the UN Global Compact commit to make the Global Compact ten principles part of their business strategies and day-to-day operations. Companies also commit to issue an annual Communication on Progress (COP), a public disclosure to stakeholders (e.g., investors, consumers, civil society, governments, etc.) on progress made in implementing the ten principles of the UN Global Compact, and in supporting broader UN development goals." "What Is a COP?," United Nations Global Compact, accessed August 2014, http://www.unglobalcompact.org/COP/index.html. The COP may or may not take the form of a sustainability report which applies the GRI Sustainability Reporting Guidelines; COP format is at the discretion of the reporting company.

and to issue a GRI-based sustainability report carries commitments beyond fulfilling reporting requirements. Companies that commit to these organizations create general expectations on the part of stakeholders and civil society about their behavior. These companies are voluntarily holding themselves to a higher standard and can be punished for failing to do so.

The data support the argument that participation in the Global Compact and issuing a GRI-based sustainability report is an important decision for a company to make. The data also show that in terms of the each country's top 100, China and the U.S. are virtually identical in terms of these indicators of corporate commitment to sustainability. Of course, this is not the same thing as saying these sets of companies or the countries as a whole are equally committed to sustainable development. This would require a much more detailed analysis at both the country and company level.

Only 15 of the U.S. 100 participate in the Global Compact—exactly the same number as the China 100. The total number of listed U.S. companies in the Global Compact is 542, and in China it is 285.[75] Moreover, Global Compact LEAD convenes a subset of approximately 50 companies that have been invited to participate "because they have a history of engagement with the UN Global Compact—locally and/or generally."[76] Companies that accept the invitation "are challenged to implement the Blueprint for Corporate Sustainability Leadership" and "to address Blueprint implementation in the Communications on Progress (COPs)."[77] Overall, the U.S. has more LEAD members than China: the U.S. has six members, followed by China at five. (See the box inset for a description of some LEAD companies for both countries.) The U.S. 100 has four members and the China 100 has one.[78]

The U.S. 100 and the China 100 also look very similar in terms of quantity and quality of GRI reporting, although more U.S. companies produce reports than their Chinese counterparts—66 vs. 54.[79] Part of this difference could be attributable to the fact that the GRI's presence in China is more recent and that it was not until 2014 that its Guidelines were made available in Chinese.[80] However, both countries are almost identical when it comes to the rate of adoption. As shown in Table 1, the larger the company, the more likely it will have issued a GRI sustainability report. About four-fifths of the top quartile report in both countries. Each succeeding quartile has a smaller percentage of GRI reporters than the one above it, the percentages are always highest for the U.S., and the percentage difference between the two countries grows larger in each succeeding quartile.[81]

The two countries also appear to be similar in terms of the quality of their CSR reporting. In a study done by KPMG of corporate responsibility reporting of the largest 100 companies by revenues in 41 countries, an assessment was made of the quality of reporting by the Global 250. As shown in Figure 1, China ranks last and the U.S. second-to-last. Both of these countries are far below the top ranked countries of Italy, Spain, and the U.K.[82]

Conclusion

China is facing enormous challenges to maintain its economic growth in order to accommodate its ongoing development and urbanization while doing so in a more sustainable way. The country is already suffering enormous environmental and social costs, and these will only grow if firm measures aren't taken. The potential consequences for China—and the entire world given China's increasing importance—are enormous.

Nevertheless, there is a high level of awareness in all aspects of Chinese society—the government, the private sector, the press, and its citizens themselves—that sustainable development must become a higher priority. Using some crude empirical indicators, the largest 100 companies in China appear to be as committed to sustainable development as their U.S. counterparts. More sophisticated analysis comparing these two countries in terms of policies and practices for sustainable development is needed—and we plan to start that analysis soon.

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75. "Global Compact Participants," United Nations Global Compact, accessed August 2014.

76. "Global Compact LEAD," United Nations Global Compact, accessed August 2014, http://www.unglobalcompact.org/HowToParticipate/Lead/index.html.

77. Ibid. For more information see: "Blueprint For Corporate Sustainability Leadership," United Nations Global Compact, 2010, accessed August 2014, http://www.unglobalcompact.org/docs/news_events/8.1/Blueprint.pdf. "Designed to inspire advanced performers to reach the next level of sustainability, the Blueprint sets targets that all companies should work towards in order to ascend the learning and performance curve."

78. Germany has four LEAD companies, five countries have three, three countries have two, and the remaining 15 countries have one each. "Global Compact LEAD," United Nations Global Compact, accessed August 2014, http://www.unglobalcompact.org/HowToParticipate/Lead/index.html.

79. "United Nations Global Compact," UN Global Compact, accessed August 2014, https://www.unglobalcompact.org/.

80. Versions of the guidelines are available in Simplified Chinese and Traditional Chinese. "G4 Now Available in 10 Languages," Global Sustain, accessed August 2014, http://globalsustain.org/en/story/9788.

81. "Sustainability Disclosure Database," Global Reporting Initiative, accessed August 2014, http://database.globalreporting.org/pages/about.

82. "The KPMG Survey of Corporate Responsibility Reporting 2013," KPMG International, December 2013, accessed September 2014, https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/corporate-responsibility-reporting-survey-2013-exec-summary.pdf.