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Information Mechanisms and the Future of Chinese Pollution Regulation

Ruoying Chen^{*†}

Just as China has emerged as the world's fourth largest economy, its environment is deteriorating at an increasing rate. The nation's environmental degradation—particularly its rapidly rising level of pollution—threatens to undermine the efficacy of environmental protection measures throughout the world and could have global effects extending beyond the environment. Commentators have attributed the deterioration of China's environment to the gap between the enactment of pollution regulation measures and their implementation. This gap is said to exist because of various institutional and financial constraints imposed upon regulators of industrial pollution.¹ Without challenging such lines of commentary, this Article argues that prior research has overlooked two critical and related information mechanism issues that may independently contribute to the existence of the gap: (1) the manner in which information about industrial pollution regulation is collected and disseminated through mechanisms designed by regulators; and (2) regulators' preferences for certain mechanisms. This Article focuses on China's environmental impact assessment system ("EIAS") and scrutinizes two recently enacted measures that are intended to enhance the EIAS's efficacy but will likely fail to accomplish this objective, a conclusion that will become apparent through a revealing comparison with the regulatory regime governing securities in the US.

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† The *Chicago Journal of International Law* expresses no opinion as to the accuracy of this Article's Chinese citations and references.

¹ See, for example, Hon S. Chan, et al, *The Implementation Gap in Environmental Management in China: The Case of Guangzhou, Zhengzhou, and Nanjing*, 55 Pub Admin Rev 333 (1995).

In critiquing the current information mechanisms in China's EIAs, including the recently promulgated guidelines on public participation in the EIAs, this Article seeks to offer the following three preliminary observations: first, too many resources have been devoted to collecting speculative information for preventive measures that are often strategically produced by regulated subjects, thereby depriving all parties, especially regulators, of the opportunity to accumulate the appropriate type of human capital and efficiently allocate limited resources; second, ill-designed regulation of intermediaries and improper use of public participation requirements in China's EIAs together provide enterprises with incentives not to disclose quality information and may discourage some enterprises from entering the market; and third, for public participation purposes, using the same framework to evaluate decisions made by the government and by enterprises may be counterproductive. Such an approach may help the regulator as an institution without necessarily providing benefits to the public. In particular, shifting administrative costs and public pressure to enterprises may not advance the goal of effective pollution regulation. These three observations may also shed light on studies about the design of information mechanisms in other Chinese regulatory regimes.

I. INTRODUCTION: CHINA'S ENERGY SHORTAGE AND ITS REGULATION OF INDUSTRIAL POLLUTION

The *Pilot 2006 Environmental Performance Index* ("EPI") found that in 2005 China's environmental performance ranked 94th among the 133 countries surveyed² and 15th among all 17 Asia-Pacific countries.³ Air and water pollution are apparently of gravest concern: China scored 128th overall in air quality⁴ (lowest among all Asia-Pacific countries⁵) and 116th overall in water resource pollution⁶ (14th among 16 Asia-Pacific countries⁷). Chinese officials have even conceded that 80 percent of the nation's waste water is being discharged without any treatment and that more than 75 percent of the nation's rivers are heavily

² Yale Center for Environmental Law & Policy and Center for International Earth Science Information Network, *Pilot 2006 Environmental Performance Index* 3, available at <<http://www.yale.edu/epi>> (visited Apr 22, 2006) (hereinafter *EPI*).

³ *Id.* at 20.

⁴ *Id.* at 51.

⁵ *Id.* at 60.

⁶ *Id.* at 52.

⁷ *Id.* at 62.

polluted.⁸ Pollution has had effects outside of China, threatening environmental quality in neighboring countries. For example, pollution has caused significant quantities of acid rain to fall in Japan and Hong Kong⁹ and has tainted rivers in Russia.¹⁰

China's inefficient utilization of energy lies at the heart of the pollution problem. China currently has one-quarter the energy efficiency of industrialized countries¹¹ and is the world's second-largest energy consumer after the US.¹² Since 1993, China has been a net oil importer.¹³ It presently relies upon imported oil to fulfill one-third of its oil consumption needs, and by 2010, China will likely import one-half of the oil it requires.¹⁴ In terms of sustainable energy, China unsurprisingly ranks 111th among the 133 countries included in the *EPI*,¹⁵ and only Mongolia fares worse than it in the Asia-Pacific region.¹⁶ This relationship between energy consumption and pollution exacerbates the global impact of Chinese pollution. If China fails to control its pollution and endeavors to maintain its current economic growth rate, it will need considerably more energy from the global market, thereby increasing the price of oil and reducing the share of energy available to other countries. But if China, burdened by rising energy and pollution costs, fails to fuel its economic growth, the subsequent domestic economic downturn could harm global markets. Thus, China's ability to effectively control pollution generated within its borders, especially by substantially improving energy efficiency, poses economic and environmental

⁸ Qu Geping, *China's Environment Status and Legal Development (Zhong Guo Huan Jing Xing Shi Yu Huan Jing Fa Zhi Jian She)*, Report to the National People's Congress Standing Committee (July 11, 2002), available online at <<http://www.npc.gov.cn>> (Chinese) (visited Apr 22, 2006).

⁹ For an article discussing acid rain in Hong Kong, see Lisa Hopkinson and Rachel Stern, *One Country, Two Systems, One Smog: Cross-Boundary Air Pollution Policy Challenges for Hong Kong and Guangdong*, 6 *China Envir Ser* 19 (2003). For an article about acid rain in Japan, see *Passing the Buck*, *Economist* 68–69 (Aug 21, 1993).

¹⁰ One recent example is the pollution resulting from an explosion of a Chinese petrochemical factory, an incident that was concealed from the public for almost a week. See Greenpeace, *Benzene Slick on the Authorities' Reputation* (Dec 26, 2005), available online at <<http://www.greenpeace.org/russia/en/press/releases/benzene-slick-on-the-authoriti>> (visited Apr 22, 2006). See also Guy Chazan, *Chemical Stew: Russian City Braces for China's Big Spill*, *Wall St J A1* (Dec 16, 2005).

¹¹ United Nations Country Team in China, *Millennium Development Goals: China's Progress* 30 (UN 2003).

¹² *Id.*

¹³ Margret J. Kim and Robert E. Jones, *China's Energy Security and the Climate Change Conundrum*, 19 *Nat Resources & Envir* 3, 5 (2005).

¹⁴ *Id.*

¹⁵ *EPI* at 55 (cited in note 2).

¹⁶ *Id.* at 68.

challenges that affect not just the nation's 1.3 billion people, but the entire world.

Fortunately, some signs hint that positive changes may be underway in China. The country's annual investment in pollution control reached an historic high of 1.4 percent of GDP in 2004,¹⁷ compared with only 0.93 percent of GDP for the period between 1996 and 2000.¹⁸ In 2005, the Chinese Communist Party's single most important document required building an energy-saving, environmentally-friendly society in the future.¹⁹ Furthermore, energy efficiency, resource efficiency, and environmental protection have for the first time dominated the State Council's medium and long-term technology development strategies.²⁰ However, like any other public policy adopted in China, implementation of pollution regulations will be a gradual process. For example, while industrial pollution, which amounts to more than 70 percent of all pollution in China, has been subject to a comprehensive and advanced pollution regime since 1979, it persists in elevated quantities.²¹

Taking a different approach from existing commentary, this Article examines possible flaws in how information is collected and disseminated in the EIAS regulatory regime. The limited existing literature about information relating to pollution regulation in China has focused on the narrow issue of how to facilitate public access to information held by regulators,²² as opposed to examining how regulators obtain and process information from regulated entities. Such studies have neglected to consider that the quantity and quality of

¹⁷ State Environmental Protection Administration of China ("SEPA"), *National Environmental Statistics Gazette* (*Quan Guo Huan Jing Tong Ji Gong Bao*), available online at <<http://www.zhb.gov.cn/eic/649371571659472896/20050610/8632.shtml>> (Chinese) (visited Apr 22, 2006).

¹⁸ The 10th National Environmental Protection Five-Year Plan (Guo Jia Huan Jing Bao Hu "Shi Wu" Ji Hua) § 1(1)(4), (Dec 2001), available online at <<http://sdep.cei.gov.cn/soechina2001/chinese/background/10th5yplan.htm>> (Chinese) (visited Apr 22, 2006).

¹⁹ See Proposal from the Central Committee of the Chinese Communist Party on the Preparation of the 11th National Economic and Social Development Five-Year Plan (Zhong Gong Zhong Yang Guan Yu Zhi Ding Guo Min Jing Ji He She Hui Fa Zhan Di Shi Yi Ge Wu Nian Gui Hua De Jian Yi) (Oct 11, 2005), available online at <<http://politics.people.com.cn/GB/1026/3759082.html>> (Chinese) (visited Apr 22, 2006). An English summary of the key points is available online at <<http://www.china.org.cn/english/2006lh/160403.htm>> (visited Apr 22, 2006).

²⁰ *National Medium and Long-Term Science and Technology Development Planning Guidelines (2006-2020)* (*Guo Jia Zhong Chang Qi Ke Xue He Ji Shu Fa Zhan Gui Hua Gang Yao*), Ministry of Science and Technology of China (Feb 2006), available online at <<http://www.most.gov.cn/ztlz/gjzqcqgy/zcqgygynr/index.htm>> (Chinese) (visited Apr 22, 2006).

²¹ Hua Wang and David Wheeler, *Endogenous Enforcement and Effectiveness of China's Pollution Levy System*, Working Paper 2-3 (World Bank 2000).

²² See, for example, Wu Changhua, *Improving the Legal and Policy Foundation for Public Access to Environmental Information in China*, 24 Temp J Sci Tech & Envir L 291 (2005).

information available to the public largely depends upon certain information mechanisms. It is widely recognized that information asymmetry exists between pollution regulators and regulated entities and that the communication of information entails costs to both parties. Regulators must implement mechanisms that induce information from regulated entities while such entities accrue costs in supplying regulators with the information. In China, government regulation of environmental pollution is widespread while private lawsuits are rare. Because financial and institutional resources available to the government agency in charge of regulating industrial pollution are circumscribed, information mechanisms play a critical role in determining the efficacy of the government's industrial pollution regulation regime.

A close review of China's EIAS can provide insights about information mechanisms in the context of industrial pollution regulation. The government must make predictions under China's version of the EIAS as well as under the US form of the EIAS—encapsulated in the National Environmental Policy Act of 1969 (“NEPA”).²³ However, China's EIAS has a distinctive feature as compared to the US EIAS. While NEPA's purview is limited to federal government activities,²⁴ China's EIAS mainly oversees commercial and industrial construction projects (“business projects”). Only a few government projects, such as land development plans, are subject to the EIAS in China, and these are recent additions.²⁵

This distinction is crucial in China because the commencement of a business project, but not a government plan, requires entry screening and discretionary approval by the State Environmental Protection Administration of China (“SEPA”) and its local bureaus. SEPA attempts to gauge the environmental impact of a proposed business project before reaching its decision. To obtain the predictive information necessary to make an assessment,

²³ National Environmental Policy Act, Pub L No 91-190, 83 Stat 852 (1970), codified at 42 USC § 4332 (2000) (hereinafter NEPA).

²⁴ NEPA § 102(2)(C), 83 Stat at 853 (calling for “proposals for legislation and other major Federal actions significantly affecting the quality of the human environment”).

²⁵ By virtue of the promulgation of the Environmental Impact Assessment Law (Huang Jing Ying Xiang Ping Jia Fa) (2003) (hereinafter EIA Law). A short summary of the EIA Law in English is presented in PRC Environmental Impact Evaluation Law 1600/02.10.28, China L & Practice (Nov 2002), available online at <<http://proquest.umi.com.proxy.uchicago.edu/pqdlink?index=6&did=320616871&SrchMode=1&sid=1&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1142808162&clientId=13392#fulltext>> (visited Apr 22, 2006). A more comprehensive summary of the EIA Law in English is presented in Neal Stender and Zhou Jing, The New EIA Law and Environmental Protection in China, China L & Practice (Dec 2002), available online at <<http://proquest.umi.com.proxy.uchicago.edu/pqdlink?index=5&did=320617871&SrchMode=1&sid=1&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1142808162&clientId=13392#fulltext>> (visited Apr 22, 2006).

it relies almost entirely on the regulated entity's representations. To improve the accuracy and general quality of such representations, SEPAC utilizes the information mechanisms of regulating intermediaries and public participation in enterprises' decision-making processes. However, Chinese regulators using these mechanisms may not actually succeed in improving information quality. Because the stakes of SEPAC's decision are particularly high for Chinese businesses (unlike the Environmental Protection Agency ("EPA") in the US, SEPAC wields veto powers), such businesses have an incentive to supply SEPAC with inaccurate information so as to increase the probability of receiving the requisite project approval. The remainder of this Article will expand upon these observations about current information mechanisms in China's EIAS.

II. THE IMPLEMENTATION GAP IN THE REGULATION OF INDUSTRIAL POLLUTION

China's 1978 Constitution established the state's responsibility to preserve and improve the environment and to regulate pollution.²⁶ China's first Environmental Protection Law ("EPL") was enacted in 1979 and amended in 1989.²⁷ A net of national statutes and administrative regulations passed throughout the 1980s and 1990s now covers almost all aspects of pollution: air, water, solid waste, noise, and the marine environment.²⁸ In recent years, more advanced ideas, such as clean production, have been codified.²⁹ Polluters and

²⁶ PRC Const of 1978, art 11, available online at <<http://www.npc.gov.cn/zgrdw/common/zw.jsp?id=4365&lmlf=%C8%CB%B4%F3%CE%C4%CF%D7&label=WXZLK&pdmc=010602>> (Chinese) (visited Apr 22, 2006). See also Burach Boxer, *China's Environmental Prospect*, 29 *Asian Surv* 669, 683 (1989).

²⁷ Environmental Protection Law of the People's Republic of China (1989), unofficial English translation available online at <<http://www.law999.net/law/doc/a/1989/12/26/00076404.html>> (visited Apr 22, 2006).

²⁸ See, for example, Prevention and Control of Environmental Pollution by Solid Waste Act (2004), -unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4683065.html> (visited Apr 22, 2006); Prevention and Control of Air Pollution Act (2000), unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4839263.html> (visited Apr 22, 2006); Prevention and Control of Pollution from Environmental Noise Act (1997), unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4683846.html> (visited Apr 22, 2006); Water Pollution Prevention and Control Law (1996), unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4839395.html> (visited Apr 22, 2006); Marine Environmental Protection Pollution Law (1982), unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4683556.html> (visited Apr 22, 2006).

²⁹ Cleaner Production Promotion Law (2003), unofficial English translation available online at <http://cq.netsh.com/eden/bbs/751605/html/tree_4744032.html> (visited Apr 22, 2006).

misbehaving regulators have also been subject to tort and criminal liability.³⁰ SEPAC has adopted both command-and-control and market incentive approaches³¹ used in industrialized countries, including emissions standards and pollution levies.³² China has also begun experimenting with new regulatory methods like emission permit trading,³³ green labeling, and environmental performance grading.³⁴

However, the lag between pollution control and economic growth has become more pronounced over time in China. Commentators have attributed the lag to the “implementation gap” between the existing regulatory framework and its actual enforcement (particularly by local officials).³⁵ The gap can be traced to the biased perceptions and incentives of government officials and to the resulting institutional constraints—such as insufficient financing, unqualified staff, and political impediments—imposed upon pollution regulators.³⁶ Like Chinese courts,³⁷ pollution regulators are to a large extent deprived of the independence and capacity necessary to employ the appropriate regulatory tools,

³⁰ For tort liability, see Civil Principles (1986), art 124; Water Pollution Prevention and Control Law (1996), art 41; Prevention and Control of Environmental Pollution by Solid Wastes Act (2004), arts 84–87. For criminal liability, see, for example, the Criminal Act (1999), art 338’.

³¹ For a comprehensive recent summary of the SEPAC pollution regulation regime in China, see Jolene Lin Shuwen, *Assessing the Dragon’s Choice: The Use of Market-Based Instruments in Chinese Environmental Policy*, 16 Georgetown Intl Envir L Rev 617, 626–31 (2004).

³² Wang and Wheeler, *Endogenous Enforcement* at 3–4 (cited in note 21).

³³ For example, SEPAC started a pilot program of air pollution permit trading in 1991 and the first agreement was announced in 2001. See SO2 Emission Permit Trading Started (Er Yang Hua Liu Pai Wu Quan Kai Shi Jiao Yi), Shanghai Municipal Government Environmental Education Center, available online at <<http://www.envir.gov.cn/info/2001/11/115469.htm>> (visited Apr 22, 2006). However, another source has cited a July 2002 sulfur dioxide emission trading agreement as the first reached under this program. See Environmentalist Feels at Home in China, China Daily (Oct 31, 2003), available online at <<http://www.china.org.cn/english/environment/78862.htm>> (visited Apr 22, 2006).

³⁴ Gary McNeil and David Hathaway, *Green Labeling and Energy Efficiency in China*, 7 China Envir Ser 72, 72 (2005). See also Hua Wang, et al, *Environmental Performance Rating and Disclosure: China’s Green-Watch Program*, World Bank Policy Research Working Paper No 2889 (Sept 2002), available online at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=636252#PaperDownload> (visited Apr 22, 2006).

³⁵ Chan, et al, 55 Pub Admin Rev at 335–36 (cited in note 1).

³⁶ Wang Xinfang, SEPAC’s vice director, identified these problems in the *Explanation to the 10th Five-Year Plan of the National Environmental Protection* (*Gu Yu Guo Jia Huan Jing Bao Hu Shi Wu Jia Hua De Shuo Ming*) (Jan 11, 2002), available online at <<http://www.zhb.gov.cn/epi-sepa/gzdt/wenzhang/y13.htm>> (Chinese) (visited Apr 22, 2006).

³⁷ For a comprehensive explanation of similar issues in Chinese courts, see Stanley B. Lubman, *Bird in a Cage: Legal Reform in China After Mao* 250 (Stanford 1999).

and especially to manage agents throughout the country³⁸ in China's decentralized political system.³⁹ Local SEPAC officials must often regulate the entities or affiliates from which they derive their sole financial support in formulating and enforcing regulations. The absence of an independent, accessible, and professional court has also contributed to the widespread flouting of pollution regulations.⁴⁰ While citizen suits launched by non-governmental organizations ("NGOs") often act as a powerful supplement to state action in the US,⁴¹ especially in tandem with the free media, citizen suits remain nonexistent in China.⁴²

SEPAC can thus be seen as an agency subject to external institutional constraints, forced to sacrifice environmental values for economic gains. Policy proposals have tracked this line of thinking, and have particularly sought to enhance SEPAC's political and financial independence. For example, SEPAC was elevated to full ministry status in 1998 and its budget was doubled in 2002.⁴³ In addition, the Chinese government adopted a "dual-track" personnel administration system for SEPAC in 1999 to increase the control that higher-level SEPAC officials exercised over staff within the Chinese Communist Party's personnel management system.⁴⁴

However, political independence and financial resources do not automatically guarantee that regulators and the public have accurate information about pollution and abatement measures, or that regulatory objectives will be achieved. Without a pre-existing mechanism to secure quality information, it is unlikely that regulation will suddenly become effective once external constraints are lifted. SEPAC could independently fail to achieve its objectives because of flawed information and ineffective regulatory tools. A poorly designed

³⁸ See, for example, Stockholm Environment Institute and UN Development Programme, *China Human Development Report 2002: Making Green Development A Choice* 76 (Oxford 2002).

³⁹ See generally, Wenfeng Mao and Peter Hills, *ELA in China: Impacts of the Economic-Political Reform on Environmental Impact Assessment Implementation in China*, 20 *Impact Assessment & Project Appraisal* 101 (2002).

⁴⁰ William P. Alford and Yuanyuan Shen, *Limits of the Law in Addressing China's Environmental Dilemma*, 16 *Stan Envir L J* 125, 141-43 (1997).

⁴¹ Susan D. Daggett, *NGOs as Lawmakers, Watchdogs, Whistle-blowers, and Private Attorneys General*, 13 *Colo J Intl Envir L & Poly* 99, 100, 108 (2002). See generally Robert V. Percival, et al, *Environmental Regulation: Law, Science, and Policy* 996-97 (Aspen 4th ed 2003).

⁴² With respect to NGOs, see Jonathan Schwartz, *Environmental NGOs in China: Roles and Limits*, 77 *Pac Aff* 28, 40 (2004).

⁴³ *Id* at 30.

⁴⁴ Other government agencies were also placed on a "dual-track" personnel administration system. See The Notice on Relevant Issues Regarding Adjusting the Administration System of Environmental Protection Officials (Guan Yu Tiao Zheng Huan Jing Bao Hu Bu Men Gan Bu Guan Li Ti Zhi You Guan Wen Ti De Tong Zhi) (1999).

regulatory regime may distort the incentives of regulated entities considering whether or not to disclose quality information. Even assuming that information quality is not a concern, SEPAC staff may lack the technical and business acumen to properly process available information and intelligently probe for more information. Such sophistication can only be attained through exposure to quality information. The tasks of collecting, processing, and disseminating information, whether accurate or not, also entail costs, potentially rendering the opportunity cost of faulty information dissemination quite substantial. One such cost would be the loss of opportunity to accumulate the appropriate type of human capital, a problem common to all parties affected by industrial pollution: enterprises, regulators, the government generally, and the public. Another cost would be the loss of resources inherent in applying ex post regulatory tools to evaluate real-life data and effectively control pollution.

Due to China's relatively short history of pollution regulation and Chinese society's relatively low technical and commercial savvy, SEPAC has much less information and technical expertise than analogous government agencies in industrialized countries. In addition, SEPAC and enterprises in China have few resources to expend on pollution control, a constraint that may amplify the negative impact of diverting resources to inefficient regulatory tools. Finally, as Douglas North has pointed out, path dependence is a salient feature of institutional development.⁴⁵ Institutional change is an incremental process, meaning that institutions with a past record of subpar performance often persist. The historic origin of an institution, its current shape, and incremental decisions by the agents entrusted with administering the institution limit the institution's chances for future improvement.⁴⁶ The current information mechanisms, and their corresponding problems, are thus likely to continue in the pollution control context and create barriers to enhancing the performance of the regulatory regime. A closer inquiry into information mechanisms and regulators' rationales for employing such mechanisms is thus of paramount importance in evaluating China's EIAs.

III. INFORMATION MECHANISMS: A CASE STUDY OF CHINA'S ENVIRONMENTAL IMPACT ASSESSMENT SYSTEM

One fundamental change accompanying China's transition from a centralized planned economy into a market economy is the manner in which information flows between various parties: government regulators, enterprises, and the public. In an ideal centralized planned economy, information symmetry

⁴⁵ Douglas C. North, *Institutional Change and Economic Performance* 98–100 (Cambridge 1990).

⁴⁶ See id at 92–93, 104.

between government and enterprises should be the norm since enterprises function as an integral part of the government and are often run by government officials. Because the general public is fully sheltered by a paternalistic government in this system, there should be little need for citizens to obtain information about enterprises' polluting activities. However, even in an economy characterized by pure central planning, the government is not an "it," but a "they." Under more realistic conditions—in China's actual economic regime of centralized planning—information available to one agency, especially the powerful drafter of economic plans, was not necessarily available to other agencies, including SEPAC, and this situation has continued into the economic transition phase. When regulation by one agency is compromised by coercion from or collusion with another agency in service of the government's higher priorities, regulators from the compromised agency, such as SEPAC, have little incentive to seek information that will further the agency's objectives.

The gradual separation between the state and enterprises, coupled with the emergence of a massive number of private enterprises, has widened the information asymmetry between SEPAC and enterprises. Meanwhile, as between enterprises and citizens, the possibility of holding polluters legally liable has created an incentive for victims to acquire information for use as evidence in court proceedings. The rise of administrative law in China and China's accession to the World Trade Organization have also obligated the government to publicly disclose information and to establish channels for public participation in decision-making within certain regulatory areas.⁴⁷ The gradual commercialization of the media and the subsequent increase of critical reporting⁴⁸ has also contributed to the pressure for information about the activities of government and regulated businesses. How China's pollution regulation system is handling these newly emerging issues is a matter of vital importance.

One guiding principle of China's environmental protection regime is the emphasis on ex ante pollution prevention as opposed to ex post pollution abatement,⁴⁹ an approach that accords with the rationale of the centralized economic planning system. If lost profits and business failures can be predicted, and thus prevented or mitigated in advance, it seems that the risk of pollution and its impact on the environment can also be predicted and accordingly planned for. The increasing collection and disclosure of information thus

⁴⁷ See, for example, Protocol on the Accession of the People's Republic of China, pt I, art 2(c) (2002), available online at <<http://www.mofcom.gov.cn/table/wto/law02.doc>> (visited Apr 22, 2006).

⁴⁸ See, for example, Benjamin L. Liebman, *Watchdog or Demagogue? The Media in the Chinese Legal System*, 105 Colum L Rev 1, 23–41 (2005).

⁴⁹ Qu, *China's Environment Status and Legal Development* (cited in note 8).

promotes accurate predictions. This idea of inadvertent rational bureaucracy coincides with the core philosophy of the US EIAS adopted under NEPA. NEPA embodies the “comprehensive rationality” model of bureaucratic decision-making in that it assumes that all information germane to an informed policy decision can be gathered expeditiously at little or no cost and can then be factored into an EIAS agency’s decision-making process.⁵⁰

While NEPA only targets federal government activities,⁵¹ China’s EIAS initially aimed more at business projects. After the National People’s Congress passed the EIA Law in 2003, some government plans came to be included within the ambit of China’s EIAS.⁵² However, SEPAC’s authority with respect to government plans is relatively circumscribed. Aside from having jurisdiction over business projects, SEPAC is also potentially more powerful than the EPA, its US counterpart, in that it possesses a veto right over business projects.⁵³ The error rates that are purely attributable to the regulator’s information stock and judgment are likely to be higher in China than in the US since the scope of activities subject to the EIAS is much wider in China and because the involvement of regulators is considerably more substantial in China (as compared to the US). Thus, unless SEPAC’s error rate in evaluating the environmental impact of proposed activities is systematically lower than the EPA’s, an assertion for which no empirical or normative evidence is available, China’s EIAS would be particularly vulnerable to a charge levied against the US EIAS under NEPA: the lengthy and costly EIAS process only generates spotless, low quality information.⁵⁴ This finding is supported by empirical studies of the EIAS in the US and other countries.⁵⁵ Nonetheless, given the prevalence of the EIA concept worldwide⁵⁶ and China’s difficulties in enforcing ex post

⁵⁰ Bradley C. Karkkainen, *Toward a Smarter NEPA: Monitoring and Managing Government’s Environmental Performance*, 102 Colum L Rev 903, 912 (2002), citing Jonathan Poisner, *A Civil Republican Perspective on the National Environmental Policy Act’s Process for Citizen Participation*, 26 Envir L 53, 76–79 (1996).

⁵¹ See NEPA § 102(2)(C), 83 Stat at 853.

⁵² Chapter 2 of the EIA Law addresses zoning and government planning while Chapter 3 of the EIA Law deals with businesses.

⁵³ EIA Law, art 25.

⁵⁴ Karkkainen, 102 Colum L Rev at 905 (cited in note 50).

⁵⁵ See id at 928–29.

⁵⁶ Since the Rio Declaration on Environment and Development concluded at the UN Conference on Environment and Development in Rio de Janeiro, Brazil in 1992, numerous countries, including all countries that are members of the Organization for Economic Co-operation and Development, have adopted some form of an EIAS. See Rio Declaration on Environment and Development, UN Conference on Environment and Development (1992), available online at <<http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163>> (visited Apr 22, 2006); Government of Japan, Environmental Impact Assessment for International Cooperation (2000), available online at <<http://www.env.go.jp/earth/coop/>

pollution regulations (such as pollution levies and tort claims), it is worthwhile to examine the potential value of China's EIAS before commenting on the problems of the current information mechanisms that are now integral components of the EIAS in China.

A. CHINA'S EIAS AND GOVERNMENT PLANS

Commentators offer two major justifications for NEPA in the US. The law is said to enlarge the information bases for agency decisions and increase transparency, which in turn promotes political accountability.⁵⁷ Legislators in China seemed to have harbored similar motives in extending China's EIAS to regulate certain government plans. This move was widely hailed as a breakthrough helping to align China with the best international practice,⁵⁸ but the vision has yet to become fully materialized. In the US, the key mechanism that enables NEPA to be "action-forcing"—both in terms of inducing information from the public at-large and promoting transparency—is the environmental impact statement, which is publicly disclosed.⁵⁹ Government plans in China are subject to no such disclosure requirements, thereby preventing SEPAC from wielding a potent stick—public release of reports detailing potential environmental damage—to force compliance. Chinese law instead mandates a public consultation procedure on the draft EIA report in the government planning context. As part of this procedure, the relevant government department sponsoring the plan seeks the opinion of experts, affected parties, and the general public via "meetings, hearings and other forms."⁶⁰ Without guidelines about which "other forms" are sufficient to satisfy the legal requirement, the public consultation procedure has not been particularly effective in prompting agency action. Since the EIA Law went into effect in 2003, only one government plan in China has reportedly undergone an

[coop/materials/10-eiae/10-cover10.pdf](http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1999/06/03/000094946_99040905052283/Rendered/PDF/multi0page.pdf)> (visited Apr 22, 2006). Several international organizations, such as the World Bank, have also embraced this concept. See, for example, *Pollution Prevention and Abatement Handbook* 22–26 (World Bank 1998), available online at <http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/1999/06/03/000094946_99040905052283/Rendered/PDF/multi0page.pdf> (visited Apr 22, 2006).

⁵⁷ Karkkainen, 102 Colum L Rev at 910–12, 915 (cited in note 50).

⁵⁸ This is reflected in commentary by senior SEPAC officials. See, for example, Xi Jianrong, *Historical Breakthrough of Our Nation's EIA System* (*Wo Guo Huan Jing Bao Hu Shi Ye De Li Shi Xing Tu Po*), Legal Daily (Fa Zhi Ri Bao) (Sept 1, 2003).

⁵⁹ All environmental impact statements submitted to the Environmental Protection Agency (hereinafter EPA) are available online at <<http://cfpub.epa.gov/compliance/nepa/comments/>> (visited Apr 22, 2006).

⁶⁰ EIA Law, art 11.

EIA,⁶¹ casting serious doubt on the success of this intended check on government plans that affect the environment.

To strengthen public disclosure requirements and enhance public participation in the EIA of both government plans and business projects, SEPAC recently promulgated a set of detailed procedural guidelines (“EIAS PP Rules”).⁶² The EIAS PP Rules are claimed to be China’s first set of rules providing for public participation in the government decision-making process.⁶³ However, because the EIAS PP Rules merely declare the government’s intent,⁶⁴ as opposed to specifically providing for transparency with respect to government plans and public scrutiny of government officials involved in the planning process, the prospect that the EIAS PP Rules will have a meaningful impact remains slim.

B. POTENTIAL BENEFITS OF CHINA’S EIAS AS APPLIED TO BUSINESS PROJECTS

Unlike government plans, business projects are subject to highly stringent regulation by SEPAC under the EIAS regime. Because the threats of legal liability and financial punishment only serve as soft constraints on polluters that are owned by or otherwise affiliated with the state or state officials,⁶⁵ preventive measures like the EIAS may be necessary supplemental tools in China. By acting early, SEPAC, a relatively impotent and poorly financed agency, may share its administrative burdens of information-gathering and enforcement with more powerful and better endowed government agencies in charge of economic

⁶¹ See Chu Guoqiang, Guo Jiaxuan, and Fu Piyi, *Environmental Impact Assessment on Government Planning: Why Is It Difficult to Show the Sword in Front of China’s Environmental Crisis?* (*Gui Hua Huan Ping: Mian Dui Zhong Guo Huan Jing Wei Ji Wei He Nan “Liang Jian”*), Half-Month Talk (Jan 6, 2006), available online at <<http://www.investchina.com.cn/chinese/huanjing/1085210.htm>> (Chinese) (visited Apr 22, 2006).

⁶² The Tentative Rules on Public Participation in the Environmental Impact Assessment System (*Huan Jing Ying Xiang Ping Jia Gong Zhong Can Yu Zan Xing Ban Fa*) (Mar 18, 2006), available online at <<http://www.sepa.gov.cn/eic/649086798147878912/20060222/15453.shtml>> (visited Mar 17, 2006) (hereinafter EIAS PP Rules). For a news report in English about the release of the EIAS PP Rules, see Yingling Liu, *China to Strengthen Public Participation in Environmental Impact Assessments*, China Watch (Dec 9, 2005), available online at <<http://www.worldwatch.org/features/chinawatch/stories/20051209-1>> (visited Apr 22, 2006).

⁶³ See statement by Pan Yue, SEPAC Deputy Director, included in the official explanation to the promulgation of the EIAS PP Rules (Feb 22, 2006), available online at <<http://www.zhb.gov.cn/eic/649094490434306048/20060222/15451.shtml>> (Chinese) (visited Apr 22 2006).

⁶⁴ See EIAS PP Rules, ch 4 and EIA Law, art 11 for a comparison.

⁶⁵ János Kornai, *The Soft Budget Constraint*, 39 KYKLOS 3, 4–6 (1986).

planning.⁶⁶ Under Chinese law, the EIA report for business projects must be prepared by specially licensed EIA service companies,⁶⁷ which provide a safeguard absent from the government planning context. The former director of the National People's Congress, Li Peng, has noted that the EIA report functions as a benchmark for ongoing regulation by SEPAC, helping to avoid disputes between SEPAC and enterprises about whether regulated facilities meet environmental standards.⁶⁸ Under the "Three Synchronization System," SEPAC is entitled to carry out on-site checks to ensure that the preventive and mitigation measures prescribed in EIA reports are actually installed and functional.⁶⁹ By conducting case-by-case analysis, SEPAC may also accommodate local diversity within the parameters of national environmental laws.

A broader benefit of the EIAs, which operates like any other state permit system, is that it may offer a solution for collective action problems that loom large in injunctive relief actions,⁷⁰ especially in countries such as China in which local judges are often as biased as local regulators (the outcome of cases may be shaped by extra-judicial influences from various sources)⁷¹ and in which the violation of professional ethics is not uncommon among judges.⁷² But while China's EIAs appears promising, the limited available records suggest a less than rosy picture of this system. SEPAC's official records demonstrate a high percentage of compliance by enterprises: well above 80 percent between 1996 and 2004 and reaching a peak of 99.3 percent in 2004.⁷³ However, some commentators claim that the EIAs, which has operated for decades, has failed because of SEPAC's insufficient capacity, dearth of expertise, and lack of incentive to conduct a meaningful review of EIA reports.⁷⁴ Other commentators contend that local government intervention, resistance from powerful

⁶⁶ See Mao and Hills, 20 Impact Assessment and Project Appraisal at 104–05 (cited in note 39).

⁶⁷ EIA Law, arts 19–20.

⁶⁸ See speech delivered by Li Peng, Director, National People's Congress (July 2, 2001), available online at <<http://www.npc.gov.cn>> (Chinese) (visited Apr 22, 2006).

⁶⁹ Construction Project Environmental Protection Administration Rules (1998), art 16, available online at <<http://www.zhb.gov.cn/eic/649646449566416896/19981118/1022936.shtml>> (Chinese) (visited Apr 22, 2006). See also *Implementing Environmental Management Plans: A Review of Selected Urban Environmental Projects in China No. 1*, p 2 (World Bank 1999), available online at <<http://www.worldbank.org.cn/English/content/safeguard.pdf>> (visited Apr 22, 2006).

⁷⁰ Richard A. Epstein, *The Permit Power Meets the Constitution*, 81 Iowa L Rev 407, 412–13 (1995).

⁷¹ Lubman, *Bird in a Cage* 260–66 (cited in note 37).

⁷² Id at 278–79.

⁷³ *National Environmental Statistic Gazette*, available online at <<http://www.zhb.gov.cn/eic/649371571659472896/index.shtml>> (Chinese) (visited Apr 22, 2006).

⁷⁴ Shuwen, 16 Georgetown Intl Envir L Rev at 629 (cited in note 31).

enterprises, and conflicting interests within SEPAC itself have combined to make the EIAS largely ineffective.⁷⁵ One analyst has concluded that EIAS processes “have developed into pro forma procedures rather than effective environmental planning controls.”⁷⁶ These negative assessments are understandable when one considers that SEPAC waited until January 2006 to issue the first public order temporarily suspending business projects that violated its EIA requirements.⁷⁷

Even if the EIAS is valuable for an economy based on the centralized planning model, with few occasions for the imposition of tort liability through private actions, it may not be particularly beneficial when the economic structure changes in at least three respects: SEPAC no longer enjoys a monopoly over the human capital of scientific expertise; enterprises do not need the technical assistance that the mandatory EIAS process is supposed to deliver; and many abatement technologies may be new to all affected entities, including the regulator. With regard to the first point, in China, EIAS-regulated activities have recently become more complex and diverse as Chinese businesses have acclimated themselves to the market economy. This state of affairs presents a serious challenge to SEPAC’s efficacy as the sole decision-maker with respect to the construction of facilities that may potentially damage the environment. In the past, SEPAC may have been more sophisticated than domestic enterprises, especially those in the private sector, because almost all scientists were government employees. However, largely because of several rounds of government downsizing,⁷⁸ SEPAC staff members have been joining private enterprises, taking their expertise with them. The market has also enticed science and engineering students with superior pay, better training, and more career prospects than the government sector, and these students have increasingly sought private employment after graduation. A second problem with China’s EIAS is that it seems to exist in part to coerce small and medium-sized domestic enterprises into receiving technical assistance from the EIA service providers while preparing their EIA reports and from SEPAC during the approval process, an overly heavy-handed approach. Meanwhile, foreign enterprises, mostly from industrialized countries, have been making rapid headway in China, and these businesses often possess advanced technical expertise and greater

⁷⁵ Mao and Hills, 20 *Impact Assessment & Project Appraisal* at 105–08 (cited in note 39).

⁷⁶ Homer Sun, Note, *Controlling the Environmental Consequences of Power Development in the People’s Republic of China*, 17 *Mich J Intl L* 1015, 1024 (1996).

⁷⁷ On January 13, 2006, SEPAC announced that it was temporarily suspending thirty commercial projects. See SEPAC public announcement (Jan 13, 2006), available online at <<http://www.zhb.gov.cn/eic/649090092387794944/20050303/5765.shtml>> (Chinese) (visited Apr 22, 2006).

⁷⁸ Marilyn Beach, *Local Environment Management in China*, 4 *China Envir Ser* 21, 25 (2001).

financial resources for pollution control than SEPAC, rendering the EIAS a pure burden with little marginal value to such enterprises. Finally, because much pollution control technology, such as the method for eliminating sulfur dioxide from coal used by power plants,⁷⁹ is novel to SEPAC, and to China more generally, the EIAS may no longer be the most effective model to curb pollution.

In sum, China's EIAS over business projects is premised on a highly centralized decision-making model, and its efficacy depends heavily upon whether the predictive information SEPAC receives from regulated entities and through other channels (information that is subsequently used by the agency to make judgments), is superior to that of enterprises. The emerging market economy in China has created conditions under which SEPAC's informational and judgmental pre-eminence may no longer be assumed, and the EIAS may thus no longer be a cost-effective tool in China, at least in comparison to the past. To support this conclusion, the following subsection will examine how the operation of China's EIAS can potentially impose significant costs on both regulated subjects and regulators.

C. BUSINESS PROJECTS AND THE COSTS OF CHINA'S EIAS

The most salient costs associated with China's EIAS come from the information and financial burdens imposed upon SEPAC in reviewing and approving EIA reports. SEPAC's director has even conceded that the command-and-control approach is too costly for the government, especially with the proliferation of small and medium-sized enterprises.⁸⁰ Diverse industrial and commercial projects, each with varying levels of complexity, have made it increasingly difficult to promulgate and apply a unified set of environmental guidelines. Since the EIAS is only one type of regulatory tool, one must consider the opportunity cost of expending resources on this system instead of another regulatory mechanism. This is an especially serious concern when political and economic decision-making have become largely decentralized and local governments have gained more authority.⁸¹ Equipped with new powers, an expanded local budget, and more sophisticated personnel, local governments in China's more developed areas have started to experiment with new, tailored regulatory tools like the total emission control and pollution permit trading

⁷⁹ 2005 *Annual Analysis of the Status of Power Plant SO₂ Depletion* (Jan 3, 2006), available online at <<http://hb.allnet.cn/Article/1844.html>> (Chinese) (visited Apr 22, 2006).

⁸⁰ Geping, *China's Environment Status and Legal Development* (cited in note 8).

⁸¹ Beach, 4 *China Envir Ser* at 24 (cited in note 78).

systems.⁸² However, the mandatory nature of China's EIAS could force local SEPACs to either exhaust the resources they may have preferred to spend on experiments with innovative, more effective tools, or to save costs for alternative tools by relaxing enforcement of EIAS standards.

For enterprises in China, the marginal costs associated with the EIAS may be small in one respect, but quite sizeable in other respects. Enterprises may already conduct some form of an EIA to calculate the optimal level of pollution control measures. However, ensuring compliance with ex post regulations does not necessarily require a thorough ex ante analysis like the current EIA report. There appears to be no reason for enterprises to shift resources from later stage evaluations to an ex ante calculation when little information is available at the preliminary stages of a project and whatever information exists is of dubious reliability. As a project progresses and more accurate information becomes available, an enterprise may desire to adjust the mitigation and reduction measures detailed in the original EIA report. Nonetheless, under the current EIAS in China, a business project must be constructed in accordance with the pre-approved EIA report unless it receives separate approval for any proposed changes.⁸³ The binding force and rigidity of the EIA report may create waste by preventing enterprises from implementing optimal measures, or at least delaying the movement toward efficient measures. SEPAC's lengthy review process may also lead to the postponement of commercial activities that need to be carried out with expediency. The combination of lost revenues from a delay and the high cost of preparing an EIA report may induce enterprises to provide low quality information in the EIA report and to pursue projects without adequately accounting for environmental impact.

More importantly, since the EIAS is an entry control system, it is susceptible to all the problems accompanying any regulation regime with a grandfathering clause. In the context of business projects, the actual and opportunity costs of China's EIAS can disproportionately burden new entrants. Given the trends of tightened pollution regulations and increased parity in terms of competition and technological innovation, new entrants are more likely than incumbents to be sensitive to pollution regulations and better equipped to comply with such regulations by constructing clean, efficient facilities. But when new entrants are deterred from the market by the potentially overwhelming costs of producing an EIA report and the uncertainty of obtaining project approval, incumbents may become complacent. Without the threats of competition and harsh punishments for overpollution, incumbents have few economic incentives to adopt cleaner technology, resulting in more pollution

⁸² See discussion at note 33.

⁸³ EIA Law, art 26.

than may exist absent an EIAS regime. But even if the clear trend toward more stringent enforcement of pollution regulations could actually cause the burden of complying with the EIAS to become a first mover advantage favoring entrants,⁸⁴ the possibility of competing with incumbents is the condition for such an advantage to be meaningful. Finally, one may argue that the popular practice of providing subsidies for pollution abatement could encourage new entrants and thereby cancel out potential losses of competition while still increasing the level of pollution industry-wide.⁸⁵ However, this argument is only plausible if the new entrants are expected to receive the subsidies, which seems unlikely in China. Incumbent Chinese enterprises, in large part wholly or partially owned by the state, tend to receive the bulk of subsidies while new entrants are disproportionately private enterprises. Coal power plants provide an illustrative example of this phenomenon.⁸⁶

The implicit costs underlying China's EIAS also merit consideration. The first type of implicit cost is SEPAC officials' lost opportunity to develop the type of human capital that can only be acquired by processing of real-world data. Even though descriptive information about proposed business projects is necessary for both SEPAC and regulated enterprises, information contained in EIA reports is mostly predictive, unlike data generated when a project is in operation. The knowledge stock accumulated by SEPAC in processing ex ante—as opposed to ex post—information is also different. When SEPAC officials must ponder conclusions based upon tentative assumptions, they are deprived of the time and resources to assess real world data, and they accordingly lose the opportunity to accumulate expertise in addressing problems arising from operational projects. Moreover, this loss of real world expertise in the context of the EIAS could appreciably hamper the effectiveness of SEPAC regulations generally. A recent empirical study has indicated that human capital contributes to the institution-building capacity of local SEPAC officials seven times more than financial capital,⁸⁷ meaning that lost human capital can substantially hamper the efficacy of SEPAC regulation.

A problematic aspect of EIA services in China—the popular fee payment schedule—may augment informational distortions and further reduce the value

⁸⁴ See generally Michael E. Porter and Claas van der Linde, *Toward a New Conception of the Environment-Competitiveness Relationship*, 9 J Env Persp 97 (1995); Michael E. Porter and Claas van der Linde, *Green and Competitive: Ending the Stalemate*, 73 Harv Bus Rev 120 (1995).

⁸⁵ William J. Baumol and Sallace E. Oates, *The Theory of Environmental Policy* 212–34 (Cambridge 1988).

⁸⁶ The Vice-Director of the State SEOC has noted this point. Xinfang, *Explanation to the 10th Five-Year Plan* (cited in note 36).

⁸⁷ Wanxin Li, *A Survey of Institutional Capacity of Local EPBs in China* 25 (2005), available online at <http://mumford.albany.edu/chinanet/shanghai2005/liwanxin_en.doc> (visited Apr 22, 2006).

of the information stock available to SEPAC officials. Under this schedule, enterprises only pay a small fraction of the agreed-upon fee to EIA service providers up front, with the remaining portion due after approval of the submitted EIA report.⁸⁸ EIA service providers thus have a significant financial incentive to receive approval of their reports, and they may present inflated information to increase this probability. Unless SEPAC officials grant approvals without reviewing EIA reports, the officials are likely to amass and rely upon a stock of overly optimistic information. In addition, EIA service providers eager to expedite the approval process and reap revenues may attempt to exert influence over SEPAC, particularly by exploiting personal connections.

This observation suggests a second implicit cost in China's EIAS—the cost of rent-seeking. Since EIA service providers must be licensed, SEPAC officials may seek rents from these providers. The process of approving EIA reports also offers many opportunities for government officials to engage in rent-seeking behavior. In China, such rents have to some extent become institutionalized. EIA service providers formally or informally associated with SEPAC attract clients willing to pay premiums for expedited approvals, with some unscrupulous companies compromising service quality to bolster profits. EIA service providers often receive subsidies from SEPAC or are otherwise affiliated with SEPAC's approval authority, and they may share revenues, which are largely contingent upon receiving approval of their EIA reports, with SEPAC officials.⁸⁹ This income stream gives local SEPAC officials incentives to both expand the EIAS regime's mandatory features—enabling EIA service providers to add to their clientele while increasing fees—and issue more approvals. In the EIAS context, the self-expanding and self-replicating aspects of rent-seeking divert resources from more productive and cost-effective activities like monitoring facilities to obtain real-time data.⁹⁰ To diminish these steep social costs, Chinese legislators have taken some measures to ensure that EIA service providers remain independent of SEPAC.⁹¹ However, if the current licensing scheme and approval process remain intact, legal prohibitions on rent-seeking alone are likely to have only a minimal impact in reality. Actions by local SEPAC

⁸⁸ Liu Shixin, *Yuanmingyuan Event Exposed Institutional Defects of the Environmental Impact Assessment System (Yuan Ming Yuan Huan Ping Bao Lu Dao De Wei Ji)*, China Youth, (Apr 22, 2005), available online at <<http://env.people.com.cn/GB/35525/3382568.html>> (Chinese) (visited Apr 13, 2006).

⁸⁹ Peter Hills and C.S. Man, *Environmental Regulation and the Industrial Sector in China: The Role of Informal Relationships in Policy Implementation*, 7(2) *Bus Strategy & Envir* 53, 65 (May 1998).

⁹⁰ Kevin M. Murphy, Andrei Shleifer, and Robert W. Vishny, *Why Is Rent Seeking So Costly to Growth?*, 83 *Am Econ Rev* 409, 412–13 (1993) (demonstrating how public rent-seeking stifles innovation more than production).

⁹¹ EIA Law, art 19.

officials will continue to encourage the production of diluted quality EIA reports and will contribute to the ineffectiveness of agency review procedures.

Assuming that inefficiencies from relatively low quality information and high costs to all parties are endemic to any EIAs, the magnitude of wasted resources in China would far exceed the amount of wasted resources under NEPA in the US. The massive number of business projects covered by China's EIAs has boosted the number of EIA reports produced in China, especially with the nation's rapid infrastructure development and economic growth. While SEPAC approved more than 100,000 EIA reports in 2000 and 2001, and has approved more than 200,000 such reports annually since 2002,⁹² the annual rate of environmental impact statement production in the US has declined to around 500 per year.⁹³ The most important reason for this disparity is that business projects fall within SEPAC's jurisdiction while NEPA only covers some federal government activities. Another reason for this striking differential may be that while the threshold to trigger an environmental impact statement under NEPA is relatively high—an activity must “significantly affect[] the quality of the human environment”⁹⁴—China's EIAs requires an EIA report for business projects with even a slight possible negative environmental impact.⁹⁵ The Chinese government has seemingly overlooked the high costs of the stringent EIA regime, including the diversion of resources from ex post regulatory tools. In fact, Chinese legislators and SEPAC have introduced more costly measures aimed at improving the quality of information contained in EIA reports. The following subsections will discuss two of these measures.

1. Regulating Intermediaries to Control Information Quality

In China, an EIA report must be prepared by specially licensed EIA service providers, which are legally independent from SEPAC.⁹⁶ These providers are obligated to provide thorough, accurate information about the potential environmental impact of a project.⁹⁷ As intermediaries between SEPAC and enterprises seeking business project approvals, service providers are aptly situated to ensure that enterprises are regulated on the basis of quality information.

⁹² The number of EIA reports approved by SEPAC is as follows: 139,000 in 2000; 187,000 in 2001; about 230,000 in 2002; 278,000 in 2003; and 320,000 in 2004. See *National Environmental Statistics Gazette* (cited in note 17).

⁹³ Karkkainen, 102 Colum L Rev at 905 n 6 (cited in note 50).

⁹⁴ NEPA § 102(2)(C), 83 Stat at 853.

⁹⁵ EIA Law, arts 16(2), 22.

⁹⁶ EIA Law, art 20.

⁹⁷ EIA law, art 19.

It is common for a regulator to “outsource” compliance obligations to third-party private entities—in China’s EIAs, EIA service providers—in order to reduce costs and take advantage of information held in the market.⁹⁸ An instructive analogy to describe the position of EIA service providers in China’s EIAs comes from the field of securities regulation in the US. In the securities regulation context, underwriters help issuers with information processing, price determinations, and, ultimately, sales of securities. Underwriters are also obliged to conduct a due diligence investigation of issuers’ registration statements, thereby checking the accuracy of information provided by issuers to the public. Commentators find it justifiable to improve information quality by regulating underwriters in this manner.⁹⁹ Although no empirical evidence has confirmed that imposing this duty upon underwriters promotes efficiency,¹⁰⁰ it seems that underwriters are not unduly burdened by due diligence requirements because underwriters need accurate information to promote their own interests—namely to protect their reputation and reduce risks in firm underwriting.¹⁰¹ Thus, underwriters are not compelled to work for purely public benefit; instead, the public incidentally reaps advantages from the imposition of due diligence obligations upon underwriters. EIA service providers seem similarly situated because both the popular fee schedule discussed above and the threat of competition should motivate an EIA service provider to make efforts to burnish its reputation, notably by producing quality work. Thus, requiring EIA service providers to attest to the accuracy of information in the EIA reports would appear to be a justifiable legal measure comparable to due diligence requirements in the securities underwriting context.

However, because the nature of information in the two settings differs markedly, it is impossible to use regulatory measures from the underwriting context to improve the quality of information provided by EIA service providers. In the field of securities regulation, the majority of the relevant information involves facts, and the registration statement tends to describe events that have already occurred. Setting aside cost considerations, it should theoretically be possible to provide information that properly reflects such facts without major omissions and mistakes. An increased probability that

⁹⁸ See, for example, Sidney A. Shapiro, *Outsourcing Government Regulation*, 53 Duke L J 389, 402–04 (2003).

⁹⁹ See, for example, Donald C. Langevoort, *Information Technology and the Structure of Securities Regulation*, 98 Harv L Rev 747, 769 (1985). But see George J. Benston, *The Value of the SEC’s Accounting Disclosure Requirements*, 44 Accounting Rev 515, 517–18 (1969).

¹⁰⁰ Langevoort, 98 Harv L Rev at 770 (cited in note 99).

¹⁰¹ Id. “Firm underwriting” is a term widely used in the context of securities offerings to describe the popular practice of underwriters committing to buy securities if the offering fails to attract sufficient investors.

information is accurate leads to fewer distortions in investors' decision-making processes, and investors are accordingly willing to pay a premium for more accurate information.¹⁰² In addition, even though a registration statement usually includes some pro forma financial information, the statement is not audited. Hence, neither underwriters nor their financial advisors are responsible for the accuracy of such pro forma financial information; the judgment of potential risks and returns in buying securities is left to the potential investor. But in the EIA context, information comes from tentative projections that resemble pro forma information more than the descriptive information in the aforementioned registration statement, meaning that there is a significant chance that EIA reports contain inaccurate information. Since only hindsight can determine whether or not information in EIA reports reflects reality, such information has less quality than information provided by underwriters involved with preparing documents for securities regulation purposes.

Once costs and cost allocations are taken into account, the EIAS appears to diverge even further from the securities regulation paradigm. Since pollution regulation is a classic public good, especially in countries like China where resources are owned by the state, free-riding by beneficiaries is inevitable. Although the general public cannot be forced into paying a premium for improved predictive accuracy in EIA reports—while potential shareholders in the securities regulation context are willing to pay for more accurate information in registration statements—this distinction does not automatically justify shifting costs to enterprises or EIA service providers in the EIAS context. One proffered reason to impose marginal costs on service providers has been that because they benefit from the elevated entry barriers of the licensing scheme, they are the best candidates to bear marginal costs.¹⁰³ This argument seems even more potent when one considers that EIA service providers in China were at one time often affiliated with SEPAC.

However, burdening these service providers with marginal costs would be the equivalent of taxing them for work that contributes to the public's well-being, but that does not necessarily promote their interests. As EIA service providers log more hours to ensure accuracy, they incur additional costs. These supplementary costs are not invariably correlated with a higher probability of receiving SEPAC approval for a business project, and such costs may thus not strengthen a provider's competitive advantage in the market. This line of reasoning suggests a critical difference between EIA service providers and underwriters—accuracy contributes to the underwriters' success, but provides minimal, if any, benefit to EIA service providers. In a non-competitive EIA

¹⁰² *Id.* at 769.

¹⁰³ George J. Stigler, *The Theory of Economic Regulation*, 2 *Bell J Econ & Mgmt Sci* 3, 13–16 (1971).

service market, an arrangement that the licensing regime seems to promote (at least in a given local market), EIA service providers can shift extra costs to clients, just as underwriters do; otherwise, the providers must ordinarily bear the brunt of the costs. In either case, the entity generating information, not the beneficiary of the information, is fully burdened with costs, and such an entity may have an incentive to reduce costs by not seeking rigorously proven information. SEPAC may exercise stringent scrutiny, but this is of little avail as a practical matter because of the speculative nature of information contained in EIA reports. More importantly, enforcement by SEPAC is costly and diverts resources from potentially more effective regulatory tools.

2. Burdening Businesses through the Imposition of Public Participation Requirements

While government plans with environmental implications are not subject to specific public participation requirements, the EIAS PP Rules mandate procedures for public participation in the decision-making process with respect to business projects. In addition, the EIAS PP Rules require SEPAC to publicly disclose when it receives, and either approves or rejects, an EIA report.¹⁰⁴ Under the newly enacted EIAS PP Rules, an enterprise will have to make two rounds of public disclosures: before drafting its EIA report and after preparing the draft report for approval.¹⁰⁵ Public opinion will have to be solicited in designated forms, including public surveys, expert consultation meetings, public consultation meetings, and public hearings.¹⁰⁶ The EIAS PP Rules may be intended to align China's EIAS more with that of industrialized countries by ensuring the public some measure of input in government decision-making. For example, in the US, public participation under the NEPA regime serves two major purposes: it enlarges the information base for agency decision-making and it enhances political accountability. NEPA's framework for public participation was created by regulations issued by the Council on Environmental Quality in 1978.¹⁰⁷ The US's movement toward public participation in government originated from distrust about technocrats' ability to serve the public interest in an impartial fashion.¹⁰⁸ Public participation requirements encoded in law were

¹⁰⁴ EIAS PP Rules, art 13.

¹⁰⁵ EIAS PP Rules, arts 8, 9.

¹⁰⁶ EIAS PP Rules, art 12.

¹⁰⁷ See generally Poisner, 26 *Envir L* at 71–75 (cited in note 50). Under this framework, federal agencies are required to seek written or oral comments on the draft environmental impact statement from the general public. *Id* at 74.

¹⁰⁸ See generally Richard B. Stewart and Cass R. Sunstein, *Public Programs and Private Rights*, 95 *Harv L Rev* 1193, 1238–39 (1982).

justified as a means of promoting agency development of, and adherence to, public values.¹⁰⁹ However, the instrumental values of enlarging the regulating agency's information base and bolstering its political accountability have little relevance in the context of enterprises deciding which documents filed with SEPAC will help win project approvals.

With respect to the instrumental value of increasing the regulating agency's information base, even if one assumes that the information base is the same for regulators and enterprises, it is worth noting that the public's input may not be particularly useful for a number of reasons. First, public concern about pollution can be highly biased. Several empirical studies demonstrate that public complaints regarding pollution are strongly correlated with the severity of air pollution but are apparently unrelated to the magnitude of water pollution.¹¹⁰ Furthermore, the credibility of such complaints is highly affected by the levels of local education and per capita income.¹¹¹ Since education and income levels vary widely across China, the instrumental value of general public opinion on the subject of pollution is highly questionable. Second, the general public is susceptible to the problem of bounded rationality, especially in assessing environmental risks.¹¹² The media could play a critical role in disseminating information if public disclosure and public participation requirements became ingrained in society. However, when the target of such requirements is a commercial enterprise instead of a government entity, a cautious approach is imperative. One commentator has observed that in China the media's views can be determinative, not merely influential, because officials and the public accept media "findings" as fact, a scenario that does not necessarily enhance independent, rational thinking and political accountability.¹¹³ Finally, there is no assurance that citizens who participate in the preparation of EIA reports will not seek to advance an agenda unrelated to environmental concerns. Because the public participation mechanism to be created by the EIAs PP Rules is a pilot project among Chinese government agencies,¹¹⁴ it could attract many citizens already in the process of filing public complaints about non-environmental matters. Public participation in China's EIAs may trivially contribute to the

¹⁰⁹ Id at 1278–82.

¹¹⁰ Susmita Dasgupta and David Wheeler, *Citizen Complaints as Environmental Indicators: Evidence from China*, Policy Research Working Paper No 1704 (World Bank 1997), available online at <http://wdsbeta.worldbank.org/external/default/WDSContentServer/IW3P/IB/1997/01/01/00009265_3970625093907/Rendered/PDF/multi_page.pdf> (visited Apr 22, 2006).

¹¹¹ Id.

¹¹² See generally Christine Jolls, Cass R. Sunstein, and Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 Stan L Rev 1471, 1518–21 (1998).

¹¹³ Liebman, 105 Colum L Rev at 8–9 (cited in note 48).

¹¹⁴ See the statement by Pan Yue (cited in note 63).

accuracy of descriptive information, but at a tremendous cost, especially by prolonging delays.

In addition, even if the second instrumental value—political accountability—is a normative value worth pursuing, it may easily be defeated in the context of business projects undergoing scrutiny in China's EIAS. Including more information in EIA draft reports will increase the likelihood that citizens will find a bone of contention, and at the expense of businesses instead of the government. A given EIA draft report meeting or hearing mandated under the EIAS PP Rules could become a political forum, and this unpleasant prospect could deter new entrants from the market. Enterprises and EIA service providers may thus have a significant incentive not to make sensible predictions and provide solid information. Instead, EIA reports may become highly technical and incomprehensible to SEPAC, unnecessarily burdening the agency during the review process. Obscure EIA reports may ultimately preclude meaningful public participation.

In crafting a better alternative to the current EIAS regime, one must therefore distinguish between business projects and government plans in terms of the degree of public participation that should be required and the stage at which such participation should be allowed. Since public participation is a tool for honing the government's decision-making processes, it seems logical to mandate public disclosure of *finalized* EIA reports involving business projects. In this proposed system, all EIA reports submitted by enterprises would have to be filed with SEPAC and disclosed to the public, with redactions to ensure the confidentiality of commercial and national security interests. By delaying disclosure and public participation until after enterprises tender their final EIA reports, the government could provide enterprises with more of an incentive to include socially valuable information in the reports.¹¹⁵ Article 13 of the EIAS PP Rules requires SEPAC to make public disclosures after receiving applications from enterprises, but, in contrast with the scheme proposed here, Article 13 only mandates that "information relating to the receipt of applications"¹¹⁶—not actual EIA reports¹¹⁷—be publicly revealed. Public consultation is also a necessary measure enabling the public to influence SEPAC's decisions. While Article 13 of the EIAS PP Rules touches upon this issue, it limits public consultation to cases involving "significant public objections." SEPAC may thus readily avoid the public consultation procedure by tailoring the information that is disclosed to

¹¹⁵ Cary Coglianese, Richard Zeckhauser, and Edward Parson, *Seeking Truth for Power: Information Strategy and Regulatory Policymaking*, 89 *Minn L Rev* 277, 330–31 (2004).

¹¹⁶ EIAS PP Rules, art 13.

¹¹⁷ *Id.*

the public. The agency may conceal controversial information contained in EIA reports that could give rise to “significant public objections.”

In the government planning context, realizing the normative and instrumental objectives of the EIA Law would require closely tracking the NEPA model, notably by mandating public participation in the draft and final stages of the EIA report production process. However, one must acknowledge that a number of business projects are likely to be constructed and operated by enterprises affiliated with the government and that this affiliation could often lead enterprises to neglect preparing and filing EIA reports. But instead of classifying all business projects as government plans for the purposes of public participation requirements, one could redefine the line between government plans and business projects and notify the public about this demarcation. For example, one could imagine a regime in which the names of controlling shareholders and sponsors of business projects would have to be publicly disclosed, along with information about their affiliation with the local or central government.

This alternative solution differs from the EIAS PP Rules critiqued above in two vital respects—who absorbs the costs and who faces the public. Enterprises currently bear both these burdens, but it may be more beneficial to the public if such responsibilities were shifted to SEPAC. Public pressure could arguably facilitate SEPAC’s review of government plans given SEPAC’s weak position relative to some other government agencies. However, for business projects, a field in which SEPAC can more robustly exercise expert scrutiny, the agency no longer needs to rely upon extensive public participation. Furthermore, public participation does not improve political accountability before the final EIA report is submitted, when the only relevant relationship is that between the enterprises and the EIA service providers. The EIAS PP Rules disregard these insights and enable SEPAC to shift the administrative costs of public disclosure and public participation, as well as the political pressure to make difficult balancing decisions, to enterprises. However, because of China’s dismal record on pollution regulation and its lack of public involvement in government decision-making, one can surmise that the public will welcome the EIAS PP Rules. With the recently promulgated EIAS PP Rules, public interest in the environment may rise, in turn enhancing SEPAC’s political and financial clout within the government¹¹⁸ and increasing its efficacy. It is difficult to ascertain whether the advantages from this arrangement or the benefits from the alternative solution proposed here will promote the public good to a greater

¹¹⁸ Carlos Wing Hung Lo and Sai Wing Leung, *Environmental Agency and Public Opinion in Guangzhou: The Limits of a Popular Approach to Environmental Governance*, 163 *China Q* 677, 700 (2000).

degree, but this Article suggests that the alternative approach at least merits earnest consideration.

IV. CONCLUSION

The gap between a given regulatory framework and its actual enforcement is prevalent in most developing countries, including China.¹¹⁹ However, it would be incorrect to assume that effective implementation automatically follows once the regulator harnesses political support for its mission and receives better funding. The enforcement of government regulations entails costs that are highly dependent upon quality information, which can be cumbersome for the regulator to obtain because of the information asymmetry between the regulator and regulated entities. The types of information mechanisms used within a particular regulatory framework are thus of quintessential importance, for they influence a regulated entity's incentives to disclose information and ultimately determine the effectiveness of a given regulatory scheme. Improperly designed information mechanisms pose a double threat—they may not only hinder the flow of quality information, but may also divert resources from more potent regulatory tools. In the case of China's EIAS, comprehensive public disclosure and public participation requirements may improve information quality and prompt the government and the market to take environmental considerations into account when making decisions, but such requirements are also costly. Placing the full burden on enterprises may be a normatively appealing solution, especially to further causes like environmental protection at a time when the level of material wealth in a country is low, but a more incisive analysis may reveal that an alternative model better promotes the public's well-being in the long run.

¹¹⁹ *Id.* at 681.

