TAMING THE DRAGON: HOW CORPORATIONS IN CHINA CAN BE EMPLOYED TO FURTHER ENVIRONMENTAL RISK MANAGEMENT

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INTRODUCTION

Environmental degradation in China has reached a critical point. The international community has begun to put pressure on the Chinese government to take steps toward remediation and prevention of future harm to the environment. The Chinese government has also recognized the severity of the situation, and, in response, created one of the world's most comprehensive systems of environmental laws and regulations. Enforcement of those laws, however, is inadequate. This is due in part, but not limited to: corruption, lack of man power, lack of funding, vague drafting of regulations, cultural barriers, and the immense population and land area of the country. In an effort to remedy lack of enforcement, the Chinese government has targeted specific sectors, requiring internal implementation of environmental risk prevention mechanisms. With help from the International Finance Corporation (IFC), the Chinese government has regulated the financial sector. The Green Credit Policy (GCP) requires all banks and financial institutions to internally implement systems for environmental risk management of loans and project finance. Currently, the Chinese government has also proposed, but not implemented, an administrative rule pertaining to internal environmental management of major industrial sources. Although this would require internal environmental risk management systems similar to the GCP, enforcement of industrial sources will face different challenges. While internal implementation within financial institutions can be monitored through loan and project finance statistics, industrial environmental risk management monitoring is much more complex. There are a much larger number of industrial sources in China than financial institutions, and ensuring that internal systems are functioning properly will require increased monitoring resources and infrastructure. In order for this or a similar regulation to succeed, the Chinese government will need to take collaborative measures to ensure implementation. With an enormous presence in China and the international community, corporations must play a role in enforcement. The Chinese government can and must employ corporations as collaborative partners to ensure internal implementation of Environmental Health and Safety (EHS) management systems within Chinese industries.

I. THE ENFORCEMENT PROBLEM

Unlike in the United States where the U.S. Government is able, in part, to play the role of a third party inspector for compliance with environmental laws and regulations, lack of allocated manpower and financial resources prevents the Chinese government from conducting adequate inspections. EHS law is highly regulated in China, but enforcement is very low.[1] Lack of enforcement is due largely to EHS not being a government priority, which leads to inadequate resources and infrastructure.[2] China's large population makes it difficult for inspectors to reach every company on a consistent basis; penalty application is challenging to identify and apply. Superficial numbers in monitoring reports often go unchecked,[3] and enforcement often varies drastically between local, provincial, and central governments.[4] Consequently, companies are not very motivated to comply with the law. In order for enforcement to be effective, the Chinese government must invest more money in resources and infrastructure, and encourage local competition for compliance.[5]

II. CORPORATIONS IN CHINA

As of March 2009, there were over 9,717,700 enterprises in China, including their branches and affiliations.[6] Domestic enterprises accounted for 9,283,800, including 6,642,700 private companies. Foreign-invested enterprises accounted for 433,900.[7] Experts project the number of

1. Interview with Peixiang Peggy Long, EHS Product Stewardship Manager–AP, GE Power & Water, Water & Process Technologies, in Bejing, China (Dec. 27, 2010).
2. Telephone Interview with Qin Zhigang, EHS Director, North Asia, GE Corporate (Dec. 14, 2010). There have been only about 30 years of industrial legislation in China and, while it is easy for the government to learn and legislate, it is difficult to implement and enforce. *Id*. Often, the drive to meet specific provincial economic growth goals outweighs the need to comply with EHS laws and regulations.
3. *Id*.
4. Interview with Peixiang Peggy Long, *supra* note 1.
5. Interview with Qin Zhigang, *supra* note 2.
6. State Administration for Industry and Commerce of PRC (SAIC), National Development Report for Market Players (First Quarter of 2009), http://www.saic.gov.cn/zwgk/tjzl/zhtj/bgt/200905/t20090511_47153.html.
7. *Id*.

multinational corporations (MNCs) that operate in China will only increase now that China is a member of the World Trade Organization.[8]

Traditionally, only those factories that emitted pollutants directly would be compelled to bear environmental responsibility; but with the development of societies, economies, and the global community, other institutions are now being held responsible for their actions—including banks, corporations, and MNCs. Localization has increased the influence of MNCs on China's environment. Since the market status of China drastically improved, MNCs doing business in China have adjusted their business strategies to include local products.[9] Localization involves many sectors including research, production development, management, and marketing.[10] "Through more active localization, multinational corporations can make full use of local operating resources, reduce production costs, achieve more market penetration opportunities, and control the market in a more comprehensive way."[11] With such a large influence in China, it is in the government's best interest to monitor and control how the actions of MNCs and domestic corporations affect the country and the industries with which they interact.

The influence of MNCs on China's environmental protection is not purely harmful. In fact, MNCs are motivated to lobby for enforcement of environmental laws and regulations.[12] "Investment plays a role in improving China's environmental practices" and "many [MNCs] choose the most environmentally sound technologies and undertake thorough environmental impact assessment voluntarily."[13] Almost all MNCs and corporations consider their reputation one of their most important assets; they want to sell themselves to China and the global market, and therefore comply with environmental laws and regulations.[14] However, "while all [MNCs] are motivated in part by protecting their reputations, they also have a purely economic incentive to lobby China's government for stricter

8. Adam Briggs, *China's Pollution Victims: Still Seeking a Dependable Remedy*, 18 GEO. INT'L ENVTL. L. REV. 305, 320 (Winter, 2006); China was admitted into the World Trade Organization on Dec. 11, 2001. *See* World Trade Organization, China, Member Information, http://www.wto.org/english/thewto_e/countries_e/china_e.htm (last visited March 15, 2011).

9. Prof. Zhang Wei & Daragh Moller, *Localization: How Multinational Corporations Survive and Develop in China*, BEJING THIS MONTH (June 15, 2004), http://www.btmbeijing.com/contents/en/business/2004-06/coverstory/localization.

10. *Id.*

11. *Id.*

12. Briggs, *supra* note 8, at 319.

13. *Id*.

14. Telephone Interview with Colleen Connor, Manager and Counsel, GE Water and Process Technologies, General Electric Company (Dec. 9, 2010).

environmental enforcement against their less-scrutinized Chinese competitors."[15] Foreign investors in China often complain that they cannot compete with local enterprises because the local enterprises do not comply with environmental laws and there is no enforcement.[16] Relatively, it is much more expensive for foreigners to "do business in China and compete."[17] Additionally, MNCs have an incentive to comply with environmental laws to please their stakeholders.[18] "[T]o the extent that a business can increase its positive impacts (value-creation) or decrease its negative impacts, it will increase its value propositions, its competitive advantage in the market, and better manage its risk."[19] Therefore, in order to fairly compete with Chinese industries and corporations while at the same time maintaining a good reputation and pleasing stakeholders, MNCs should encourage compliance with EHS laws and regulations across the board in China.

III. CORPORATE SUPPLY CHAINS

Corporations often contract with industrial facilities for parts or materials, and therefore are linked through a supply chain. When one company purchases parts or materials for manufacturing from another facility, that facility is part of their supply chain. To what degree corporations are responsible for their supply chain's compliance with laws and regulations is a controversial issue; that they dramatically influence their supply chains, however, is undisputed. The level of EHS that corporations and companies require of their suppliers dictates how much the supplier feels they must be in compliance to continue business. Additionally, the price at which corporations and companies purchase products from their suppliers indicates how much environmental risk can be calculated into the sale. Because an increasing number of corporations and MNCs contract with Chinese industrial facilities, corporations are an underutilized tool for enforcing compliance with EHS laws and regulations

15. Briggs, *supra* note 8.
16. *Id.*
17. *Id*.
18. "Stakeholders are any person or interest group, including governments, upon which the business has an impact or that has the power to impact the business." Mark A. Buchanan*, Social Contract, Corporate Social Responsibility, Counsel and the ISO 2600 Guidance on Social Responsibility*, 52 Advoc. 17, 17 (October 2009).
19. *Id*.

within their supply chains, especially considering their large presence in China.

IV. APPLE CASE STUDY

The following case study of Apple Inc.'s presence in China illustrates the effect corporations have on the EHS management of their suppliers. Apple has recently been cited as one of the most harmful MNCs in China.[20] In a new report, issued as a collaborative work by several Chinese non-governmental organizations (NGOs), Apple was criticized for many EHS violations, lack of transparency, and utter lack of accountability for its supply chain.[21] Apple's website states: "Apple is committed to ensuring that working conditions in Apple's supply chain are safe, that workers are treated with respect and dignity, and that manufacturing processes are environmentally responsible." In practice, however, it seems that Apple does not follow through with these promises.[22]

Apple does not have any large-scale manufacturing facilities of its own, and therefore manufactures almost all of its products through suppliers.[23] Due to a lack of transparency, Apple has made it nearly impossible to identify which facilities are actually its suppliers. Additionally, the corporation refuses, in most instances, to take responsibility for the actions of any of its known suppliers.[24] Although Apple has a legitimate claim to secrecy surrounding its research and development, when it comes to EHS, "these problems are not related to the creation of original technology and materials and given that they affect other people, they should not be treated as commercial secrets."[25] When confronted, the corporation stated: "Apple has a long standing practice of not disclosing our supply base."[26] It is hard

20. David Barboza, *Apple Cited as Adding to Pollution in China*, N.Y. TIMES, Sept. 1, 2011, http://www.nytimes.com/2011/09/02/technology/apple-suppliers-causing-environmental-problems-chinese-group-says.html.

21. Friends of Nature, IPE & Green Beagle, *The Other Side of Apple* (Jan. 20, 2011) [hereinafter *The Other Side of Apple*].

22. *Id*. at 5.

23. *Id*. at 23.

24. *Id*. at 19; s*ee id*. at 20–21 ("In 2010, a coalition of 34 Chinese environmental protection organizations communicated on multiple occasions with 29 IT brands in order to promote solutions to pollution problems within the IT industry. During this nine month process, both foreign and Chinese organizations, as well as the poisoned workers, experienced firsthand Apple's ability to evade and deflect questions.").

25. *Id.* at 23.

26. *Id.*

not to suspect that Apple uses this secrecy "to avoid undertaking its environmental and social responsibilities."[27]

In the recently issued report, *The Other Side of Apple*, Apple's suppliers were cited for many EHS violations: lack of reporting and compliance with laws and regulations, use of dangerous chemicals paired with inadequate occupational protective gear, hazardous waste material run-off, general pollution, negative effects on local communities due to pollutant emission levels, violation of privacy, violation of work hours, and suicides due to labor violations.[28] One example occurred in 2008 at Lian Jian Technology. This factory supplies touch screens to Apple and one day began using the chemical *n-hexane* to clean the touch screens. The supplier violated the *Law on the Prevention and Control of Occupational Disease* "by not alerting authorities or notifying its employees before they began using a toxic chemical. They also did not supply appropriate protection equipment to their workers."[29] As a result, many of Lian Jian's employees were severely poisoned and hospitalized.[30]

Considering that Apple does not manufacture most of its products at its own facilities, it is nearly impossible not to hold it responsible for the actions of its suppliers. Because Apple outsources most of its manufacturing processes, it "creates fierce competition among the enterprises, placing Apple in a strong position as a large buyer. If Apple's purchasing only considered quality and price and not social responsibility, they would actually put pressure on the supply chain, making them sacrifice the environment, health, and worker standards to reduce costs and to win Apple's business."[31] Apple's products have become such a "hot commodity" that its power to set pricing could deter suppliers from being socially responsible.[32] The economist Lang Xianping explains as follows:

> In the first half of 2006, Apple sales were 8.5 million, an increase of 61%, and more than 10 billion dollars in revenue. Apple made so much money, now I ask you, how much did Foxconn[33] make? With every Apple product

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27. *Id.*
28. *Id.* at 5–18.
29. *Id.* at 8.
30. *Id.*
31. *Id.* at 29.
32. *Id.*
33. "From January to May 2009 Apple's largest supplier in China, Foxconn, had incidents whereby 12 employees successively jumped from buildings over a period of less than six months . . . Random checks of 5,044 Foxconn workers by the Shenzhen Human Resources and Social

> Foxconn earns 4 US dollars, and Apple takes the other 99%. What does this 4 US dollars include? It covers electricity expenses, equipment expenses, and the cost of materials. Labor costs are calculated by Apple according to where Foxconn is situated – in Shenzhen, the minimum amount of payment is multiplied by each product's maximum working hours. Foxconn's decisions such as labor costs, raw materials, and manufacturing processes all involve decisions made by Apple.[34]

Since Apple refuses to take responsibility for its supplier's actions or to disclose information regarding its relationships with suppliers, it is easy to speculate that it could be taking "advantage of the lack of transparency in globalized sourcing . . . to externalize costs on the environment, the workers and the communities to maximize its super profits."[35]

In order to illustrate the severity of Apple's violations, *The Other Side of Apple* report compared Apple to other international brands and to other IT brands operating in China.[36] In 2007, the Green Choice Alliance got together with MNCs to conduct independent investigations of their Chinese suppliers and to encourage them to take measures to correct EHS violations and disclose information.[37] Unlike Apple, many of the MNCs, including Walmart, Nike, Esquel, GE, and Unilever, have already taken action to remedy the issues found during the investigations.[38] Notably, GE has "already pushed 15 companies to issue statements and make improvements," conducted "several rounds of communications with the NGOs to review third party audit standards and to discuss how its internal audit team could use the NGOs database to identify violations," and plans

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Security Bureau showed that 72.5% of workers worked overtime exceeding the limit, with each worker working 28.01 more hours than the legal overtime limit." *Id.* at 15–16.

34. *Id.* at 29.

35. *Id.*

36. *See id*. at 24. Stating that on:

> March 22nd, 2007, twenty-one Chinese environmental protection groups jointly launched the Green Choice Alliance (GCA) and developed a green choice supply chain management system. The GCA works together with multinational companies to undertake independent investigations of their Chinese suppliers, as well as encourage these suppliers to make corrective measures and disclose corporate information. Nike, GE, Wal-Mart, Esquel, Unilever and a number of large enterprises are currently working together with the GCA, using the NGO's 'China Pollution Map Database' to strengthen the environmental management of their supply chain.

Id.

37. *Id.* at 24.

38. *Id.* at 24–5.

to "check the NGO database before signing a new contract with a supplier."[39] Additionally, 34 Chinese NGOs conducted rounds of communication and discussion with 29 IT brands operating in China.[40] They found that Apple is not alone in its violations, however "the major difference between Apple and other I.T. brands is that none of the others were as evasive and resistant. Instead, some leading I.T. brands have taken positive steps to promote transformation of suppliers, generating the much-needed motivation for pollution control."[41]

It is clear from this case study that corporations have a large impact on the actions of their supply chain. The actions of a corporation could, in fact, prevent a supplier from being able to take adequate measures to meet EHS standards. If corporations choose to take responsibility for their supply chain's compliance with EHS regulations, then they can play an important role in the future of China's environment and the health of its people. The following section, a case study of General Electric's (GE) work in China, illustrates how a corporation's actions can improve EHS compliance.

V. GE CASE STUDY

GE exemplifies how an MNC complies with and ensures that its supply chain is in compliance with China's laws and regulations. GE's exemplary work with its suppliers includes: consistent and continual audits of suppliers;[42] contractual obligation of compliance with suppliers;[43] training and assistance;[44] and collaboration with government, NGOs, international organizations, and other MNCs.[45] GE states on its website that it is "committed to conducting . . . business in China successfully and ethically, holding our employees, our suppliers and our partners in China to the same rigorous standards we do wherever we do business."[46]

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39. *Id.* at 5.
40. *Id.*
41. *Id.* at 26. *See also id.* at 26–28 (providing detailed information on other IT brands).
42. Telephone Interview with Cheng Ge, Asia EHS Leader, Power & Water, GE Energy (Dec. 19, 2010); Supplier Expectations, GE, http://www.ge.com/citizenship/our-priorities/our-suppliers/supplier-expectations.html (last visited March 15, 2011).
43. Interview with Qin Zhigang, *supra* note 2; Supplier Expectations, *supra* note 42.
44. EHS Training Units Completed, GE, http://www.ge.com/citizenship/our-priorities/our-people/health-safety/ehs-training-completed.html (last visited March 15, 2011).
45. Telephone Interview with Ellen Proctor, Senior Counsel—Compliance & Regulatory, Asia GE Corporate (Jan. 12, 2011).
46. Doing Business in China, General Electric, http://www.ge.com/news/our_viewpoints/china.html (last visited March 15, 2011).

GE has five million shareholders and its stocks are some of the most widely held in the world. It is comprised of over 288,000 employees, has been in China for over 100 years and employs "more than 11,000 people across 53 locations in greater China."[47] The corporation aims to be a "responsible member of the community" and is currently working with China's National Development and Reform Commission (NDRC) to "drive environmentally sound technologies in China including cleaner-coal power generation, renewable energy, water reuse and desalination, high-efficiency and low-emission aircraft engines and locomotives, energy-efficient lighting and power distribution."[48] All GE suppliers are expected to protect the environment, "not adversely affect the local community," and to obey laws that "require them to treat workers fairly, respect freedom of association, prohibit discrimination and harassment, provide safe and healthy working environment, and protect environmental quality."[49]

Qin Zhigang, the North Asia EHS Director at GE Corporate, explains that the corporation makes it very clear in the supplier's contractual responsibilities that they must meet local EHS requirements as well as some additional human rights requirements.[50] GE recognizes that provincial laws are often more stringent than the national laws and therefore suppliers must be in compliance with local laws and regulations.[51] GE, in turn, has its own set of requirements to ensure that EHS issues are properly addressed. If a local or national law is unavailable or does not exist, then suppliers are required to fulfill the GE requirement.[52] Whenever there are conflicting requirements, suppliers are required to meet the more stringent one.[53]

In order for a manufacturer to become a supplier for GE, it must undergo a strict review process to ensure that it is in compliance with, or capable of complying with, all relevant EHS laws and regulations.[54] When a manufacturer is being considered, its facilities are reviewed based on strict criteria, and if risky operations are identified, then the facilities are looked at more closely.[55] A supplier quality engineer (SQE) conducts an EHS audit

47. Telephone Interview with Michael Patenaude, Geologist, GE (Nov. 30, 2010); GE, 2009 Citizenship Report: Renewing Responsibilities, 7, *available at* http://www.ge.com/citizenship/reporting/.

48. Doing Business in China, *supra* note 46.

49. Supplier Expectations, *supra* note 42.

50. Interview with Qin Zhigang, *supra* note 2; Supplier Expectations, *supra* note 42.

51. Interview Cheng Ge, *supra* note 42.

52. *Id.*

53. *Id.*

54. Interview with Colleen Connor, *supra* note 14.

55. *Id.*

of each applicant facility in order to ensure proper compliance with EHS requirements.[56] In most situations, if a facility does not fulfill the required standards, then it is given an opportunity to remediate the faulty operation.[57] If the facility is brought into compliance, then the facility will be approved as a GE supplier, but it will continue to face audits and reassessments on a variable schedule.[58] In 2009, GE assessed more than 2,600 suppliers and reassessed more than 1,750.[59] As a result of the assessments, it has required "thousands of suppliers to obtain permits, improve their environmental performance and come into compliance with law."[60]

The Supplier Responsibility Program, through which suppliers are approved after EHS audits, started in the 1990s, but has evolved in the years following. Ellen Proctor, former Director and Counsel for GE's Environmental, Health, and Safety Division in Asia, noted that it has been an evolutionary path and that there is no one-size-fits-all structure for each supplier.[61] Although the auditing system has progressed to better handle the challenges of diverse suppliers, the corporation still faces many obstacles including supplier falsification.[62] Recently, when a GE auditor conducted a site visit in China, all of the employees at the site were wearing safety glasses with tags on them. After conducting the audit and noting that all requirements were fulfilled, the auditor feigned leaving the facility and when he ran back in, the glasses were already off and back in a collection box.[63] Other challenges mentioned by GE employees include: lack of a systematic approach amongst suppliers to ensure sustainable new development, large and complex supply chains, and low levels of training and leadership.[64]

GE has initiated several programs and projects in an attempt to remedy these issues. First, GE holds an annual supplier summit that brings together leaders from all facilities that are contractual suppliers.[65] This summit facilitates sharing of information between suppliers and allows GE to provide training to suppliers.[66] Additionally, GE brings in government

56. Interview with Cheng GE, *supra* note 42.
57. Interview with Colleen Connor, *supra* note 14.
58. Interview with Cheng GE, *supra* note 42.
59. Supplier Expectations, *supra* note 42.
60. *Id.*
61. Interview with Ellen Proctor, *supra* note 45.
62. *Id.*
63. Interview with Michael Patenaude, *supra* note 47.
64. Interview with Ellen Proctor, *supra* note 45.
65. Interview with Colleen Connor, *supra* note 14.
66. *Id.*

representatives to inform the suppliers of new and proposed regulations.[67] Second, GE "spends significant time each year training both operations leaders and EHS professionals on how they can be more effective in implementing EHS programs."[68] GE has collaborated with NGOs and other organizations to create self-sustaining training programs, most notably the Environmental, Health and Safety Academy in Guangzhou.[69] Third, GE makes an effort to work with the government to share best practices and coordinate supplier requirements.[70] Through its work in China, GE has learned that collaboration is an important mechanism, and that it is good business to know the regulators and the community in which you operate.[71]

In the future, GE hopes to help suppliers find a more systematic approach to EHS management.[72] From 2006 to 2008, the corporation found that "improvements in the EHS and labor practices of . . . suppliers were most sustainable when they had management systems in place to monitor, measure and improve performance."[73] Thus, in 2009, GE incorporated an evaluation of suppliers' management systems into its supplier assessment program, for instance "whether there was a dedicated staff to oversee EHS and labor compliance."[74] Colleen Connor, EHS Manager and Counsel for GE Power & Water, explains that GE has a very hands-on approach and tries to have reporting throughout the supply chain—from EHS manager to plant manager to MNC.[75] She notes that an important part of any EHS management system is ensuring that managers report to an authoritative figure in order to implement change throughout the facility. She also noted that it is important to keep *environment*, *health*, and *safety* management together because they are so inextricably interconnected.[76]

By enforcing compliance with EHS laws and regulations throughout its supply chain, GE's actions benefit not only China and the environment, but also its own business. GE has built a valuable reputation for itself in China and has protected itself from environmental risk—including degradation of its own reputation within China and abroad.

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67. *Id.*
68. EHS Training Units Completed, *supra* note 44.
69. Interview with Qin Zhigang, *supra* note 2.
70. Interview with Cheng GE, *supra* note 42
71. Interview with Ellen Proctor, *supra* note 45.
72. *Id*.
73. Supplier Expectations, *supra* note 42.
74. *Id*.
75. Interview with Colleen Connor, *supra* note 14.
76. *Id*.

Every project and activity in which a business engages involves environmental risk (the possibility of causing damage to the environment or the consequences of non-compliance with environmental laws and regulations).[77] When a corporation's actions cause serious harm to the environment, it faces consequences. First, corporations face State-imposed fines and mandatory remedial action based on environmental laws. These consequences range from initial sanctions to pollution charges and fines, remedial requirements, or business license/permit revocation. Second, as citizens become increasingly aware of environmental regulations and legal methods for holding businesses accountable for their actions, businesses become more likely to face lawsuits where they may be forced to pay for their environmentally destructive actions. Corporations that assume high environmental risk may face issues of solvency, bankruptcy, or dissolution, as well as damage to their reputation. These outcomes could lead to a decrease in consumer interest and difficulty in obtaining qualified employees as well as national and international support. For corporations, contracting with suppliers that assume high environmental risk means that they will in turn assume high risk; and since it is in the corporation's best interest to take all steps necessary to avoid assuming risk, it is clear why ensuring its supply chain complies with EHS requirements is a smart economic decision for corporations like GE.

VI. How to Encourage Environmental Risk Management Systems and Ensure corporations comply with EHS laws within their Supply Chains

To preserve and protect China's environment and the safety of Chinese workers, industrial facilities must comply with EHS laws and regulations. Experts agree that, in order to ensure compliance, facilities must implement internal EHS management systems.[78] As shown through the above case

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77. Tang Shuange, *Study on the Principles of Risk Prevention in Environmental Law—Dialogue Between Legal and Science*, HIGHER EDUC. PRESS, 14 (Aug. 2004).

78. While working with industrial facilities, ISC came to the conclusion that a main reason for low levels of compliance with EHS regulations is due to lack of sufficient EHS management. Interview with Matthew Degroot, Senior Program Officer, China, Inst. for Sustainable Cmtys., in Montpelier, Vt. (Oct. 27, 2010). ISC convened a roundtable discussion with their multinational partners in an attempt to discover what the largest barrier is between companies that have proper EHS compliance and those that do not. *Id.* The main conclusion from the roundtable was that each company needed an "internal champion," someone in the company to handle EHS management who not only understands the technical requirements of EHS but also how to manage and why it is sensible to invest in proper EHS compliance. *Id.* In 2006-08, the corporation found that "improvements in the EHS and labor practices

studies, corporations have a significant influence over the industrial facilities with which they work. Therefore, the Chinese government should employ corporations as collaborative partners to ensure internal implementation of EHS management systems within Chinese industries.

There are two questions we hope to answer: how to encourage Chinese industries and corporations to implement EHS risk management systems and how to encourage corporations to play an authoritative role in ensuring that these systems are executed and utilized throughout their supply chains. The answers go beyond enactment of law.[79] In order to answer our questions, this article will first examine how the Chinese government has regulated the financial sector through mandatory environmental management systems for loans and project finance (the Green Credit Policy). Second, we will use analysis of the Green Credit Policy (GCP), case studies and discussions with professionals to explain five proposed solutions to the lack of industrial EHS regulatory compliance in China. These solutions include: (1) government promulgation of a national policy of mandatory internal EHS management systems in major industrial sources; (2) government incentives; (3) corporations as a hierarchical authority to enforce EHS standards; (4) collaboration between MNCs, government, NGOs, international organizations, and industrial facilities; and (5) training of EHS managers, facilities, and MNCs.

A. Analysis of the Green Credit Policy

In order to support environmental protection measures, the Chinese government promulgated the GCP, which requires Chinese banks and financial institutions to provide low interest rate loans to businesses and organizations that develop pollution control facilities or engage in ecological protection (through development of energy conservation mechanisms, green manufacturing, eco-agriculture, etc).[80] The Equator Principles (EP) are the historical and international source of the GCP.

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of . . . suppliers were most sustainable when they had management systems in place to monitor, measure and improve performance." Supplier Expectations, *supra* note 42.

79. Interview with Ellen Proctor, *supra* note 45.

80. He Dexu & Zhang Xuelan, *Some Thoughts about Commercial Banks Carrying Out GCP in China*, SHANGHAI FIN. 12 (2007). The GCP was initiated when the People's Bank of China issued the *Notices on Implementation of Credit Policy and Promotion of Environmental Protection*, which set forth rules on how financial institutions were to implement national environmental policies. Notices on Implementation of Credit Policy and Promotion of Environmental Protection (promulgated by China State Council), *available at* http://www.chinaacc.com/new/63/69/110/1995/2/ad594249401116259919555.htm. In 2005, the State Council promulgated a series of regulations and policies relating to the idea of the GCP including *the*

The EP is a voluntary international regulation[81] aimed at developing and managing social and environmental risks related to project finance.[82]

Implementing Scientific Concept of Development for Promoting Environmental Protection, in which the government proposed the establishment of a comprehensive policy system to support environmental protection—with a green credit policy explicitly listed as one of the means for achieving that goal. Guo Wu Yuan Guan Yu Luo Shi Ke Xue Fa Zhan Guan Jia Qiang Huan Jing Bao Hu De Jue Ding (国务院关于落实科学发展观加强环境保护的决定) [Implementing Scientific Concept of Development for Promoting Environmental Protection] (promulgated by China State Council, Dec. 3, 2005, effective Feb. 14, 2006) XINHUANET NEWS, Feb. 14, 2006, *available at* http://news.xinhuanet.com/politics/2006-02/14/content_4179931.htm. Additionally, a number of departments and sections of the State Council—such as the People's Bank of China (PBC), the Environmental Protection Administration (named the Ministry of Environmental Protection), and the China Banking Regulatory Commission—issued administrative rules and policies, respectively. The administrative rules and policies can be found at the department's respective websites: www.pbc.gov.cn, www.cbrc.gov.cn, www.zhb.gov.cn. In July 2007, the State Environmental Protection Administration (today named the Ministry of Environmental Protection of the People's Republic of China (MEP)), in collaboration with the People's Bank of China and the CBRC, issued the *Opinions on Implementing Environmental Protection Policies and Rules and Preventing Credit Risks*, formally establishing the Green Credit Policy system in China. Opinions on Implementing Environmental Protection Policies and Rules and Preventing Credit Risks (promulgated by the MEP 2007), *available at* http://websearch.mep.gov.cn/info/gw/huanfa/200707/t20070718_106850.htm. The GCP stipulates that:

> [A]ccording to the state's environmental, economic and industrial policy, commercial banks, policy banks and other financial institutions should provide loans with low interest rates to support those enterprises or institutions which are developing, producing pollution control facilities or engaging in ecological protection and construction, development and use of energy, production of circular economy, green manufacturing and eco-agricultural, while these financial institutions also should limit the loans and provide loans with high interest rates to new projects of pollution enterprises as punitive measures.

Deng Yuwen, *Building GCP for the Energy Saving*, SHANGHAI SECURITIES NEWS (Jul. 20, 2007), http://money.163.com/07/0720/02/3JQF2AJG00251RJ2.html.

81. *The Equator Principles*, THE EQUATOR PRINCIPLES 1 (July 2006) [hereinafter *The Equator Principles*], http://www.equator-principles.com/resources/equator_principles.pdf; s*ee also About the Equator* Principles, THE EQUATOR PRINCIPLES 3 (2010) [hereinafter *About the Equator Principles*], http://www.equator-principles.com/index.php/the-eps-and-official-translations/38-about/about/195 (describing how "[t]he Equator Principles (EPs) are a voluntary set of standards for determining, assessing, and managing social and environmental risk in project financing").

82. *See* Li Ruimin, *What are the Equator Principles*, INT'L FIN., 5 (2007) (discussing that the Equator Principles are voluntary guidelines that banks and financial institutions choose to sign on to and implement within their organization); *see generally* THE EQUATOR PRINCIPLES, *supra* note 81 (describing how the EPs are a "financial industry benchmark for determining, assessing and managing social & environmental risk in project financing"); s*ee also id*. at 1n.1 ("Project finance is 'a method of funding in which the lender looks primarily to the revenues generated by a single project, both as the source of repayment and as security for the exposure. This type of financing is usually for large, complex and expensive installations that might include, for example, power plants, chemical processing plants, mines, transportation infrastructure, environment, and telecommunications infrastructure. Project finance may take the form of financing of the construction of a new capital installation, or refinancing of an existing installation, with or without improvements. In such transactions, the lender is usually paid solely or almost exclusively out of the money generated by the contracts for the facility's output, such as the electricity sold by a power plant. The borrower is usually an SPE (Special Purpose Entity) that is not

Financial institutions that adopt the EP do so "in order to ensure that the projects we finance are developed in a manner that is socially responsible and reflect sound environmental management practices."[83] Adopting financial institutions "commit to not providing loans to projects where the borrower will not or is unable to comply with . . . [the] respective social and environmental policies and procedures that implement the Equator Principles."[84]

Each adopting financial institution individually implements the EP; however, the implementation is structured and guided through coordinated procedures and documents continually updated on proper operation.[85] In order to create a level playing field and ensure one bank is not viewed as stricter than another, it is in the adopting institution's best interest to have a certain amount of coherence with other adopting institutions.[86] Nevertheless, the procedures and management systems of each adopting institution do vary, as do the levels of priority allocated to implementation of the EP and the overall effectiveness of implementation.[87]

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permitted to perform any function other than developing, owning, and operating the installation. The consequence is that repayment depends primarily on the project's cash flow and on the collateral value of the project's assets." BASEL COMMITTEE ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS: A REVISED FRAMEWORK (Nov. 2005), *available at* http://www.bis.org/publ/bcbs118.pdf.).

83. *The Equator Principles*, *supra* note 81, at 1.

84. *Id.*

85. *See The Equator Principles*, EQUATOR PRINCIPLES, http://www.equator-principles.com/index.php/the-eps-and-official-translations (last visited Sept. 30, 2011) (listing guidelines throughout the website on topics such as governance and best practices); *see also The Equator Principles Association-Governance and Management*, EQUATOR PRINCIPLES, http://www.equator-principles.com/index.php/governance-management (last visited Sept. 30, 2011) (listing governance and management practices); *Best Practice & Resources*, EQUATOR PRINCIPLES, http://www.equator-principles.com/index.php/best-practice-resources/best-practice-a-resources (last visited Sep. 30, 2011) (providing best practice resource documents). The guidelines for procedure are controlled by the adopting financial institutions (EPFIs)—organized into various committees and led by a steering committee. ABOUT THE EQUATOR PRINCIPLES, *supra* note 81, at 11 ("The current EPFI management structure is posted on the website at http://www.equator-principles.com/mgmt.shtml."). Each adopting EPFI internally implements the EPs based on the EPFI-provided guidelines, the IFC's "performance standards on social and environmental sustainability." *Performance Standards*, INT'L FIN. CORP., http://www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards (last visited Sept. 27, 2010); *Environmental, Health and Safety General Guidelines*, INT'L FIN. CORP., http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvironmentalGuidelines (last visited Sept. 27, 2010). EPFI steps for implementation are as follows: 1) Review and Categorization, 2) Social and Environmental Assessment, 3) Applicable Social and Environmental Standards, 4) Action Plan and Management Systems, 5) Consultation and Disclosure, 6) Grievance Mechanism, 7) Independent Review, 8) Covenants. *The Equator Principles*, *supra* note 81, at 2–5.

86. Telephone Interview with Eliza Eubank, Assistant Vice President, Env't Risk Mgmt., Citigroup Inc. (Nov. 4, 2010).

87. *Id.*

Similar to the EP, the purpose of the GCP is to increase funding to enterprises and institutions that can promote environmental protection and energy efficiency, and to decrease funding to enterprises and projects that are wasteful of natural resources and harmful to the environment.[88] The GCP has three main components: (1) "strengthening commercial banks' management of environmental performance"; (2) "environmental information sharing between the environmental authority and [the] financial sector"; and (3) "responsibilities for violation of the policy." [89] This rule is intended to increase emission reduction and prevent credit risk by improving coordination of environmental protection initiatives, enforcing environmentally-conscious granting of credit, and promoting environmental supervision.[90] The GCP not only prohibits financial institutions from granting credit to projects that are not approved through environmental impact assessment or facility review, but also encourages banks to provide loans to environmentally friendly projects.[91]

The GCP regulation requires each financial institution to internally implement a management system to enforce its requirements.[92] Because the

88. Deng *supra* note 80. Under the GCP, a "credit blacklist" of companies is established and continually updated. Those companies that do not meet the Ministry of Environmental Protection's (MEP) environmental standards due to high-energy consumption, pollution, or environmental risk, are listed on the "credit blacklist" and banks are prohibited from lending to the companies until "the companies remedy their environmental violations and are cleared from the blacklist." Adina Matisoff & Michelle Chan, *Friends of the Earth–US, The Green Revolution*, Environmental Policies and Practice in China's Banking Sector, 9 (Nov. 2008), *available at* http://www.banktrack.org/show/pages/publications (citing Pan Yue, *SEPA Released a Report on the 1st Phase Implementation of China's Green Credit Policy: Yue Pan Addressed the Barriers for the Green Credit Policy*, unofficial translation from original Chinese press release, Ministry of Foreign Affairs, 1 (Feb. 13, 2008)). The MEP drafts the "credit blacklist," and passes it to the Central Bank for inclusion in its credit database and the China Banking Regulatory Commission (CBRC) for incorporation into banking policies and "compliance monitoring activities." *Id.* at 10.

89. Motoko Aizawa & Chaofei Yang, *Green Credit, Green Stimulus, Green Revolution? China's Mobilization of Banks for Environmental Cleanup*, 19 J. ENV'T & DEV. 119, 125 (2010).

90. Opinions on Implementing Environmental Protection Policies and Rules and Preventing Credit Risks (promulgated by Ministry of Environmental Protection of the People's Republic of China 2007), *available at* http://websearch.mep.gov.cn/info/gw/huanfa/200707/t20070718_106850.htm.

91. *Id.*

92. *See e.g.* INDUSTRIAL BANK, ANNUAL SUSTAINABILITY REPORT 69 (2009), *available at,* http://download.cib.com.cn/netbank/download/en/Sustainability/2009_report.pdf (establishing a sustainable finance division, which is responsible for managing social and environmental risks and promoting sustainable finance). The *Opinions on Implementing Environmental Protection Policies and Rules and Preventing Credit Risks* was just the beginning of the Green Credit Policy. Since 2007, a number of detailed rules have been issued by the State Council and its divisions, such as the Notice on Further Promoting to Achieve the Targets of Energy Conservation and Emission Reduction in the Eleventh Five-Year Plan (promulgated by the China State Council, 2010) at 12, and Proposals on Further Improving Support for Financial Services on Energy Conservation and Emission Reduction and

rules of the GCP set more of a guideline than direct requirements, financial institutions must issue their own specific rules and procedures as a first step in operation before actual execution of the regulation.[93] To assist financial institutions in implementation of the GCP, the China Banking Regulatory Commission (CBRC) issued *Guidance on Credit Issues about Energy Conservation and Emission Reduction* to advise institutions on how to enact internal regulations.[94] These regulations include: work programs for risk response to high-consumption and high-emission enterprises, credit policy and operating rules, and specific procedures and rules regarding energy conservation and emission reduction.[95] Furthermore, the CBRC encourages the board of trustees of each bank and financial institution to designate specific and professional personnel to be in charge of the implementation of the GCP.[96] In order to strengthen the application of the GCP, the CBRC conducts periodic on-site compliance audits and asks all financial institutions to issue a quarterly report on the progress made implementing "environmental risk management and loan classification based on environmental impacts."[97] Mr. Ye Yanfei, Deputy Director of the Statistic Department at the CBRC, explained that the:

> CBRC partners with other governmental agencies and a number of international organizations, including IFC and Equator Banks to organize training and workshops allowing banks to exchange experience and gain exposure to international best practices in managing environmental and social risks. CBRC has set up a web-based information system on enterprise environmental performance.

Backward Production Capacity (promulgated by the People's Bank of China and China Banking Regulatory Commission, 2010) at 170. Since China has yet to achieve its targets for emission reduction and energy conservation and credit risks related to environmental issues still exist, more regulation is necessary and likely to be promulgated under the GCP.

93. Proposals on Further Improving Support for Financial Services on Energy Conservation and Emission Reduction and Backward Production Capacity (promulgated by the People's Bank of China and China Banking Regulatory Commission, 2010) at 170.

94. Guidance on Credit Issues about Energy Conservation and Emission Reduction (promulgated by China Banking Regulatory Commission, 2007), *available at* http://www.cbrc.gov.cn/chinese/home/jsp/docView.jsp?docID=2008012930FCCC1E38353DB3FF2AEC3D4D73B000.

95. *Id.*

96. *Id.*

97. *China's Green Credit Policy, Experience and Lessons for Vietnam*, BUSINESS ISSUES BULLETIN, Oct. 30, 2009, at 3, *available at* http://www.ifc.org/ifcext/mekongpsdf.nsf/AttachmentsByTitle/BIB-30-Eng-Vn/$FILE/BIB-30-Eng-Vn.pdf.

> Most . . . banks can access . . . this portal and check information about their potential borrowers and even existing clients.[98]

Due to grave environmental degradation in China, criteria under the GCP must be strict in order to prevent further harm. Since all financial institutions in China are required to comply with the GCP, there is less fear of competition. Mr. Ye Yanfei explains:

> [T]he key to successful adoption of a Green Credit Policy is to demonstrate how green lending increases profits and reduces risk, thus generating economic gain to lenders while simultaneously supporting better environmental and social conditions for the greater public. The Green Credit Policy not only responds to China's demand for curbing pollution and energy consumption, but also appeals to the natural instinct of banks to generate reliable revenues from lending and minimize lending risks to enterprises that do not adhere to environmental regulations or that cause catastrophic incidents.[99]

The GCP has "enroll[ed] the entire banking sector in the effort to improve environmental quality;"[100] however, it still faces obstacles before it can be a "success." The main deficiency of the GCP is lack of adequate governmental enforcement. Due to the government's "assigned high priority to economic development goals that may end up undercutting environmental targets," few resources have been allocated to enforcing the GCP.[101] This has been accentuated by the recent global economic recession.[102] The "lack of disclosure on environmental issues makes it very difficult to analyze the real effectiveness of their policies, but some banks have indeed cut lending to polluting and energy intensive industries."[103] Thus far, the most successful implementation of China's green regulations as well as international sustainability norms has been seen in China's small-

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98. *Id*.

99. *Id*. at 2.

100. Matisoff & Chan, *supra* note 88.

101. *Id*.

102. Alexandra Tracy, *Sustainability Versus Stimulus–Which Way for China's Banks?*, INVESTMENT & PENSIONS ASIA, http://www.ipe.com/asia/sustainability-versus-stimulus-which-way-for-china-s-banks_35767.php?categoryid=5788 (last visited Dec. 9, 2010).

103. *See id*. (describing how the lack of transparency of environmental issues here refers to lack of transparency by the national government, not necessarily the individual bank's reporting to the national government).

and medium-sized banks. This is likely due in part to having "fewer credit lines to the largest state conglomerates, and hence more capacity to be flexible and innovative."[104]

Regardless of the challenges the GCP still faces before reaching its potential, enactment of this regulation was a step in the right direction towards achieving increased sustainable development and environmental protection within China. The GCP can and should act as a model for other sectors, including industrial. The GCP has effectively made internal environmental management systems mandatory within the entire financial sector—including providing guidance and procedure and encouraging the hiring of specialized personnel. The GCP was executed through collaboration of government entities, as well as international and domestic related organizations; it provides training for implementing facilities; it encourages information sharing; it appeals to the nature of the business to perpetuate existing needs; and, through mandatory compliance, it has reduced the sector's fear of being less competitive due to implementation of environmental risk mechanisms. Application of the purpose and procedures of the GCP could be effective in other sectors of Chinese society, and it could eventually act as a model to the international community. The industrial sector is one of the most environmentally harmful sectors in Chinese society and should be regulated, as was the financial sector.

Specifically, internal EHS management systems can and should play a critical role for both the financial and industrial sectors' pursuits of environmental social responsibility. Experts agree that the industrial sector's low level of compliance with EHS laws and regulations is due in large part to a lack of adequate internal environmental management.[105] Many Chinese industries, however, are opposed to implementing additional environmental management procedures because they fail to see how the immediate benefits will outweigh the costs. Even those that have systems refuse to update and ensure proper functioning because there is no authoritative oversight to encourage or enforce such application.

Through the GCP, the Chinese government has begun to employ financial institutions to mitigate environmental risk throughout supply chains. The risk management mechanisms that are mandatory for financial institutions under the GCP could be valuable tools for industrial supply chains as well and could play an important role in encouraging implementation of EHS management systems.

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104. *Id*.
105. *See supra* note 77.

1. The Correlation between Financial Institutions and Industrial Facilities

Financial institutions and industrial facilities are both specialized enterprises and, therefore, they should address environmental corporate social responsibility similarly. When faced with environmental issues, financial institutions try to reduce credit risk and, thus, the Equator Principles and the Green Credit Policy arose. Similarly, industrial management systems arose when the industrial facilities took steps to mitigate operation risk and comply with laws and regulations.

Financial institutions and corporations in China also have similar supply chains. Financial institutions provide credit to companies that, in turn, purchase parts, products, or materials from other facilities (the suppliers). Corporations both purchase parts, products, or materials from other facilities and receive credit from financial institutions. Therefore, Corporations and financial institutions are often part of the same or similar supply chains. Just as financial institutions and corporations have similar supply chains, they have a similar impact on their supply chains. The level of EHS that corporations require of their suppliers dictates how much the suppliers feel they must be in compliance in order to conduct business; analogously, the level of EHS that financial institutions require in order to receive credit dictates how much companies feel they must be in compliance to begin new projects. Thus, both corporations and financial institutions should be employed to enforce and/or encourage EHS compliance throughout their supply chains.

2. Benefits of Implementing Systems Similar to the EPs and the GCP

The reasonable undertaking of social responsibility by companies, including banks, will not only decrease operating costs and increase profits, but also, in the long run, instill in the enterprises that recognize and address their social and environmental obligations a competitive advantage over those enterprises that avoid their responsibility. First, enterprises that address their social and environmental obligations will be prepared to handle unexpected risks, and, therefore, develop more sustainable business practices. Banks that fund projects that take into consideration social and environmental responsibility will, in turn, face fewer unexpected risks. Second, both banks and companies that recognize environmental and social responsibility will improve their reputation. A positive reputation is invaluable to banks and institutions alike. Superficially, investing in environmental protection may initially decrease profits, but it will make an indelible contribution by increasing the value of intangible assets, such as reputation, that may lead to potential business opportunities. Finally, banks and enterprises concerned with environmental issues will be consistent with international trends in support of sustainable development. This will allow for a broader international platform and likely more national support as well.

It is important to note that, while EHS management systems are beneficial to the implementing companies, they are also significantly beneficial to the surrounding communities and to the world. The systems will improve environmental protection immediately and lead companies to look to less harmful operation methods for future business. The next five sections will discuss how to enforce and/or encourage internal EHS management systems within industrial facilities and encourage corporations to play an authoritative role in enforcing EHS laws and regulations.

B. National Policy of Internal EHS Management Systems

In order to initiate mandatory internal management systems within Chinese industries—similar to those required under the GCP—the Chinese government should pass a national law that requires mandatory internal implementation of EHS management systems in all major industrial sources. The government should also require Chinese corporations to ensure that their supply chains are in compliance with EHS laws and regulations. There are many Chinese corporations and companies in China that have similar supply chains to MNCs, and ,while government incentives may be the only mechanism for encouraging MNCs to participate in their supply chain's compliance, the Chinese government holds more authority over Chinese corporations and enterprises.

The Ministry of Environmental Protection proposed an administrative rule in 2008 entitled *Notice on Development of Pilot Work for the System of Enterprises' Environmental Supervisor*. If adopted, this rule would establish and develop enterprises' internal environmental management.[106] The goal of the proposed rule is to enhance enterprises' awareness of social and environmental responsibility, regulate enterprises' environmental management, and improve enterprises' environmental behavior.[107] Due to lack of transparency, however, it is unclear when, if ever, this proposed rule will be implemented or whether further steps have been taken in its

106. Notice on Development of Pilot Work for the System of Enterprises' Environmental Supervisor (promulgated by the Ministry of Environmental Protection of the People's Republic of China 2008), *available at* http://www.zhb.gov.cn/info/bgw/bwj/200809/t20080923_129268.htm.

107. *Id.*

development.[108] EHS management systems are not a priority for the Chinese government; nevertheless, such systems are essential to the protection of the Chinese people and their environment. The Chinese government should, therefore, use its authority to enforce implementation and regulate environmental management systems within industrial sources.

A law requiring mandatory internal EHS management for major industrial sources should be promulgated nationally, and the creation of such a law should be a collaborative effort. Collaboration will ensure that the law addresses all issues necessary to guarantee that EHS management systems function properly and are not just for show. Two important aspects of all EHS compliance management are data distribution and transparency.[109] First, the law should require that EHS management systems provide for monitoring and reporting to the government and the public. Second, EHS managers should have authority to implement and correct problems within the facility, not just identify them.[110] The EHS managers must have a clear line of communication with the company owner to ensure that issues are reported and addressed.[111] Additionally, the EHS manager and management system should not be independent of the facility.[112] The EHS manager should guide and train all employees, and everyone at the facility should have EHS roles.[113] The manager should be responsible for communicating to the facility and its employees the benefits of the system and why the policies he or she implements are important and beneficial to the workers and the facility.[114]

Nevertheless, even if the Chinese government passed a law requiring internal EHS management systems in industrial facilities, then the issue of enforcement of proper implementation would still be a challenge. For this issue, we provide three solutions: MNCs as a hierarchical authority, government incentives for both MNCs and Chinese industries, and collaboration.

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108. Email Interview with Qin Hu, Environmental Defense Fund in China (Dec. 6, 2010 and Dec. 13, 2010); *Department of Environmental Protection Files*, MINISTRY OF ENVTL. PROT. OF THE PEOPLE'S REPUBLIC OF CHINA, http://www.zhb.gov.cn/info/bgw/bwj/200809/t20080923_129268.htm (last visited Sep. 30, 2011). The authors of this article were unable to find additional information regarding this proposed rule and the possibility of its promulgation or further development.

109. Interview with Ellen Proctor, *supra* note 45.

110. Interview with Michael Patenaude, *supra* note 47.

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

C. Corporations as a Hierarchical Authority to Ensure EHS Compliance within their Supply Chains

MNCs and Chinese corporations can and should play the role of a hierarchical authority within their supply chain. Corporations seek good reputations, economic savings, and cooperation of their supply chains; they also face pressure from environmentally-conscious consumers.[115] For these reasons, the ability of a corporation's supply chain to comply with EHS requirements is important to the survival of the corporation. Since corporations enter into contracts with their suppliers, they have the power to require suppliers to meet certain standards. As Qin Zhigang, EHS Director of North Asia at GE explained, it is a carrot and stick approach.[116] Corporations should refuse to work with companies that do not comply with EHS standards. In order for a facility to earn a contract (the carrot), suppliers should be required to meet governmental standards as well as the corporation's EHS requirements (the stick).[117]

Vertically integrated factories do exist, but not everywhere. Many corporations do not have ongoing relationships with their suppliers and instead choose suppliers based purely on the cheapest product. This, however, is not a supply chain; instead, it is simply a range of suppliers without long-term relationships. It is beneficial to China, and to corporations, to foster relationships between enterprises and their suppliers. This can be facilitated through the collaborative efforts of corporations, NGOs, and international organizations. It will not, however, progress as quickly or find as much credibility without government influence.

D. Government Incentives

The Government should encourage EHS compliance by offering Chinese industries incentives to comply as well as MNCs and Chinese corporations incentives to ensure that their supply chains are in compliance with EHS laws and regulations. Government incentives should include: tax incentives, less time to wait on applications for permit approval, advanced notice of audits and inspections, subsidized training, and certification and recognition.[118] In order for corporations to play an authoritative role within

115. Interview with Qin Hu, *supra* note 108.
116. Interview with Qin Zhigang, *supra* note 2.
117. Interview with Qin Zhigang, *supra* note 2.
118. Interview with Colleen Connor, *supra* note 14; Interview with Ellen Proctor, *supra* note 45; Interview with Cheng GE, *supra* note 42; Telephone Interview with Susan Keane, Environmental Analyst, NRDC (Dec. 16, 2010).

their supply chains and enforce environmental standards, they must foster relationships with their suppliers. The Chinese government should incentivize the creation of supply chain relationships and encourage corporations to only contract with facilities that will guarantee compliance with EHS laws and regulations.

First, the government should provide tax incentives to corporations that can prove their supply chain is in compliance. Second, if a corporation can show that they are in compliance and that their supply chain is in compliance with all EHS laws and regulations, then the government should advance the permit requests of those corporations to the top of the pile; the permit would still undergo the same rigorous review, but it would be more efficient for the compliant corporation.[119] Third, corporations that show compliance should be given advanced warning of government audits and inspections. Again, the audits and inspections would be of the same caliber as noncompliant corporations. However, those that can show their supply chain is in compliance would be given advance notice of and possibly fewer audits as time went on.[120] Fourth, the Chinese government should work with universities and organizations to subsidize EHS management training.[121] Those industries that participate in training should be given priority by corporations for contractual relationships. Finally, corporations and industries that can show compliance should be recognized for their achievements through certification—to positively impact their reputation within China.[122] Similar to the Voluntary Protection Program (VPP) under the Occupational Health & Safety Administration (OSHA) in the United States, the Chinese government should nationally recognize those facilities that achieve compliance with EHS laws and regulations.[123]

Corporations should also implement incentive programs within their supply chains to encourage compliance with EHS standards. Beyond contractual requirements, corporations can create preferred provider lists, blacklists, or gold star certification programs.[124] If a supplier does well meeting EHS standards, they should be put on a priority supplier list that places them first in line to receive a new contract from the corporation. Likewise, if a supplier does not comply, then they should be put on a

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119. Interview with Colleen Connor, *supra* note 14

120. *Id*.

121. Interview with Cheng GE, *supra* note 42. *See* section VII.F. (EHS Academy as an example organization.).

122. Interview with Colleen Connor, *supra* note 14; Interview with Ellen Proctor, *supra* note 45.

123. *Voluntary Protection Program*, OCCUPATIONAL HEALTH & SAFETY ADMINISTRATION, http://www.osha.gov/dcsp/vpp/ (last visited March 15, 2011).

124. Interview with Susan Keane, *supra* note 118.

blacklist and denied contracts until they remedy their violations. In addition, corporations should provide certification or gold star recognition for good performance in order to positively impact the supplier's reputation within the community.

E. Collaboration

One of the most important solutions we have identified is collaboration between MNCs, NGOs, international organizations, and the government. By working together, the government could capitalize on the resources of MNCs, NGOs, and international organizations, collectively. NGOs and international organizations could help facilitate training and information sharing between MNCs. MNCs could then correlate and unify supplier requirements and inspections in order to make the system of compliance less complex for Chinese industries.

The main barriers keeping Chinese industries from complying with EHS laws and regulations and MNCs from ensuring compliance throughout their supply chains are lack of information, unification, resources, and motivation. All of these things can be facilitated through collaboration. Charles Di Leva, Chief Counsel of the Environmental and International Law Unit of the World Bank, suggested that the World Bank and the IFC can and should play a larger role as facilitators.[125] The Chinese government should utilize international organizations like the World Bank and the IFC as facilitators to encourage MNC workshops, collaborative research, and unification of standards.

The supply chains of industrial facilities are so long and complex that all willing and interested parties should be utilized to identify problems and unify solutions. When noncompliance is beneficial to a company because it gives them a competitive advantage over those who are in compliance, it is nearly impossible to convince the non-complying company to change their operations. By unifying standards, training, and best practices throughout the industrial sector, competitive pricing could include calculation of environmental risks. Nevertheless, there are already many examples of collaborative work in China, and we will not see real change occur until collaboration is coupled with enforcement.

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125. Telephone Interview with Charles Di Leva, Chief Counsel, Environmental and International Law Unit, The World Bank (Dec. 15, 2010).

F. Training Systems

Many factory managers and workers do not understand how or why compliance with EHS regulations will improve their factory or their lives. Due to lack of enforcement in China, factories do not comply with laws and regulations purely because they fear the consequences they will face if they do not; thus in order to achieve increased EHS compliance, factories must understand how compliance with EHS standards is good for them and good for their communities. The best way to help factories understand is through training and information sharing. This article will discuss three training mechanisms as model examples: The Institute for Sustainable Communities, The Environmental Health and Safety Academy, the Natural Resource Defense Council's Clean by Design Project, and Business for Social Responsibility.

The Institute for Sustainable Communities (ISC) is an international NGO that works with communities to address "environmental, economic, and social challenges."[126] While working with industrial facilities, ISC came to the conclusion that a main reason for low levels of compliance with EHS regulations is the lack of sufficient EHS management.[127] ISC consequentially joined forces with several MNCs (including GE, Walmart, and Citi) and Lingnan College at Sun Yet Sen University to seek a solution to the problem. ISC convened a roundtable discussion with their multinational partners in an attempt to discover what the largest barrier is between companies that have proper EHS compliance and those that do not. The main conclusion from the roundtable was that each company needed an "internal champion," someone in the company to handle EHS management who understands not only the technical requirements of EHS, but also how to manage and why it is sensible to invest in proper EHS compliance.[128] In response to their research, ISC has partnered with many organizations (including USAID, MEP, Guangdong Economic Trade Commission, and Guangdong Environmental Protection Bureau) to assist in the creation and establishment of an affordable EHS Academy in Guangzhou, China.[129]

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126. Institute for Sustainable Communities, http://www.iscvt.org/who_we_are/ (last visited Dec. 8, 2010). In China, ISC launched the Guangdong Environmental Partnership program in 2007 and "aims to reduce green house gas emissions, improve public health, and increase environmental accountability" by working with industry, government, communities, and schools. Institute for Sustainable Communities, China, http://www.iscvt.org/where_we_work/china/ (last visited Dec. 8, 2010).

127. Interview with Matthew Degroot, *supra* note 78.

128. *Id.*

129. The EHS Academy was launched in 2009 for the purpose of boosting "compliance with the Chinese government's ambitious environmental, health and safety targets and standards for energy use

The EHS Academy is unique within China because it is able to provide affordable training—unlike most other training programs which are much more expensive. This ability is due in part to funding from corporations such as GE, Walmart, Honeywell, Citi, Sabic, and USAID; and technical support from GE, Adidas, Hewlett-Packard, Business for Social Responsibility, and the World Resources Institute.[130] The MNCs that participate in the EHS Academy want to make changes in their own factories and within their supply chains, but do not consider themselves experts on the topic and, therefore, have found it is not cost effective to do it themselves.[131] The Academy is thus an excellent mechanism through which organizations and companies can work together to foster improvement in EHS management throughout China.

The Academy has created a profession within China—Environmental, Health, and Safety Manager. The Chinese government has approved the creation of the profession, and, once the textbooks are completed, the Academy will obtain national certification, hopefully allowing other schools to soon teach the profession as well.[132] After the Academy accomplishes its goal of creating the profession of EHS Manager, their next goal is to work with the government to create a certification process for

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and intensity." Institute for Sustainable Communities, EHS Academy Flier. The Academy is an organization of its own that continues its partnership with ISC. Tour and Interview at EHS Academy with Wang Xiaohui, Executive Director, Lingnan- ISC Environment, Health and Safety Academy for Chinese Enterprises, Asia Wang, Environmental, Health & Safety Academy Manager, ISC, Sophie Xiong, Deputy Director of China Operation, US-China Green Energy Council, Graduate Student, Sun Yet Sen University & Phyla Lin, Marketing & PR Manager, Lingnan-ISC Environmental, Health, and Safety Academy for Chinese Enterprises, in Guangzhou, China (Dec. 30, 2010) [hereinafter EHS Academy]. The Academy has 11 full-time employees and 80 temporary employees including 7–10 government officials and several MNC representatives. *Id.* So far, the Academy has trained almost 2,000 managers since the launch and certified 300. Matthew Degroot, *supra* note 77. There were 52 people in the first full graduating group and the second group is currently in the program. EHS Academy. The full program is 2–3 years and taught by professionals who undergo training sessions themselves. *Id.* Courses at the academy are offered in English and Chinese, in topics ranging from general environmental law (clean production, emissions management, health and safety, energy) to compliance with EHS laws and regulations. *Id.* The academy has a three-tier system for certification starting with an introduction to EHS management and leading up to courses on regulatory compliance, which is required for certification. Matthew Degroot, *supra* note 77. Participation at the EHS academy is approximately 70% from Chinese industries, 15% from multinational corporations, and 15% from government agencies. *Id.* The Academy staff also conducts off campus training at the request of MNCs and organizations. EHS Academy. The EHS Academy, in partnership with the Chinese government, has obtained provincial certification rights and is in the process of obtaining national certification for those who attend the academy. *Id.* They estimate that national certification could be a possibility within the year. Matthew Degroot, *supra* note 78.

130. Matthew Degroot, *supra* note 78.

131. EHS Academy, *supra* note 129.

132. *Id.*

EHS Management Systems within factories.[133] Wang Xiaohui, Executive Director of the Academy, recognizes that EHS is not as high a priority for the Chinese government as the economy. However, he has high hopes for the future and plans to push the government to move beyond talk to action.[134]

While in China, I was, fortunately, able to visit the Academy and sit in on a class. The class was engaged, asked lots of questions, and interacted throughout with their professor. It was clear that the professor was imparting to his students knowledge of not only how to comply, but also why it is important to comply in order to protect the environment as well as benefit their respective companies and organizations. After meeting with the Executive Director of the Academy, the Academy's Marketing Manager, and ISC's Academy Manager, it was clear that the staff is extremely dedicated to their work and that the Academy has a lot of support from MNCs, government, and international organizations.[135] Both ISC and the EHS Academy are admirable examples of environmental training in China, which can and should be expanded.

Our second example, the Natural Resources Defense Council (NRDC), has been working in China to train Chinese industries on how to use best practices to ensure compliance with environmental laws and regulations.[136] NRDC's Clean by Design project focuses on training Chinese industries on how they can best use environmental practices (such as greening of their buildings) to benefit the facility's reputation and financial wherewithal.[137] The project focuses on the textile industry.[138]

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133. *Id.*

134. *Id.* In addition to working towards certification for EHS Management Systems, the Academy hopes to work more in the community to help hospitals, schools, and local businesses. *Id.* The EHS Academy and ISC have received praise for their work in China, and ISC and its partners are now working on replicating the academy in Jiangsu ("an industrial province along the Yangtze River Delta"). Institute for Sustainable Communities, EHS Academy Flier. The Clinton global Initiative, The Clinton Global Initiative, http://www.clintonglobalinitiative.org/ (last visited Dec. 8, 2010), and President Clinton have publically praised ISC's efforts, and the EHS Academy video was featured at the 2010 Clinton global Initiative annual meeting. Environment, Health and Safety, Institute for Sustainable Communities, http://www.iscvt.org/where_we_work/china/article/ehs_academy.php (last visited Dec. 8, 2010).

135. EHS Academy, *supra* note 129.

136. The NRDC has 7–8 people on their environmental law team in China who work on assisting the building blocks of China's environmental law system and broadening the enforcement base for public interest environmental enforcement. Interview with Alvin Lin, Project Attorney, Natural Resources Defense Council, in Bejing, China (Dec. 27, 2010).

137. *Id.*

138. *Responsible Sourcing for Textile Industry*, NATURAL RESOURCES DEFENSE COUNCIL, http://www.nrdc.org/international/cleanbydesign/ (last visited March 15, 2011). NRDC's team of experts

The Clean by Design project started when NRDC experts began considering the idea of how MNCs influence China and how China does not have, or does not employ, enough human capacity to enforce environmental laws.[139] NRDC wanted to identify what makes compliance with environmental laws vary from province to province.[140] They recognized that rich and powerful companies sometimes have more power than governmental environmental enforcement mechanisms and that a lot of MNCs "talk the talk" but do not necessarily act on their intentions; their public philosophies are aligned with environmental protection, but their implementation is not.[141] In response, the project team approached some progressive companies, specifically Walmart, to identify why implementation was so difficult.[142] The team found out several things about the reality of MNC's influence on their supply chains. One of NRDC's findings was that MNCs have a lot of leverage over their direct suppliers, but those further down the supply chain are hard to control because MNCs do not have close relationships with suppliers far down the chain. In fact, MNCs often do not know or do not want to know exactly where their products are coming from.[143]

In response to these findings, NRDC decided to focus their project initially on training suppliers on first steps toward environmental risk management that are good for the bottom line of the factory as well as the environment (conserving water, energy, and materials).[144] Some of the best practices they identified as most important were communication tools. Each factory they visited had many different certifications of compliance from different MNCs, NGOs, and government entities.[145] Lin Zixin, Project Manager with the Clean by Design project, explained that it would be greatly beneficial to Chinese industries and regulators if there was more unification of standards.[146]

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has already "pioneer[ed] market-based approaches that will help solve global industrial pollution problems associated with apparel while improving the bottom line." *Id.*

139. Intierview with Susan Keane*, supra* note 118.

140. *Id.*

141. *Id.*

142. *Id.*

143. *Id.*

144. *Id.* The NRDC team spent almost 2 years trying to understand the typical problems that Chinese industries face concerning EHS compliance. Interview with Lin Zixin, Program Associate, Natural Resources Defense Council, in Bejing, China (Dec. 27, 2010). The team found it difficult to just walk into the facilities, so they worked with MNCs to gain access and understanding. *Id*. They went to over 30 factories and documented the best practices they found. *Id*.

145. Interview with Lin Zixin, s*upra* note 144.

146. *Id.*

Results from the NRDC Clean by Design project so far include a case study, issuance of a document "recommend[ing] 10 practical, easy-to-implement best practices for textile mills that significantly reduce water, energy or chemical use and improve manufacturing efficiency," and results demonstrating that the ten best practices can help industries and MNCs reduce pollution and save money.[147] The Clean by Design team is continuing its "initiative to green the global textile supply chain" and they hope that the program can sell as both a cost efficient program as well as a program to save the environment.[148] Susan Keane, an Environmental Analyst at NRDC, says that MNCs could play a dissemination role in the program and that the program encourages companies to be explicit about the rewards that are provided for those suppliers that implement best practices.[149] She also, however, recognizes that more needs to be done and that rewards and cost saving are not always enough to make industries understand that they have a problem.[150] For these reasons, the NRDC team is continuing their efforts to train Chinese facilities and look for solutions to greening the textile supply chain.

Our final example of valuable training in China is the Business for Social Responsibility (BSR). BSR is a nonprofit organization that "works with its global network of more than 250 member companies to develop sustainable business strategies and solutions through consulting, research, and cross-sector collaboration."[151] BSR works with companies, governments, other NGOs, and international organizations on an array of projects focused on encouraging sustainable business practices.[152] The organization facilitates cross-sector collaboration based on topic, playing a unique position in regards to the government because their members work through them as "one voice."[153]

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147. Natural Resources Defense Council, *supra* note 138.

148. Interview with Susan Keane, *supra* note 118.

149. *Id.*

150. *Id.*

151. *The Business of a Better World,* BUSINESS FOR SOCIAL RESPONSIBILITY, http://www.bsr.org/ (last visited Dec. 4, 2011). The organization began six years ago and now has over 100 employees, six offices on three continents, and works in more than 70 countries. Interview with Wei dong Zhou, Country Director, Business for Social Responsibility, in Guangzhou, China (Dec. 31, 2010).

152. Interview with Wei dong Zhou, *supra* note 151.

153. *Id.* There is no bar to membership, but there are annual fees that vary based on the size of the member company and annual gross revenue. *Id.*; *Membership*, BUSINESS FOR SOCIAL RESPONSIBILITY http://www.bsr.org/files/membership/BSR_Membership_2011.pdf (last visited Dec. 4, 2011). Some of the functions and programs BSR facilitates include: consulting, working with businesses to develop sustainable strategies and solutions; the BSR Energy Efficiency Program; the Electronic Industry Citizenship Coalition (EICC) program, an industrial citizenship collaboration including 30

In addition to numerous cross-sector collaborative training projects, BSR holds an annual conference on corporate responsibility that attracts from 1200 to 1400 people each year.[154] The conference includes public training, plenary sessions, and breakout sessions. Last year, over 50 countries were represented at the meeting, with about 70% from MNCs and 30% from NGOs, academia, and government.[155]

These are just three of the best examples of EHS training that is occurring in China. The programs are certainly making a difference, but, with the enormous population in China, the effect is minimal. Training must be expanded throughout China in order to educate factory managers and workers on why compliance with EHS laws and regulations is important as well as how it is beneficial to their factory and communities. This expansion should be a collaborative effort, and the Chinese government should subsidize training programs and encourage participation.

CONCLUSION

The Chinese government must make EHS a priority and allocate the resources necessary to properly enforce EHS laws and regulations. Due to China's enormous population, however, it is equally important to capitalize on the work of corporations, MNCs and Chinese corporations, international organizations, and NGOs in order to promote and ensure EHS compliance. MNCs and Chinese corporations can and should be employed as authoritative resources for enforcing EHS standards within Chinese industries. It is essential that the Chinese government utilize all of its resources in order to improve environmental quality and to prevent further industrial environmental degradation.

Experts agree that internal EHS management systems are critical to successful regulatory compliance within industrial facilities. Through the GCP, the Chinese government has made these systems mandatory for financial institutions. The government should make EHS management systems mandatory for industrial facilities as well. In order to enforce the implementation of management systems, the government should employ and encourage corporations to oversee implementation within their supply

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MNCs; the BSR Training Institute; and research on electronic supply networks and water pollution in China. Interview with Wei dong Zhou, *supra* note 151; more information can be found at http://www.bsr.org/en/.

154. Business for Social Responsibility, *supra* note 151.

155. Interview with Wei dong Zhou, *supra* note 151.

chains. Because corporations have an increasingly large presence in China and the Chinese government needs and wants to encourage corporations to do business in China, it is likely that corporate presence will increase in the years to come. For this reason, it is of the utmost importance that the Chinese government use corporations as partners for environmental protection to ensure that, while economic goals are met, EHS standards are met and improved upon as well.