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Wang, Alex

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THE SEARCH FOR SUSTAINABLE LEGITIMACY: ENVIRONMENTAL LAW AND BUREAUCRACY IN CHINA

Alex L. Wang*

During China's 11th five-year plan (2006–10), bureaucrats began to take substantial actions on environmental protection, making major investments in pollution control infrastructure and forcing the shutdown of thousands of outdated facilities and production lines. This was not accomplished through meaningful reform of a notoriously weak environmental law regime. Rather, Chinese authorities turned to cadre evaluation — the system for top-down bureaucratic personnel assessments — to set high-priority, quantitative environmental targets designed to mobilize governors, mayors, and state-owned enterprise leaders in every corner of China's massive bureaucracy.

While conventional analysis has primarily viewed this effort through the lens of environmental protection, this Article argues that "environmental cadre evaluation" is better understood as something more fundamental. Chinese authorities have embraced environmental cadre evaluation as a tool for limiting risks to the party-state's hold on power, using environmental protection in an unexpected way to deliver economic growth and social stability. Environmental objectives have been elevated, but primarily to the extent they support these other values as well.

But implementation problems inherent to this top-down approach abound. Local agents falsify information and shut down pollution control equipment. Closed factories are secretly reopened. These problems create an imperative for reform. Of the initiatives already under way, governance reforms that strengthen public supervision have particular advantages for resolving institutional pathologies that limit the effectiveness of China's environmental efforts.

By examining why and how Chinese leaders have elevated environmental priorities through the cadre evaluation system, this Article seeks to offer insight into a number of broader ongoing debates — about environmental regulation in developing countries, accountability and regime survival in authoritarian states, and legal development in China.

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* Assistant Professor of Law, UCLA School of Law. The author was previously Visiting Assistant Professor of Law, UC Berkeley School of Law, and Senior Attorney and Director of the China Environmental Law & Governance Project at the Natural Resources Defense Council ("NRDC"), based in Beijing, China. The author wishes to thank Dan Farber, Holly Doremus, Jerome Cohen, Frank Upham, William Alford, David Adelman, Carl Minzner, Christina Ho, Ethan Leib, Benjamin van Rooij, Dan Guttman, John Delury, Benjamin Liebman, Robert Percival, Gillian Lester, Anne Joseph O'Connell, Richard Buxbaum, Christopher Edley, Robert Berring, David Sklansky, David Caron, Mark Gergen, Eric Biber, Stanley Lubman, Robert Bartlett, Michelle Wilde Anderson, Bertrall Ross, Rachel Stern, John Yoo, Katerina Linos, Goodwin Liu, Leonard Ortolano, Margaret Lewis, Xuehua Zhang, Michael Gerrard, Lisa Ikemoto, Margaret Hu, and Steven Q. Andrews, as well as the participants of Berkeley JWIG, the Vermont Law School Colloquium on Environmental Scholarship, and the Columbia Law School Works-in-Progress on Chinese Law Workshop. Tori Fan, Hua Zhao, Ying Qin, and Yi Zheng provided excellent research assistance. The author is grateful for funding support from the Miller Institute for Global Challenges and Law and the Berkeley Institute for East Asian Studies. Finally, the author thanks Hyeon-Ju Rho for her unwavering support during the drafting of this Article.

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INTRODUCTION

By just about any metric of environmental quality and sustainability, China faces an environmental crisis of daunting proportions.¹ The country is the world's leading emitter of greenhouse gases, sulfur dioxide, mercury, and a range of other pollutants. Severe environmental quality problems threaten human health and ecosystems. China has some of the most polluted cities in the world.² More than 300 million people lack access to safe drinking water.³ The cost of environmental degradation has been estimated at anywhere from 3 to 15 percent of the country's GDP annually.⁴

Although China has constructed an expansive environmental law framework over the past 30 years, implementation of laws and regulations in practice has been notoriously weak. A leading Chinese environmental law scholar put the problem bluntly: "China's green laws are useless."⁵

So it came as something of a surprise when Chinese bureaucrats began to take substantial action on environmental protection and energy efficiency during China's 11th five-year plan period (2006–10).⁶ Investment in pollution control infrastructure soared. One province that had only two wastewater treatment plants in 2006 built more than 100 treatment facilities by the end of 2010. Another province built 119 wastewater treatment plants in the span of three years. Nationwide, coal-fired power plants clamored to install pollution control equipment, with the rate of installation in plants rising from 10 percent in 2005 to 86 percent at the end of 2010. Local governments ordered the clo-

¹ Public policy research and the media have documented and drawn attention to this crisis. See generally Alex Wang, *China's Environmental Tipping Point?*, in CHINA IN AND BEYOND THE HEADLINES (Tim Weston & Lionel Jensen eds., 2012); WORLD BANK, COST OF POLLUTION IN CHINA: ECONOMIC ESTIMATES OF PHYSICAL DAMAGES (2007) [hereinafter COST OF POLLUTION]; MUN S. HO & CHRIS P. NIELSEN, CLEARING THE AIR: THE HEALTH AND ECONOMIC DAMAGES OF AIR POLLUTION IN CHINA (2007); ELIZABETH C. ECONOMY, THE RIVER RUNS BLACK: THE ENVIRONMENTAL CHALLENGE TO CHINA'S FUTURE (2010); JUN MA, CHINA'S WATER CRISIS (2004); TODD M. JOHNSON, FENG LIU & RICHARD NEWFARMER, WORLD BANK, CLEAR WATER, BLUE SKIES: CHINA'S ENVIRONMENT IN THE NEW CENTURY (1997) [hereinafter CLEAR WATER, BLUE SKIES].

² Fine particulate matter concentrations in urban areas are at least four to five times those found in developed countries. *190 Million Chinese Drinking Polluted Water*, PEOPLE'S DAILY ONLINE, Apr. 22, 2011, <http://english.peopledaily.com.cn/90001/98649/7359043.html>.

³ *Id.*

⁴ See *Green GDP Accounting Study Report 2004 Issued*, XINHUA, Sept. 12, 2006, http://news.xinhuanet.com/english/2006-09/12/content_5080599.htm; see also CLEAR WATER, BLUE SKIES, *supra* note 1, at 23; COST OF POLLUTION, *supra* note 1, at xviii; 潘希 [Pan Xi], 解振华痛陈: 生态破坏一年“吃掉” GDP [Xie Zhenhua Sorrowfully States: Ecological Damage “Eats Up” 15% of GDP Each Year], 竞报 [JING BAO], Apr. 29, 2005, <http://tech.sina.com.cn/d/2005-04-29/1430598439.shtml> (citing 2003 Chinese Academy of Sciences study); United Nations Environment Programme (“UNEP”), Tongji University, *Green Accounting Practice in China (Draft Report)*, Apr. 2008, at 2–10.

⁵ Jin Wang, *China's Green Laws are Useless*, CHINA DIALOGUE, Sept. 23, 2010, <http://www.chinadialogue.net/article/show/single/en/3831>.

⁶ Five-year plans are created by Chinese government and approved by the Chinese Communist Party and the National People's Congress. China's first five-year plan was implemented in 1953. JONATHAN SPENCE, *THE SEARCH FOR MODERN CHINA* 514 (1999). See Part III(B)(1), *infra*, for further discussion of China's five-year plans.

sure of substantial amounts of “backward industrial capacity” (*luohou chan-neng*). By the end of 2010, for example, officials had forced the shutdown of some 70 gigawatts of small thermal-power plant capacity nationwide.⁷

This dramatic shift in behavior did not arise out of any meaningful reform of China’s environmental law framework. Rather, it stemmed from the elevation of environmental priorities through the cadre evaluation system — China’s system for top-down bureaucratic personnel evaluation.⁸ At the beginning of the 11th five-year plan, Chinese authorities established high-priority, quantitative pollution reduction and energy efficiency performance targets that were assigned to governors, mayors, county magistrates, and state-owned enterprise leaders in every corner of China’s massive bureaucracy. These “energy saving, emissions reduction” (“ESER” or *jienerg jianpai*) targets included mandates for a 10 percent reduction in sulfur dioxide and chemical oxygen demand (“COD”) releases,⁹ and a 20 percent reduction in energy intensity.¹⁰

While China had set environmental targets in previous five-year plans, failure to meet those targets brought few consequences. Environmental targets, like China’s environmental laws, had never been taken very seriously. ESER targets in the 11th five-year plan, however, represented a substantial elevation of environmental goals, raising environmental targets to a level of priority previously reserved only for the most important party-state¹¹ mandates, such as economic growth, social stability, and the one-child policy.¹²

This system of “environmental cadre evaluation”¹³ has since become the central focus of China’s domestic and international environmental strategy.¹⁴ Central authorities have applied the tool to a range of new priorities concerning climate change, energy efficiency, and pollution.¹⁵ Chinese leaders announced

⁷ Hongwei Yang, *Hitting Green Targets*, CHINA DAILY, Dec. 1, 2010, http://www.china.org.cn/opinion/2010-12/01/content_21458373_2.htm. In 2006, China had about 115 GW of small thermal (under 100 megawatts) capacity, out of roughly 391 GW overall of thermal-fired power plant capacity. Jing Cao et al., *China’s 11th Five-Year Plan and the Environment: Reducing SO₂ Emissions*, 3 REV. ENVTL. ECON. & POL. 231, 240 n.10 (2009).

⁸ See Part I(B), *infra*, for further discussion of the cadre evaluation system.

⁹ Sulfur dioxide is an air pollutant produced by fossil fuel combustion (for example, power plants and industrial facilities). Chemical oxygen demand is a general measure of organic water pollution.

¹⁰ “Energy intensity” refers to the amount of energy required to produce a given unit of economic output. Eleventh five-year plan target reductions were to be achieved by 2010 and are reductions from 2005 baseline numbers.

¹¹ Chinese government institutions are closely integrated with Party institutions and subject to Party control. This Article uses the term “party-state” to refer to these Chinese governance institutions in general.

¹² See, e.g., Angang Hu, *Green Light for Hard Targets*, CHINA DAILY, Mar. 28, 2011, http://www.chinadaily.com.cn/opinion/2011-03/28/content_12234557.htm; 邓聿文 [Deng Yuwen], 环保“一票否决”的威力会有多大? [How Powerful Will Environmental “Veto” Targets Be?], 新华网 [XINHUA], Dec. 5, 2007, <http://env.people.com.cn/GB/6613692.html>.

¹³ “Cadres,” simply put, are party-state bureaucrats, which in the Chinese system include bureaucrats in state agencies and bureaus, state-owned enterprise workers, and staff in a range of other state institutions.

¹⁴ The idea of evaluating bureaucrats against environmental criteria has been part of the public debate since the 1980s, but the 2006 11th five-year plan was the first one in which environmental criteria were elevated from “soft” to “hard” target status. See *infra* Parts I(B) and II(B)(1).

¹⁵ Hu, *supra* note 12.

a “domestically binding” carbon intensity target as the centerpiece of China’s negotiating position at the 2009 Copenhagen climate negotiations.¹⁶ China expanded its use of environmental targets in the 12th five-year plan (2011–15), with targets for carbon intensity and renewable energy, among others. Environmental cadre evaluation has been used to address heavy metal pollution and fine particulate pollution.¹⁷

Despite the importance of the cadre evaluation system, the study of its implications for environmental regulation and governance in China has been relatively limited. Few of the articles that have addressed environmental cadre evaluation have attempted to theorize the ways in which cadre evaluation has worked as an environmental governance mechanism to alter the low priority government leaders had long placed on environmental objectives, and to drive local government action.¹⁸ Those studies have tended to be descriptive in nature or have treated cadre evaluation in passing as one among many environmental governance tools.¹⁹ Moreover, little academic work has attempted to develop a broader theory of the functional relationship between bureaucratic mandates and Chinese law.²⁰ For the most part, researchers have studied the two governance systems in isolation — (almost) never the twain shall meet.

This Article attempts to fill this gap in the literature by developing a comprehensive empirical case study of the operation of environmental cadre evaluation²¹ based upon a review of Chinese- and English-language source materials

¹⁶ *Hu Jintao’s Speech on Climate Change*, N.Y. TIMES, Sept. 22, 2009, <http://www.nytimes.com/2009/09/23/world/asia/23hu.text.html>; 单位GDP碳强度降低40–45%是我国自愿、自主的行动 [Carbon Intensity Reduction of 40–45% is a Voluntary Action], 中华人民共和国中央人民政府 [THE CENT. PEOPLE’S GOV’T OF THE PEOPLE’S REPUBLIC OF CHINA], Nov. 26, 2009, http://www.gov.cn/wszb/zhibo356/content_1474280.htm.

¹⁷ *PM2.5 Readings Vital for Political Careers*, CHINA DAILY, Feb. 17, 2012, http://www2.china-daily.com.cn/china/2012-02/17/content_14634482.htm.

¹⁸ See Yuan Xu, *The Use of a Goal for SO₂ Mitigation Planning and Management in China’s 11th Five-Year Plan*, 54 J. ENVTL. PLANNING & MGMT. 769, 783 (2011); ANNUAL REVIEW OF LOW-CARBON DEVELOPMENT IN CHINA, CLIMATE POL’Y INITIATIVE (2010), summary available at <http://climatepolicyinitiative.org/publication/china-annual-review-2011-2012>; Lynn Price et al., *Assessment of China’s Energy-Saving and Emission-Reduction Accomplishments and Opportunities During the 11th Five-Year Plan*, 39 ENERGY POL. 2165, 2178 (2011). A notable exception is Dan Guttman & Yaqin Song, *Making Central-Local Relations Work: Comparing America and China Environmental Governance Systems*, 1 FRONTIERS OF ENVTL. SCI. & ENGINEERING IN CHINA 418, 433 (2007) [hereinafter *Central-Local Relations*]; see also Wyatt Golding, *Incentives for Change: China’s Cadre System Applied to Water Quality*, 20 PAC. RIM L. & POL’Y J. 399 (2011).

¹⁹ The existing work on environmental cadre evaluation has also largely been based on official pronouncements and statistics, rather than empirical investigation.

²⁰ The exceptions are Carl Minzner, *Riots and Cover-Ups: Counterproductive Control of Local Agents in China*, 31 U. PA. J. INT’L L. 53 (2009–10) [hereinafter Minzner, *Riots & Cover-Ups*] (identifying how target incentives lead to principal-agent problems and exacerbate public instability); Mayling Birney, *Objective-Maximizing Authoritarianism: Evidence from China* (June 2012) (setting forth a theory of the “rule of mandates” that treats “laws” and “regulations” as secondary, subordinate norms to cadre evaluation targets); see also Guttman & Song, *supra* note 18.

²¹ This Article focuses specifically on the system for implementing “pollution reduction” (*jianpai*) targets, and discusses the “energy savings” (*jienergy*) target system only where relevant to the pollution reduction system. The pollution reduction targets are under the jurisdiction of the Ministry of Environmental Protection, whereas energy savings targets are under the jurisdiction of a different “system” in the bureaucracy — that headed by the National Development and Reform Commission.

and several dozen in-person interviews with central and local government officials, scholars and researchers, and environmentalists.²²

This case study, in turn, serves as the foundation for an examination of both *why* and *how* Chinese leaders have elevated environmental priorities during the 11th five-year plan.

First, this Article sets forth a theory of why Chinese leaders would elevate environmental priorities in this way. While most observers have viewed environmental cadre evaluation primarily through the lens of environmental protection, this Article argues that it is ultimately driven by something more fundamental. Environmental cadre evaluation is better understood as part of a broader political strategy to limit risks to the party-state's hold on power. It represents the use of environmental protection as a tool for delivering on the central components of China's "performance legitimacy" — sustained economic growth and social stability. Environmental goals, therefore, have been prioritized primarily to the extent that they benefit economic development or social stability. But this also represents an effort to elevate environmental protection as a normative value in and of itself.

This account differs from the narratives of environmental protection seen in democratic states like the U.S., Germany, and Japan, which focus on the role of the public in driving shifts in environmental priorities.²³ But it also differs from existing studies of "authoritarian environmentalism," which suggest the potential superiority of authoritarian states over democracies in resolving environmental problems.²⁴ Rather, this Article offers an account of an authoritarian state harnessing environmental regulations in the name of pursuing a range of state interests, but also (as will be discussed below) facing substantial challenges in governance and implementation.

This analysis deepens our understanding of specifically how Chinese authorities are attempting to adjust to perceived threats to the regime, and allows us to situate Chinese environmental protection efforts among other party-state moves to enhance regime legitimacy, such as economic reform, revival of Confucian ideology, international soft power efforts, rule of law reforms, attempts to stoke nationalist impulses, a broad range of social reforms, and the ramping up of the state's coercive apparatus.

²² This Article is based in part on interviews conducted in six provinces in China. Interviewees included bureaucrats at the central, provincial, and municipal levels of government, university and government researchers, and environmental organization representatives in China. All interviewees were promised anonymity. Reflecting common practice, interviewees are not identified by name or location. Rather, each interview is only identified by year and interview number. This Article also draws in part on the author's personal experience over nearly seven years in China working on environmental law reform projects with government and quasi-government, academic, and civil society partners.

²³ See, e.g., MIRANDA SCHEURS, ENVIRONMENTAL POLITICS IN JAPAN, GERMANY, AND THE U.S. (2003), available at <http://catdir.loc.gov/catdir/samples/cam033/2002067372.pdf>.

²⁴ Mark Beeson, *The Coming of Environmental Authoritarianism*, 19 ENVTL. POL. 276, 276 (2010) ("The dispiriting reality may be that authoritarian regimes . . . may even prove more capable of responding to the complex political and environmental pressures in the region than some of its democracies."); Bruce Gilley, *Authoritarian Environmentalism*, 21 ENVTL. POL. 287 (2012) (citing to a number of works on "authoritarian environmentalism").

Second, this Article examines how as a governance matter Chinese authorities have sought to implement these elevated environmental priorities. The key point is that, rather than reform China's legal system, leaders have relied primarily on top-down party-state bureaucratic mandates to drive performance of new environmental goals. This view of bureaucratic targets as the core of Chinese governance helps to explain decades of poor environmental law implementation. It is not only that weak environmental protection is a "paradox" between central environmental objectives and intransigent local actors, as most researchers have supposed. Rather, decades of poor environmental enforcement have been, in significant part, the rational response to a different set of norms (cadre targets) that de-prioritized environmental protection. The sudden and robust response of local actors to central elevation of environmental priorities is a stark illustration of the still powerful role of bureaucratic cadre evaluation in Chinese governance.

These research findings regarding the "why" and "how" of environmental cadre evaluation in China offer insight into a number of broader ongoing debates — about environmental regulation in developing countries, accountability and regime survival in authoritarian states, and legal development in China.

Environmental regulation. First, this legitimacy-based framing of environmental cadre evaluation provides vital insight into the normative values underlying China's efforts at environmental protection — namely, growth and stability. For China skeptics, it offers an explanation for why China would attempt such a substantial elevation of environmental priorities and a plausible story of how China can achieve some level of effective implementation. For those who believe China has commenced a radical "green leap forward," this Article demonstrates that environmental targets are aimed in significant part at achieving non-environmental goals. Moreover, findings of substantial principal-agent problems offer a sobering picture of the limitations of China's target-based approach for achieving growth, stability, or environmental objectives.

This study of environmental cadre evaluation contributes to a growing environmental governance literature that examines the ways in which developing countries attempt to address environmental problems in the face of undeveloped rule of law, weak regulatory capacity, and strong pressure for economic growth.²⁵ The linking of economic and environmental aims, in particular, provides a potential roadmap for nations seeking to find a way to create "greener" growth.

Adaptive governance. Second, this case study of environmental cadre evaluation deepens our understanding of China's "adaptive authoritarian" approach to governance in the first decade of the 21st century.²⁶ It takes a previously neglected state priority (environmental protection) and uses it in an

²⁵ See *Pollution Law Enforcement in Emerging Markets*, 32 L. & POL'Y. (SPECIAL ED.) (Benjamin van Rooij et al. eds., No. 1, 2010) for several examples of interesting recent academic work in this area.

²⁶ See MAO'S INVISIBLE HAND: THE POLITICAL FOUNDATIONS OF ADAPTIVE GOVERNANCE IN CHINA (Sebastian Heilmann & Elizabeth J. Perry eds., 2011) for one of the best recent discussions in a line of literature on China's adaptive approach to governance in the post-Mao era.

unexpected way as a vehicle to deliver outputs that have been essential to the party-state's hold on power (GDP growth and stability). At the same time, it is an effort to develop (albeit haltingly) environmental values as a new source of legitimacy under the Hu-Wen rubric of a "harmonious society."²⁷

More broadly speaking, this case study of environmental cadre evaluation reflects an adaptive "process" of governance that includes feedback loops for problem identification, pilot experimentation,²⁸ flexible adjustment of priorities,²⁹ reforms to governance mechanisms,³⁰ and a relatively institutionalized process of continuous review and adjustment to shifting problems³¹ — a bureaucratic version of the corporate philosophy of "total quality management."³²

Consistent with this adaptive process of governance, Chinese leaders have begun to identify problems and implement further reforms in the current 12th five-year plan. This Article will take a preliminary look at the range of reforms under way as of this writing. Of these measures, this Article argues that public supervision reforms — including greater transparency, public participation, and public interest litigation — have the greatest potential to improve government accountability (to central objectives and to the public will) because they actually create a possibility for third party, independent monitoring and the increased likelihood of sanctions for bad behavior.

Legal development. Finally, this study serves to correct some long-standing misconceptions about the way that law and governance work in China. This Article decenters the role of law in Chinese governance and highlights the central role of hierarchical structures and bureaucratic plan targets. Bureaucratic mandates sit at the core of China's governance apparatus, leading the way. Despite years of official rhetoric on the development of Chinese rule of law, laws and regulations remain secondary. And their implementation is heavily influenced by whether they support or conflict with senior bureaucratic mandates.³³ As a practical matter, to understand Chinese governance we must understand this relationship between targets and law.

This new understanding of the dynamic between law and cadre targets lays the foundation for further research into the role of law in Chinese society. Does it serve primarily a symbolic or expressive role — both to show that the party-state "cares" about certain values and to set aspirational norms that should be followed?³⁴ Does law primarily do its work in the areas where it does not conflict with bureaucratic mandates? Do laws and regulations raise

²⁷ See *infra* Part III(A)(1) for a discussion of the Hu-Wen "harmonious society" project as a programmatic response to concerns about declining state legitimacy.

²⁸ See *infra* Part II.

²⁹ See *infra* Part III.

³⁰ See *id.*; *infra* Part IV.

³¹ See *infra* Part V.

³² *How to Build Quality*, THE ECONOMIST, Sept. 23, 1989, at 121–22.

³³ See Guttman & Song, *supra* note 18; see also Minzner, *Riots & Cover-Ups*, *supra* note 20.

³⁴ See, e.g., Lauren B. Edelman, *When Organizations Rule: Judicial Deference to Institutionalized Employment Structures*, 117 AM. J. SOC. 888, 898 (2011) (discussing symbolic compliance); Cass Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021 (1996); see also Terrence Halliday & Bruce Carruthers, *How Countries Resist Global Institutions*, CENTER ON LAW AND GLOBALIZATION, http://clg.portalxm.com/library/keytext.cfm?keytext_id=30.

citizen expectations in a way inconsistent with this party-state conception of the role of law? Can environmental priorities set forth in cadre evaluation targets actually lend weight and credibility to environmental laws and regulations long ignored?³⁵ Can administrative law mechanisms that generate greater public accountability serve the party-state by mitigating principal-agent problems inherent to the cadre evaluation system? These questions suggest the possibility of a more fluid ongoing interaction between bureaucratic targets and law than has been portrayed in recent studies of China's "turn against law."³⁶

* * *

This Article proceeds in five Parts. Parts I to III set forth a legitimacy-based theory for why Chinese authorities would elevate environmental priorities through the use of environmental cadre evaluation. Part IV describes central party-state strategies to improve central-local control and examines persistent implementation problems of the cadre evaluation system. Part V looks at the implications of weak implementation and potential solutions. More specifically:

Part I draws from the political science, sociology, and social theory literature to set forth a framework for understanding regime legitimacy. It then argues that cadre evaluation is the central tool by which the party-state has attempted to achieve goals it sees as central to staying in power.

Part II examines the impact that traditional cadre evaluation focus on economic development has had on environmental protection. The existing literature has focused on "local protectionism" as the primary explanation for poor environmental enforcement in China. However, cadre evaluation incentives have clearly prioritized economic objectives over environmental protection. Disputing the conventional view of a "paradox" between central environmental aims and unruly local bureaucracies, this Part argues that top-down and local incentives for environmental degradation have been more aligned in the past than is commonly recognized — with predictably dire consequences for China's environment.

This Part then describes China's early experiments with environmental cadre evaluation targets and its abortive effort to promote the concept of "green GDP." While the notion of utilizing environmental targets had existed in party-state policies since the 1980s, environmental cadre evaluation would not be used in a serious way to prioritize environmental goals until the 11th five-year plan in 2006.

Part III turns to the central thesis of this Article, offering an explanation for why Chinese authorities have elevated environmental priorities. It provides illustrations, based on review of written materials, in-person interviews in

³⁵ See 孙佑海 [Sun Youhai], *强化法治是实现节能减排目标的根本保障* [Strengthening Rule of Law is a Fundamental Safeguard for Realizing Energy-Saving, Emissions-Reduction Targets], 群言 [GROUP TALK] (July 2007).

³⁶ See, e.g., Carl Minzner, *China's Turn Against Law*, 59 AM. J. COMP. L. 935 (2011).

China and the United States, as well as the author's personal experience working on environmental law matters with Chinese government agencies and civil society, of the ways in which environmental cadre evaluation has been utilized since 2006 to achieve the party-state's core objectives. This Part argues that environmental cadre evaluation reflects an effort by the party-state to sustain the traditional growth and stability foundations of its "performance legitimacy," while expanding, however modestly, environmental protection as a stand-alone normative value.

Part IV focuses on how Chinese authorities have attempted to implement these environmental priorities in practice. It first sets forth a number of central strategies designed to counter traditional central-local implementation problems. It then analyzes persistent implementation challenges of environmental cadre evaluation that nonetheless remain, using criteria derived from studies in economics and political science identifying the classic features of principal-agent problems: goal specification, goal displacement, data falsification, and collusion.

Part V argues that these implementation problems create risks for the regime and an imperative for reform. Several strands of reform are currently in play, including increased top-down administrative monitoring, resort to market measures, and governance reforms that edge China in the direction of greater public accountability and a more "deliberative authoritarianism." This Part makes a normative proposal for expansion of public supervision mechanisms as the most effective way to resolve persistent implementation problems.

I. MECHANISMS OF REGIME LEGITIMACY

"The strongest is never strong enough to be always the master, unless he transforms strength into right and obedience into duty."

— Rousseau³⁷

Legitimacy can be a "mushy concept"³⁸ — difficult to quantify, measure, or predict. Nonetheless, it is a concept that is the subject of intense interest and debate among Chinese party-state leaders and scholars. In practice, conceptions of legitimacy are influencing current and possible future directions of policy development and institutional change in China.³⁹ A legitimacy perspective helps us to understand various strands of reform — environmental protection, rule of law, marketization, and resort to hierarchical governance measures — as attempts, in part, to respond to perceived threats to the continued survival of the regime.

In the United States, discussions of environmental law revolve around different axes. Explanations of the policy basis for environmental law set forth

³⁷ JEAN-JACQUES ROUSSEAU, *THE SOCIAL CONTRACT* 3 (G.D.H. Cole trans., 2008).

³⁸ SAMUEL P. HUNTINGTON, *THE THIRD WAVE: DEMOCRATIZATION IN THE LATE TWENTIETH CENTURY* 46 (1991).

³⁹ See, e.g., Bruce Gilley & Heike Holbig, *The Debate on Party Legitimacy in China: a Mixed Quantitative/Qualitative Analysis*, 18:59 *J. CONTEMP. CHINA* 339 (Mar. 1, 2009).

economic (cost-benefit) and non-economic (moral, ethical, justice or distributional equity-based) approaches.⁴⁰ Certain values are embedded in these different approaches that are more or less familiar to American environmental law experts. The arguments are over which values should prevail. Academic debates regarding U.S. environmental law also revolve around the politics of environmental protection. These include public choice and other explanations for the creation and implementation of environmental laws.⁴¹

This Article is first and foremost concerned with using a legitimacy-based framework to clarify the values underlying Chinese environmental protection. Then, building upon the values identified, the subsequent discussion ventures an assessment of the politics of environmental governance in China.

This Part begins by clarifying some definitional matters and sets forth a range of traditional grounds for legitimacy in China identified in the literature. It then argues that cadre evaluation is China's central mechanism for implementing perhaps *the* critical aspect of its regime legitimacy in recent decades — legitimacy through performance, or delivery of outputs. Finally, it offers an explanation of why Chinese authorities have emphasized cadre evaluation over law and legal institutions as the fundamental driver of state performance.

A. “Legitimacy” — *Definitional Matters*

State legitimacy, according to Seymour Lipset, “involves the capacity of the system to engender and maintain the belief that the existing political institutions are the most appropriate ones for the society.”⁴² Scholars have identified a range of factors that might allow a state to “engender and maintain” this belief.⁴³ While democratic states rely to a great extent on a legal-electoral or procedural legitimacy that allows the ruled to select (and replace) their rulers, authoritarian states have based their legitimacy, among other things, on ideology, nationalism, charismatic leaders, and, particularly important, performance in delivering economic development and social goods to society.⁴⁴

⁴⁰ See generally RICHARD REVESZ, *FOUNDATIONS OF ENVIRONMENTAL LAW & POLICY* (2000).

⁴¹ Dan Farber, *Politics and Procedure in Environmental Law*, 8 J. L. ECON. & ORG 59 (1992); BRUCE A. ACKERMAN & WILLIAM T. HASSLER, *CLEAN COAL/DIRTY AIR OR HOW THE CLEAN AIR ACT BECAME A MULTIBILLION-DOLLAR BAIL-OUT FOR HIGH-SULPHUR COAL PRODUCERS AND WHAT SHOULD BE DONE ABOUT IT* 3 (1981).

⁴² SEYMOUR MARTIN LIPSET, *POLITICAL MAN: THE SOCIAL BASES OF POLITICS* 64 (1983).

⁴³ Weber's seminal framing of components of regime legitimacy (traditional, charismatic, and politico-legal bases of legitimacy) has been particularly influential. See, e.g., T.H. Rigby, *Introduction: Political Legitimacy, Weber and Communist Mono-organisational Systems*, in *POLITICAL LEGITIMATION IN COMMUNIST STATES* 1, 2–10 (T.H. Rigby & Ferenc Fehér eds., 1982).

⁴⁴ See HUNTINGTON, *supra* note 38, at 46–72; see also Rigby, *supra* note 43, at 2–10. States also use coercion to maintain power. However, as He Baogang notes, “the role of coercion is very limited in achieving effective legitimacy. It may produce unintended consequences: decreasing legitimacy rather than increasing it, obtaining a very limited superficial compliance rather than winning free support from the masses . . . [T]he legitimate state has lower transaction costs in managing society than the coercive state.” BAOGANG HE, *THE DEMOCRATIZATION OF CHINA* 195 (David S.G. Goodman ed., 1996).

The trap of authoritarian states that have faltered has been the inability to renew their legitimacy when performance (inevitably) weakens, ideology fades, or a charismatic leader passes away.⁴⁵ The legitimacy of rulers in democratic states rests on performance as well, but the legitimacy of rulers is to a large extent delinked from the legitimacy of the system or state. When democratically elected leaders fail to perform, they can be replaced through the formal mechanisms of the electoral system. The political system presumably retains its legitimacy through this process of leadership renewal.⁴⁶

For authoritarian states, the central risk of declining legitimacy is nothing less than regime collapse. And, in China, leadership conceptions of legitimacy are deeply concerned with regime collapse and the continued survival of the Chinese Communist Party. Indeed, the prospect of collapse looms large in China's own recent history (such as the legitimacy crisis surrounding the events of 1989), and in the demise of other authoritarian states around the world (such as the Soviet Union and the so-called "Color Revolution" states).

The People's Republic of China ("PRC") has grounded its claim to ruling legitimacy (*hefa xing* or *zhengdang xing*) in a variety of things, but electoral legitimacy has not been one of them.⁴⁷ In the early decades of the PRC, legitimacy was based on ideology (Marxism-Leninism),⁴⁸ charismatic legitimacy (Mao Zedong),⁴⁹ and nationalism (the Chinese Communist Party ("CCP")'s promise for restoring China to Great Power status after a century of humiliation at the hands of foreign powers and success in fending off Japanese incursion),⁵⁰ among other things. Performance legitimacy, such as through early efforts to generate Soviet-style industrial growth, was also important, but of uneven success throughout the Mao era. Legitimacy based on Marxist-Leninist ideology and Mao's charismatic leadership faded significantly in the wake of Mao's death and Cultural Revolution chaos.⁵¹

Since the Deng reform era, what remained was an effort to bolster legitimacy through performance, which has primarily meant economic growth and

⁴⁵ HUNTINGTON, *supra* note 38, at 50.

⁴⁶ See Andrew Nathan, *Authoritarian Impermanence*, 20 J. DEMOCRACY 37, 38 (2009). But see THOMAS MANN & NORMAN ORNSTEIN, *IT'S EVEN WORSE THAN IT LOOKS: HOW THE AMERICAN CONSTITUTIONAL SYSTEM COLLIDED WITH THE NEW POLITICS OF EXTREMISM* (2012) (describing problems in the U.S. political system and political party actions that have stymied the sort of political renewal referenced above).

⁴⁷ See, e.g., Bruce Gilley, *Legitimacy and Institutional Change: The Case of China*, 41 COMP. POL. STUD. 259 (2008); see also Heike Holbig & Bruce Gilley, *In Search of Legitimacy in Post-revolutionary China: Bringing Ideology and Governance Back In*, GIGA WORKING PAPERS No. 127, at 5, 27 (Mar. 2010).

⁴⁸ See Heike Holbig & Bruce Gilley, *Reclaiming Legitimacy in China*, 38 POL. & POL'Y 395, 405–08 (2010); Dingxin Zhao, *The Mandate of Heaven and Performance Legitimation in Historical and Contemporary China*, 53 AM. BEHAV. SCIENTIST 416, 422 (2009); HUNTINGTON, *supra* note 38, at 46.

⁴⁹ Max Weber, *The Nature of Charismatic Domination*, in MAX WEBER: SELECTIONS IN TRANSLATION 226, 226–27 (1978).

⁵⁰ See, e.g., SUSHENG ZHAO, *A NATION-STATE BY CONSTRUCTION: DYNAMICS OF MODERN CHINESE NATIONALISM* (2004); see also REGIME LEGITIMACY IN CONTEMPORARY CHINA: INSTITUTIONAL CHANGE AND STABILITY (Thomas Heberer & Gunter Schubert eds., 2009).

⁵¹ Zhao, *supra* note 48, at 422.

social stability.⁵² Commitment to this mode of “performance legitimacy” — what Scharpf has called “output-oriented legitimization”⁵³ — was redoubled in the aftermath of the national protests and military repression of 1989 when Deng Xiaoping, on his famous 1992 Southern Tour, proclaimed that “development is the hard truth” (*fazhan shi yingdaoli*).⁵⁴

Performance has been matched with the construction and use of a formidable apparatus for coercion and state security. China’s budget for “stability maintenance” (*weiwen*) reached about US\$95 billion in 2009, exceeding the People’s Liberation Army (“PLA”) budget (US\$91.5 billion) for the first time.⁵⁵ The massive commitment of resources to “domestic security” suggests serious concerns about the sustainability of growth-based performance legitimacy. Authorities also maintain a sophisticated propaganda (*xuanchuan*) apparatus that aggressively controls bad news, while shaping and spinning public opinion. Any notion of accountability based on “performance legitimacy” must acknowledge the role of the security and propaganda apparatus in limiting public expectations and molding public views of the party-state.

Chinese authorities have also engaged in the project of enhancing legitimacy through “rule of law” development.⁵⁶ Note, however, that this is not — in the leadership’s own words — a legal legitimacy that incorporates concepts of democracy, checks and balances, and the notion that all citizens are subject to the law.⁵⁷ Chinese leaders have tended to treat “rule of law” as a more limited concept in the sense of “enhancing cadre efficiency and accountability (instead of empowering the *demos vis-à-vis* the state).”⁵⁸

Other recent party-state initiatives, such as the national push to expand China’s “soft power,” the revival of Confucian ideals, and populist-oriented “harmonious society” programs, can be thought of as part of this broader project to counter declining legitimacy.

The key point here (as set forth in detail in Part III) is that senior Chinese leaders and researchers themselves have engaged in extensive study and debate over concepts of regime legitimacy in response to concerns about retaining

⁵² See Andre Laliberté & Marc Lanteigne, *The Issue of Challenges to the Legitimacy of CCP Rule, in THE CHINESE PARTY-STATE IN THE 21ST CENTURY: ADAPTATION AND THE REINVENTION OF LEGITIMACY* (Andre Laliberté & Marc Lanteigne eds., 2008) [hereinafter *Legitimacy of CCP Rule*]. Nationalism is a third pillar of Chinese state legitimacy.

⁵³ FRITZ W. SCHARPF, GOVERNING IN EUROPE: EFFECTIVE AND DEMOCRATIC? 10–13 (1999) (discussing output legitimacy in the European context).

⁵⁴ The Southern Tour and Deng’s focus on economic growth are attributed with stimulating a renewed wave of investment activity that had slowed down after the 1989 Tiananmen Square incident.

⁵⁵ Willy Lam, *Beijing’s ‘Wei-Wen’ Imperative Steals the Thunder at NPC*, CHINA BRIEF (Mar. 10, 2011), [http://www.jamestown.org/single/?no_cache=1&tx_ttnews\[tt_news\]=37630](http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=37630).

⁵⁶ See State Council White Paper, *China’s Efforts and Achievements in Promoting the Rule of Law* (Feb. 28, 2008), available at http://news.xinhuanet.com/english/2008-02/28/content_7687418.htm.

⁵⁷ See, e.g., RANDALL PEERENBOOM, CHINA’S LONG MARCH TOWARD RULE OF LAW 63–91, 103–09 (2002) [hereinafter CHINA’S LONG MARCH] (setting forth a range of “thick” notions of rule of law in China).

⁵⁸ Thomas Heberer & Gunter Schubert, *Political Reform and Regime Legitimacy in Contemporary China*, 99 *ASIAN* 9, 17 (2006).

power. And academic notions of regime legitimacy have influenced a range of Chinese reforms, including, among others, the development of environmental cadre evaluation.⁵⁹

B. *Implementing Performance Legitimacy — the Central Role of Cadre Evaluation*

The idea that Chinese leaders view rapid economic growth and maintenance of social stability as central to their retention of power is relatively uncontroversial. But how, as a governance matter, have party-state leaders realized these objectives in practice?

China's cadre evaluation (or target responsibility) system — its mechanism for evaluation of bureaucratic personnel — and its central control over appointment of thousands of key positions in the system (known as *nomenklatura*) is the key formal governance mechanism through which Chinese authorities have attempted to implement the central priorities of the state.⁶⁰

China's bureaucracy, more than 40 million members strong, presents an enormous management challenge.⁶¹ Even after substantial privatization, the bureaucracy still covers a much wider swath of society than is typical in most

⁵⁹ This Article references, but does not explore in depth, cases of state or non-state actors using narratives of legitimacy (and the threat of regime collapse) as a cover for other goals, such as rent-seeking, inter-agency competition for authority, acquisition of power, and so on. Further research is needed into the ways that these motives interact with official narratives and influence party-state actions, but such inquiries are beyond the scope of this Article.

⁶⁰ A number of scholars have assessed various aspects of the cadre evaluation system in general. See, e.g., John Burns & Zhiren Zhou, *Performance Management in the Government of the People's Republic of China: Accountability and Control in the Implementation of Public Policy*, 2 OECD J. BUDGETING (2010), Vol. II; SUSAN WHITING, *POWER AND WEALTH IN RURAL CHINA: THE POLITICAL ECONOMY OF INSTITUTIONAL CHANGE* (2001) [hereinafter *POWER AND WEALTH*]; Susan Whiting, *The Cadre Evaluation System at the Grass Roots: The Paradox of Party Rule, in HOLDING CHINA TOGETHER: DIVERSITY AND NATIONAL INTEGRATION IN THE POST-DENG ERA* 101–19 (Dali L. Yang & Barry Naughton eds., 2004) [hereinafter Whiting, *Cadre Evaluation*]; Maria Edin, *State Capacity and Local Agent Control in China: CCP Cadre Management from a Township Perspective*, CHINA Q. 173: 35–52 (2003); PIERRE LANDRY, *DECENTRALIZED AUTHORITARIANISM IN CHINA: THE COMMUNIST PARTY'S CONTROL OF LOCAL ELITES IN THE POST-MAO ERA* (2008).

⁶¹ As of 1998, by one Party estimate, there were up to 40.5 million cadres in China: 7 million in government and Party organs; 19.2 million in the so-called *shiye danwei* (or public service units); 14.3 million in state-owned enterprises. Other estimates put the number of cadres in government and Party organs as high as 10 million. Kjeld Erik Brodsgaard, *Cadre and Personnel Management in the CPC*, 10 CHINA: AN INT'L J. 69, 73–74 (Aug. 2012). Of these, 508,025 were “leading cadres,” of which 92 percent worked at the provincial level or below. *Id.*; see also DAVID SHAMBAUGH, *CHINA'S COMMUNIST PARTY: ATROPHY AND ADAPTATION* 141, 143–44 (2008) (noting 40.51 million Party and state cadres nationwide). Cf. John Burns, *Civil Service Reform in China*, 7 OECD J. ON BUDGETING 2007, at 4 (noting that some 69.2 million people were employed in China's public sector in 2002, with 35.4 million of these working in the general government and 33.8 million in state-owned enterprises). As will be discussed in Parts IV and V, the difficulty of managing a bureaucracy of this size is exacerbated by the top-down orientation of China's governance system, coupled with a lack of diversity in effective channels for bottom-up or horizontal supervision.

countries.⁶² If the U.S. federal bureaucracy were equivalent in scope to China's, it would include:

the entire U.S. cabinet, state governors and their deputies, the mayors of major cities, the heads of all federal regulatory agencies, the chief executives of GE, Exxon-Mobile, Wal-Mart and about fifty of the remaining largest U.S. companies, the justices on the Supreme Court, the editors of the *New York Times*, the *Wall Street Journal* and the *Washington Post*, the bosses of the TV networks and cable stations, the presidents of Yale and Harvard and other big universities, and the heads of think-tanks like the Brookings Institution and the Heritage Foundation.⁶³

The system has attempted to resolve this enormous top-down management challenge, in part, by devolving many decisions to the local level, while retaining top-down control over major priorities. While China in theory remains a unitary state, governance in practice has approached what some call a “de facto federalism” with central retention of only the most important priorities.

In concept, cadre evaluation is not much different from personnel evaluations in any large bureaucracy. Cadre evaluation is analogous to military command with mission priorities set by top leadership and tactics left to lower-level actors.⁶⁴ It is reminiscent of personnel evaluations in large corporate hierarchies, with staff throughout the organization held accountable against profit and other targets. There are analogies to the organization of the Catholic Church or organized crime family hierarchies.⁶⁵

In the Chinese context, national priorities set forth in China's five-year plans are operationalized through personnel performance targets against which lower level agents are evaluated.⁶⁶ Traditionally, the most important targets have concerned economic, social stability, and one-child policy goals.⁶⁷ A bu-

⁶² KENNETH LIEBERTHAL, *GOVERNING CHINA: FROM REVOLUTION THROUGH REFORM* 209 (1995).

⁶³ RICHARD MCGREGOR, *THE PARTY: THE SECRET WORLD OF CHINA'S COMMUNIST RULERS* 72 (2010). The bureaucracy would also include the staffs of each of these entities.

⁶⁴ See Birney, *supra* note 20. U.S. civilian-military control is more analogous to Chinese cadre evaluation governance than management of other U.S. agencies. The civilian-military hierarchy is characterized by stronger executive power over personnel matters and fewer civil service protections. It is not subject to many of the constraints and protections set forth in the Administrative Procedure Act. The military is subject to more limited judicial review than other agencies. These are all characteristics of Chinese bureaucratic governance, including strong, centralized “executive” authority and limited independent supervision whether through the judiciary, legislature, or the public. John Yoo, *Administration of War*, 58 DUKE L.J. 2277, 2279–81, 2292 (2009).

⁶⁵ The comparison here is meant to extend no further than similarities in hierarchical organizational structure.

⁶⁶ Leading cadres at each level of government (that is, the top party and government officials at the provincial, municipal, and county-levels) are evaluated by their superiors at the next level up — what is known as “one-level down” supervision. Maria Edin, *Remaking the Communist Party-State: The Cadre Responsibility System at the Local Level in China*, 1 CHINA: AN INT'L J. 1, Mar. 2003, at 6 [hereinafter *Remaking the Communist Party-State*]; LIEBERTHAL, *supra* note 62, at 210; Whiting, *Growth*, *infra* note 68, at 2.

⁶⁷ For the most part, targets are quantitative and quite specific (for example, GDP, per capita GDP, local tax receipts, annual per capita income for rural residents, birth rate, implementation rate of compulsory education system, area of land terraced, or profits of state-owned enterprises). Whit-

reocrat's level of performance on these targets relative to peers determines whether he or she is awarded with financial bonuses, promotions, and prizes, or punished with financial penalties, transfer, or worse.⁶⁸ This system of top-down supervision has created a "pressurized system" in which "making target (or appearing to do so) is all-important."⁶⁹ The cadre evaluation system is implemented by the powerful Communist Party Organization Departments at each level of the state,⁷⁰ which are responsible for making decisions about the career paths and bureaucratic ranking of personnel within the system.

The relative importance of different targets is made explicit within the system. Performance targets are clearly labeled as soft ("guidance") targets (*zhidao xing* or *yiban zhibiao*), hard targets (*ying zhibiao*) or "targets with veto power" (*yipiao fojue mubiao*).⁷¹ "Veto" targets are the most important, and failure to meet these targets automatically results in punishment. Poor performance on veto targets cannot be remedied by good performance on other targets.⁷² Hard targets are also important, mandatory targets. Soft targets are lower priority objectives.

Economic goals have long been hard targets that were tightly correlated with career outcomes.⁷³ Hard economic targets have historically incentivized violations of environmental, labor, and other laws seen as in conflict with economic aims.

Social stability-related objectives and one-child policy implementation had long been "veto" targets, which meant that failure to meet those targets would in theory automatically result in punishment. Draconian actions by local officials to limit birth rates — such as forced abortions and sterilizations — are related to the pressure from the veto status of family planning targets.

Targets relating to social stability are expressed as goals for permissible numbers of collective petitions and protests, or goals related to specific acts that have triggered unrest or public dissatisfaction, such as the illegal levying of fees and workplace accidents. For example, in response to a spate of mining and workplace accidents, the central government in 2006 announced performance targets for: industrial death rate per 100 million yuan of GDP, death rate

ing, *Cadre Evaluation*, *supra* note 60, at 104. However, other targets are more abstract in nature, such as performance on "public order," "party organization building," and "building of party spirit and discipline." *Id.* at 107.

⁶⁸ Susan Whiting, *Growth, Governance, and Institutions: The Internal Institutions of the Party-State in China*, Report for the World Bank Research Project on the Rise of China and India (Governance) (July 28, 2006), at 5; *see also* Ye Chen et al., *Relative Performance Evaluation and the Turnover of Provincial Leaders in China*, 88 *ECON. LETTERS* 421 (2005); Hongbin Li & Li-An Zhou, *Political Turnover and Economic Performance: The Incentive Role of Personnel Control in China*, 89 *J. PUB. ECON.* 1743 (2005). *But see* Victor Shih et al., *Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China*, 106 *AM. POL. SCI. REV.* 166 (Feb. 2012).

⁶⁹ Minzner, *Riots & Cover-Ups*, *supra* note 20, at 57.

⁷⁰ *See* SHAMBAUGH, *supra* note 61, at 141.

⁷¹ *See* Burns & Zhou, *supra* note 60, at 14–15, 17, 19; Edin, *Remaking the Communist Party-State*, *supra* note 66, at 10.

⁷² Minzner, *Riots & Cover-Ups*, *supra* note 20, at 68.

⁷³ Burns & Zhou, *supra* note 60, at 8. *See generally* Li & Zhou, *supra* note 68.

from work accidents per 100,000 employees in commercial businesses, and death rate per one million tons produced by coal mines.⁷⁴

Environmental, rule of law, ethics, and other targets have historically been soft guidance targets, a powerful indication of the secondary importance of these values within the Chinese bureaucratic system. Put another way, these objectives have largely been left to the discretion of local governments to do as they choose.

This system is a manifestation of what Kenneth Lieberthal has called the “national political-economic” deal in which “each level of government will grant the level just below it sufficient flexibility to enable the lower level to grow its economy rapidly enough to maintain social and political stability.” Rapid economic growth, accompanied by social and political stability, is, in turn, rewarded with promotions and other benefits.⁷⁵

In this way, the cadre evaluation system is the mechanism through which authorities guide officials toward implementing those priorities that make up the core components of China’s performance legitimacy. At the same time, the system offers local actors tremendous flexibility in how to meet targets.

The cadre evaluation system shares elements of imperial Chinese bureaucratic management practices that are thousands of years old, but also borrows from Soviet planned economy systems.⁷⁶ The modern cadre evaluation system arose in the late 1970s in the wake of the Cultural Revolution.⁷⁷ After the turmoil of the Mao era, central officials sought to move away from mass political campaigns and ideological modes of management toward concrete, quantified performance targets, such as gross value of industrial output, grain sales to the state, family-planning compliance rates, and provision of public services such as education.⁷⁸

This Article’s focus is on the rather dramatic elevation of certain environmental mandates in 2006, from low-priority soft targets long left to the discretion of local government to hard and veto-level targets subject to tight enforcement from the top. This raised environmental performance targets to a level of priority previously reserved for only a limited number of key state objectives (for example, economic growth, stability). Parts III and IV, *infra*, will discuss in detail the impact this elevation had on local government action toward these environmental priorities.

⁷⁴ Whiting, *Growth supra* note 68, at 6. Also, when the local government practice of levying excessive non-tax “fees” on farmers began to cause significant unrest in the mid-1990s, the central party issued rules that prevented any official disciplined for levying illegal fees from being promoted. This practice of levying non-tax “fees” is attributed to frequent local budget shortfalls due to greater centralization of tax revenue and increasing “unfunded mandates” at the local level. *See id.* at 12–14.

⁷⁵ Kenneth Lieberthal, *China’s Governing System and Its Impact on Environmental Policy Implementation*, WILSON CTR. CHINA ENVT. SERIES (1997), at 4–5 [hereinafter *China’s Governing System*], available at <http://www.wilsoncenter.org/sites/default/files/Lieberthal%20article.pdf> [emphasis in original].

⁷⁶ See Minzner, *Riots & Cover-Ups, supra* note 20, at 61–64.

⁷⁷ Whiting, *Cadre Evaluation, supra* note 60, at 102–04.

⁷⁸ *Id.* at 104.

C. Why Cadre Evaluation?

Cadre evaluation, however, is by no means the only mechanism the Chinese state has at its disposal for implementation of central priorities at the local level. Law, legal institutions, and judicialization have served this role as well.⁷⁹ Ideology has also been a tool for disseminating and implementing core state objectives.⁸⁰ Why, then, have Chinese authorities favored cadre evaluation — a hierarchical, administrative mechanism — as the tool for driving performance outcomes undergirding its claim to legitimacy?

A first response might be: why not? After all, hierarchical management structures are arguably a natural way for the administration of large organizations or bureaucracies to develop.⁸¹ It is only when we begin to fold in “thick” normative values typically associated with Western “rule of law” (such as separation of powers, an independent judiciary, individual rights, transparency, public participation, checks on the authority of the executive, no one above the law, etc.) that a system of government that leads through hierarchical management begins to look incongruous.

Put another way, top-down hierarchical management has many advantages for the leadership (whether it be the CCP or the CEO of General Electric), including effective signaling of priorities and principal-agent control. Moreover, it is a mode of governance that, for reasons of feasibility and tradition, is a natural path for China’s leaders to choose. Law and judicialization, on the other hand, carry risks and shortcomings from the perspective of the leadership that limit their implementation.

1. The Benefits of Cadre Evaluation

First, cadre evaluation plays a critical role in signaling to the bureaucracy the priorities of the party-state, and can do so in a more flexible way than relatively static, difficult-to-change law.⁸² The rank order among competing priorities is quantified and clearer in cadre evaluation because of specific point value assignments and categories establishing priority (soft, hard, veto). In China, laws are not so clear about their priorities, and in practice bureaucratic evaluation norms will tend to trump law when there is a conflict.⁸³

⁷⁹ See, e.g., STANLEY LUBMAN, *BIRD IN A CAGE: LEGAL REFORM IN CHINA AFTER MAO* 130 (1999) (discussing the “instrumental use of law”).

⁸⁰ See Tom Ginsburg, *The Judicialization of Administrative Governance*, in *ADMINISTRATIVE LAW AND GOVERNANCE IN ASIA: COMPARATIVE APPROACHES 1* (Tom Ginsburg & Albert H.Y. Chen eds., 2008).

⁸¹ See SCOTT J. SHAPIRO, *LEGALITY*, chs. 5 & 6 (2011) (discussing how planning and hierarchy develop as a solution to achieving collective objectives).

⁸² See, e.g., William Alford & Ben Liebman, *Clean Air, Clear Processes? The Struggle over Air Pollution Law in the People’s Republic of China*, 52 *HASTINGS L.J.* 703, 705 (2001).

⁸³ See Minzner, *Riots & Cover-Ups*, *supra* note 20, at 55–59.

Second, cadre evaluation has traditionally been perceived to have advantages in principal-agent control.⁸⁴ Despite the many problems of the system, it has still helped to motivate and identify stellar performers, while generating at least a minimal level of performance from most bureaucrats.⁸⁵

For these purposes, the sheer scope of China's bureaucracy and its unitary state structure make broad use of cadre evaluation attractive in the Chinese context.⁸⁶ In China, central authorities, in theory, can govern agency staff, governors of provinces, mayors, state-owned enterprise heads, and a variety of other state actors through cadre evaluation. This is particularly relevant in the environmental context where a substantial amount of pollution and energy consumption is directly within the control of government and corporate leaders subject to the cadre evaluation system. This simply would not be feasible in many other countries that are privatized to a much greater extent, or *de jure* structured in a more decentralized manner.

Third, cadre evaluation plays an important role in strengthening bureaucratic political loyalty to the party-state. Economic growth, privatization, and the retreat of the state from many walks of Chinese life have already increased the risks of party-state loss of control. The cadre evaluation system places the fate of local bureaucratic careers firmly within the control of the superiors within the party-state system. This control over personnel allocation, according to Huang Yasheng, is "the ultimate trump card that the Center can yield against the provinces."⁸⁷

Fourth, China's hierarchical governance tradition, a top-down governance culture, and simple familiarity with this style of bureaucratic management also play an important role. China is, after all, one of the world's oldest bureaucracies, having developed hierarchical management tools as early as the Western Zhou Dynasty (1046–256 BC).⁸⁸

Fifth, the Chinese governance system does not face the constraints on use of hierarchical measures present in the United States (or other democratic states) due to administrative law protections and their concern with the accountability of unelected bureaucrats to the public. It is well understood that Party procedures and processes (such as cadre evaluation) are outside the scope of Chinese legal protections found in the Administrative Litigation Law and

⁸⁴ In studying the causes of the collapse of the Soviet Union, Chinese scholars specifically raised the need for more "scientific," meritocratic cadre management as a way to combat corruption and excessive reliance on *guanxi* (relationships) in the bureaucracy. See SHAMBAUGH, *supra* note 61, at 80.

⁸⁵ See Whiting, *Cadre Evaluation*, *supra* note 60.

⁸⁶ Likewise, if China in the future privatizes to a much more significant degree, cadre evaluation may lose some of its power.

⁸⁷ YASHENG HUANG, *INFLATION AND INVESTMENT CONTROLS IN CHINA: THE POLITICAL ECONOMY OF CENTRAL-LOCAL RELATIONS DURING THE REFORM ERA* 89 (1996).

⁸⁸ FRANCES FUKUYAMA, *THE ORIGINS OF POLITICAL ORDER: FROM PREHUMAN TIMES TO THE FRENCH REVOLUTION* 113–14 (2011). Coincidentally, this was also the period from which arose the concept of rule based on the "Mandate of Heaven," a precursor to contemporary notions of performance legitimacy. See Zhao, *supra* note 48, at 419.

other laws or regulations that ostensibly provide a measure of government accountability to the public.⁸⁹

2. *Ambivalence Towards Law*

Chinese rulers have also used law to maintain bureaucratic control for nearly as long as China has had bureaucracy,⁹⁰ but the Chinese relationship with legal approaches has always been marked by a deep ambivalence. China's Legalist tradition set forth a vision of law as a means for rulers to control the bureaucracy and the citizenry some two thousand years ago.⁹¹ The earliest objections to law in China concerned the risks that subjects with access to written law could use law to challenge the regime (whereas Confucian moralists worried about rulers using law to oppress the people). Bodde and Morris refer to a letter from a high dignitary objecting to the earliest Chinese "codes" of written law from 536 BC:

[T]he early kings conducted their administration by deliberating on matters [as they arose]; they did not put their punishments and penalties [into writing], fearing that this would create a contentiousness among the people which could not be checked [W]hen the people know what the penalties are, they lose their fear of authority and acquire a contentiousness which causes them to make their appeal to the written words [of the penal laws], on the chance that this will bring them success [in court cases] As soon as the people know the grounds on which to conduct disputation . . . [d]isorderly litigations will multiply and bribery will become current.⁹²

These early objections are what we would call in modern day parlance government concern about "policy losses" — or concern that citizens might use laws, originally designed to serve the instrumental needs of the state, for purposes inconsistent with state goals. These concerns are very much alive in China today. As a Chinese Foreign Ministry spokesman said in 2011, "the law should not be used as a shield" for those acting against state interests.⁹³

Strengthening the use of law and legal institutions would also likely mean increasing the power and independence of Chinese courts, a prospect that senior Chinese leaders have explicitly rejected in recent years.⁹⁴ Reasons for this

⁸⁹ There is a voluminous literature on the ineffectiveness of Chinese administrative law in creating agency accountability to the public. The point here is that laws and regulations are subject to more rules regarding public participation and transparency, even if they have typically been poorly implemented.

⁹⁰ See DERK BODDE & CLARENCE MORRIS, *LAW IN IMPERIAL CHINA* 7–8 (1973).

⁹¹ *Id.* at 18.

⁹² *Id.* at 16–17.

⁹³ David Bandurski, *The Law Should be a Shield for All*, CHINA MEDIA PROJECT, Mar. 21, 2011, <http://cmp.hku.hk/2011/03/21/11060> (citing Chen Youxi, *The Law Should be Everyone's Shield*, SOUTHERN WEEKEND, Mar. 17, 2011).

⁹⁴ See *We Should Not Copy Western System: Wu*, PEOPLE'S DAILY ONLINE, Mar. 10, 2009, <http://english.people.com.cn/90001/6610213.html>.

include political concerns (including loss of control to courts and concerns about negative foreign influence on the legal system),⁹⁵ the risks of courts becoming a locus of citizen “rightful resistance,”⁹⁶ practical development concerns (about legal procedures slowing economic development), and capacity challenges (for example, poorly trained judges, low levels of lawyer professionalism, and the legacy of a socialist legality that expects deference to state priorities).⁹⁷

3. *Implications*

This comparison of bureaucratic targets and law in China is necessarily simplified. But, it is intended to set forth the central role that cadre evaluation plays in China relative to law. This is a point often missed by non-Chinese observers used to the more important role of law in their own countries.

In practice, law has played a secondary role in China, freely breached when in conflict with key bureaucratic targets and implemented with more vigor when supportive of such targets.⁹⁸ Law has sometimes also served other functions: as a lagging indicator, memorializing and “legalizing” priorities established by the party-state and operationalized in bureaucratic evaluation targets; as an expressive statement of values the party-state “cares” about (or, more cynically, would like the public to think the state cares about); or as an effort at symbolic compliance with international legal obligations.⁹⁹

This view of bureaucratic performance targets as central to Chinese governance cuts against the two prevailing notions of Chinese governance: as either a broken “rule of law” system, or a more arbitrary “rule of man” system. The former conventional view continues to place law at the center of Chinese governance and holds that China has been unable (for political, institutional, or capacity reasons) to achieve “rule of law.” The latter view sees China as ruled by mercurial authoritarian leaders who act according to their own whims. The view set forth herein is consistent with what has been called the “rule of mandates” — a more systematic approach to rule than has generally been recognized, which revolves around clearly delineated and prioritized bureaucratic mandates.¹⁰⁰

⁹⁵ Joseph Kahn, *Chinese Official Warns Against Independence of Courts*, N.Y. TIMES, Feb. 3, 2007, <http://www.nytimes.com/2007/02/03/world/asia/03china.html>; see also Titus C. Chen, *China's Reaction to the Color Revolutions: Adaptive Authoritarianism in Full Swing*, 34 ASIAN PERSPECTIVE, no. 2, 2010, at 12, 16.

⁹⁶ KEVIN O'BRIEN & LIANJIANG LI, *RIGHTFUL RESISTANCE IN RURAL CHINA* (2006).

⁹⁷ PEERENBOOM, *CHINA'S LONG MARCH*, *supra* note 57, at 399–408.

⁹⁸ See Minzner, *Riots & Cover-Ups*, *supra* note 20, at 58.

⁹⁹ Cf. Sunstein, *supra* note 34; Halliday & Carruthers, *supra* note 34.

¹⁰⁰ See Birney, *supra* note 20. This discussion raises deeper questions regarding the nature or role of law in China, a topic reserved for subsequent research. This Article emphasizes the central role of bureaucratic targets in Chinese governance and notes their interaction with the nominal legal system in China.

* * *

This Part I sets forth the working theory of regime legitimacy that animates this Article, and argues that the cadre evaluation system — more than law and legal institutions — is the central mechanism by which Chinese authorities have attempted to realize core components of China’s “performance legitimacy.” In the next Part, we turn to a discussion of the negative impact of cadre evaluation incentives on environmental protection in China historically, and initial efforts to reform cadre evaluation to mitigate harm to the environment.

II. THE ROAD TO ENVIRONMENTAL CADRE EVALUATION

A. *The Impact of Cadre Evaluation Incentives on Environmental Protection (1978–2006)*

While China’s environmental challenges are well known, the now extensive body of literature that looks at Chinese environmental governance has largely ignored the impact of bureaucratic targets and cadre evaluation.¹⁰¹ Most analysts have treated the issue of weak environmental protection in China over the last few decades as a paradox:¹⁰² Why, despite an increasingly expansive environmental law framework and a nationwide bureaucracy for environmental regulation, has implementation of central environmental dictates been so poor? Put more directly, if the central government is concerned about environmental protection, why has it not been able to implement its will at the local level? This literature has largely focused on the role of “local protectionism” in thwarting central environmental objectives; that is, the tendency of local governments, responsible for local environmental regulation,¹⁰³ to sacrifice environmental protection in the name of economic development or local rent seeking.¹⁰⁴

However, this identification of the problem is, at best, incomplete. Top-down political mandates have clearly shown that central commitment to environmental objectives has long been less than supposed. China’s system of bu-

¹⁰¹ This is in part due to the fact that cadre evaluation did not become an important tool for promoting environmental protection in China until the 11th five-year plan.

¹⁰² See, e.g., Lieberthal, *supra* note 75, at 3.

¹⁰³ Local governments are responsible for direct oversight of local environmental protection bureaus (“EPBs”), including budgeting, hiring and firing decisions, and general planning. EPBs will therefore have a difficult time enforcing environmental regulations if local leaders are not supportive.

¹⁰⁴ See, e.g., Abigail Jahiel, *Special Issue: China’s Environment, The Organization of Environmental Protection in China*, 156 CHINA Q. 757 (1998); XIAOYING MA & LEONARD ORTOLANO, ENVIRONMENTAL REGULATION IN CHINA 182 (2000); BENJAMIN VAN ROOIJ, REGULATING LAND AND POLLUTION IN CHINA: LAWMAKING, COMPLIANCE, AND ENFORCEMENT; THEORY AND CASES (2006); Canfa Wang, *Chinese Environmental Law Enforcement: Current Deficiencies and Suggested Reforms*, 8 VT. J. ENVTL. L. 159 (2007); Alex Wang, *The Role of Law in Environmental Protection in China*, 8 VT. J. ENVTL. L. 195 (2006).

reaucratic performance targets, through the explicit prioritization of economic objectives over environmental aims, exacerbated China's environmental problems and implicitly ratified widespread disregard for China's environmental law for most of the first three decades of the "reform and opening" period that began in the late 1970s. Taking bureaucratic targets, rather than law, as central to Chinese governance, we see that historically poor environmental enforcement and compliance is no paradox at all, but rather in large part a rational reaction by local actors to clear central norms.

The remainder of this Part examines two ultimately unsuccessful early experiments in using bureaucratic mandates to promote environmental protection. This Part will set up the discussion in Part III of the core thesis of this Article that overarching concerns about regime legitimacy ultimately led China to use the cadre evaluation system to elevate environmental priorities during the 11th five-year plan.

* * *

Since the beginning of the reform period, cadre evaluation incentives have had a powerful impact on environmental degradation in China. Strong incentives for local officials to boost economic growth have long exacerbated China's environmental woes. This simple dynamic goes a long way toward explaining the so-called "paradox" of poor environmental law enforcement and compliance in China. At the same time, cadre evaluation incentives also set a rough upper limit on environmental degradation by establishing penalties for environmental problems that caused social instability (protests, appeals to higher levels of government, excessive complaints, etc.).

Put another way, failure to meet economic targets had consequences. Violations of environmental law largely did not, unless they triggered social instability or scandal. Environmental protection bureaus commonly took a reactive approach to environmental problems. In circumstances of few resources and clear incentives, only the squeaky wheel got the grease.¹⁰⁵ While it has often been assumed that this dynamic is the result of poor regulatory capacity, weak institutions, and insufficient funding, it is worth noting that in China it has also been a dynamic reinforced by explicit top-down incentives.¹⁰⁶

This is not to say that local state corporatist motives — incentives to maximize local revenue generation to support local budgets or individual rent seeking — have not played a substantial role in China's environmental problems. But the key point is that the traditional "central good, local bad" narrative has obscured the fact that central and local authorities have been more aligned in

¹⁰⁵ This is a dynamic not uncommon to resource-poor, developing country contexts. Dara O'Rourke has called this "community-driven regulation." See Dara O'Rourke, *COMMUNITY-DRIVEN REGULATION: BALANCING DEVELOPMENT AND THE ENVIRONMENT IN VIETNAM* (2004).

¹⁰⁶ Indeed, weak capacity, institutional authority, and funding can be explained as a direct result of the low priority of environmental protection in China in recent decades.

their focus on economic goals and deemphasis of environmental objectives than is commonly acknowledged.

As one central government official described it:

GDP has been the source of power [in China]. Since the 1990s with fiscal reform and distribution of a greater percentage of revenues to the center,¹⁰⁷ the center has favored the big revenue generators. The center will favor those local leaders that generate GDP. Political promotion is the key incentive. Look at the people from Guangdong, Shanghai, and Shandong in the Politburo. Li Yuanchao, the head of the Organization Department, is from Jiangsu [an economically successful province along the eastern coast of China]. Everyone sees this and knows the deal. Do well on the economy and you can become a central ministry official or join the Politburo. In the past, if you spent a lot of money and effort on a wastewater treatment plant, the center would not see it (*zhongyang kan bu jian*) [suggesting, as will be discussed in Part III, that this dynamic changed during the 11th five-year plan].¹⁰⁸

The view of central authorities as doing their best to balance economic and environmental interests, but failing in the face of an unruly bureaucracy, places the blame for China's environmental degradation squarely with local governments. But the strong cadre incentives for economic growth and weak targets for environmental protection (to the extent they existed at all) belie this narrative, and highlight the role of central leadership in enabling and permitting dramatic environmental degradation to persist. It must be acknowledged that the prioritization of growth over environmental protection was an overt top-down policy choice. This choice is perhaps understandable, given China's poverty and weak global position in the early years of reform and opening, but it was nonetheless a choice that has had tremendous environmental and health consequences.

B. Initial Efforts to Strengthen Top-Down Environmental Incentives

1. The "Environmental Quality Administrative Leadership Responsibility System"

Chinese authorities have long been aware of the role of cadre evaluation incentives in exacerbating China's environmental degradation. The idea of incorporating environmental considerations into bureaucratic evaluations has been part of the policy discourse in China since the 1980s, but it has not been effective in practice because of the low priority assigned to environmental targets.

¹⁰⁷ For a good overview of the ways in which fiscal reform has affected cadre evaluation implementation, see Whiting, *Growth*, *supra* note 68, at 12–14.

¹⁰⁸ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

Incorporation of environmental factors into the cadre evaluation system emerged as official policy for the first time in 1989 when the Environmental Protection Law designated the idea of environmental targets as one of eight fundamental “environmental protection systems.”¹⁰⁹ The concept received further central government support in 1996 at the outset of the 9th five-year plan when the State Council issued a renewed call for the use of an “environmental quality administrative leadership responsibility system.”¹¹⁰

The 1996 document clarified that the leading government officials at each level of government (governors, mayors, county and township heads), not just the environmental agency, would be responsible for environmental performance in their respective jurisdictions. Under the cadre evaluation system, key local leaders (*lingdao banzi*) at each sub-national jurisdiction were evaluated annually (with monitoring at mid-year) by the government at the level immediately above against specific performance criteria set forth in “responsibility contracts.”¹¹¹

In 1997, Guangdong Province, one of China’s GDP leaders in the reform period, became one of the first provinces to implement a version of the environmental responsibility system.¹¹² The system evaluated mayors and lower-level government leaders in 21 cities on environmental quality, emissions control, environmental infrastructure development, and environmental management.¹¹³ A city that failed to meet targets for three consecutive years would receive provincial criticism, and the local leader would lose eligibility for promotion for five years.¹¹⁴

The system motivated government implementation of environmental protection measures in a number of ways.¹¹⁵ It created incentives for investment in

¹⁰⁹ The eight “environmental protection systems” are (i) the environmental impact assessment system; (ii) the “three simultaneities” system; (iii) the pollution discharge fee system; (iv) the environmental protection target responsibility system; (v) the urban environment comprehensive restoration quantitative verification system; (vi) the pollution permit system; (vii) the pollution centralized control system; and (viii) the pollution control within a limited time system. See 环境管理 [ENVIRONMENTAL MANAGEMENT] (许宁 [Xu Ning] & 胡伟光 [Hu Weiguang] eds., 2008); see also 环境管理“八项制度” [“Eight Systems” of Environmental Management], 南宁市环境保护局 [NANNING CITY ENVTL. PROT. BUREAU] (Nov. 1, 2011), <http://www.nnhb.gov.cn/html/hbzs/201111/01/46812.html>.

¹¹⁰ 国务院关于环境保护若干问题的决定 [State Council Decision Regarding Several Problems in Environmental Protection], 新华网 [XINHUA], Aug. 3, 1996, http://news.xinhuanet.com/ziliao/2005-03/14/content_2696239.htm.

¹¹¹ Carlos Wing-Hung Lo & Shui-Yan Tang, *Institutional Reform, Economic Changes, and Local Environmental Management in China: the Case of Guangdong Province*, 15 ENVTL. POLITICS 190, 202 (2006). The target levels for these specific criteria were typically established through negotiation between local governments and their bureaucratic superiors. The national program of environmental cadre evaluation established in the 11th five-year plan largely followed this structure. Interview with anonymous source, no. 2011-07 (2011) (transcript on file with author).

¹¹² 广东省环境保护目标任期责任制试行办法 [Guangdong Province Trial Measures on Environmental Protection Target Term of Office Responsibility System], 法律图书馆学 [LAW LIBRARY] (Feb. 6, 1991), http://www.law-lib.com/law/law_view.asp?id=21566 [hereinafter, *Guangdong Trial Measures*].

¹¹³ Lo & Tang, *supra* note 111, at 202.

¹¹⁴ *Id.*

¹¹⁵ These benefits would all show up in the 11th five-year plan environmental cadre evaluation system as well. See *infra* Part III.

environmental infrastructure, such as wastewater treatment plants.¹¹⁶ It caused other bureaus, such as development, planning, and construction commissions, to become more cooperative with environmental regulators, and increased the authority of the environmental protection bureaus (“EPBs”).¹¹⁷ In some cases, it led the government to increase staffing at the EPBs and led to better coordination among jurisdictions on regional environmental issues. Environmental evaluation increased media attention on government environmental performance.

However, in the early 2000s the impact of these environmental incentives was constrained by the continued overarching importance of economic growth targets. Growth was still likely to be the priority when higher-level officials evaluated officials at the lower levels. Environmental objectives had to be balanced against numerous other targets, such as social stability and health care.¹¹⁸ Nonetheless, the new allocation of responsibility to leading cadres and the publicity accompanying the program had the impact of drawing resources and capacity to environmental protection that had been allocated elsewhere before.

2. *Green GDP*

Several years later, as Hu Jintao began to articulate the concept of constructing a “harmonious society” through “scientific development,” political space opened up for a surprisingly radical effort to place environmental priorities on par with economic development incentives. This effort would come to be known as “green GDP.”

This approach fundamentally questioned the primacy of gross domestic product (“GDP”) as the central metric for societal progress and Chinese regime legitimacy.¹¹⁹ Analysts noted the perverse possibility that damage to health and environment from pollution could lead to increases in GDP, such as through development in the health care industry to treat illness or disease caused by pollution.¹²⁰ One analyst noted that “polluting the environment and cleaning up the mess are both considered to be contributing to GDP, rather than subtracting from it.”¹²¹

The proposed solution would be to incorporate environmental costs into GDP calculations. Since 1983, more than a dozen studies had been conducted on the economic cost of environmental degradation to China. These showed environmental harm valued at up to 15 percent of GDP.¹²² Incorporating environmental losses into GDP calculations in many cases turned the stellar eco-

¹¹⁶ Lo & Tang, *supra* note 111, at 202.

¹¹⁷ *Id.* at 204.

¹¹⁸ *Id.*

¹¹⁹ See Pan Yue, *Eco-indicators and Assessment of Officials’ Job Performance*, in THE THOUGHTS ON ENVIRONMENTAL PROBLEM [sic] 35, 38 (2005).

¹²⁰ *Id.*

¹²¹ Jianguo Liu & Jared Diamond, *Revolutionizing China’s Environmental Protection*, SCIENCE, Jan. 4, 2008, at 37, 38.

¹²² See XINHUA, *supra* note 4.

conomic performance of China's "economic miracle" into resounding economic loss.

In 2004, China's State Environmental Protection Administration ("SEPA")¹²³ and the National Bureau of Statistics ("NBS") established a national-level project to develop a system of "green GDP."¹²⁴ The United Nations had worked on a similar system for "integrated environmental and economic accounting" since the 1990s.¹²⁵ However, no country had ever attempted to take two major steps that China seemed to propose with its green GDP project. First, the green GDP project proposed a single revised metric for economic and environmental growth that discounted the standard GDP calculation by the amount of estimated environmental cost. Second, and perhaps most politically volatile, the new metric would be used to evaluate government leaders throughout China's bureaucracy. Governors, mayors, and county leaders, who had long been rewarded for economic growth of any sort, would now be asked to favor more environmental modes of growth, or else face potential career consequences of failing to do so.¹²⁶

In 2006, SEPA and NBS announced the results of the study: Economic loss from environmental pollution equaled 3.05 percent of national GDP in 2004 (511.8 billion yuan, or US\$61.7 billion),¹²⁷ with imputed treatment costs accounting for 1.80 percent of that amount.¹²⁸ This calculation, the agencies announced, was based on an incomplete review of environmental costs (due to methodological difficulties).¹²⁹

The following year the government completed green GDP calculations for 2005, but withheld the results from public release. The 2005 report allegedly showed that environmental costs were an even higher proportion of GDP than in 2004. Moreover, the report ranked all 31 provinces, autonomous regions, and municipalities according to green GDP, something the 2004 report had not done. About two-thirds of provinces, regions, or municipalities had faced GDP reductions under green GDP of more than 1.8 percent. Eight central provinces had reductions of 2.14 percent. Twelve western provinces had GDP reductions of 3.16 percent.¹³⁰

¹²³ Now known as the Ministry of Environmental Protection ("MEP").

¹²⁴ 环保局就绿色GDP纳入干部考核与中组部对接 [SEPA Links Up with Organization Department Regarding the Incorporation of Green GDP into Cadre Evaluation], 新京报 [BEIJING NEWS], Sep. 8, 2006, <http://env.people.com.cn/GB/4794033.html>.

¹²⁵ UNITED NATIONS ET AL., HANDBOOK OF NATIONAL ACCOUNTING: INTEGRATED ENVIRONMENTAL AND ECONOMIC ACCOUNTING 2003, available at <http://unstats.un.org/unsd/envaccounting/seea2003.pdf>.

¹²⁶ 潘洪其 [Pan Hongqi], 潘岳：要确立绿色GDP在政绩考核中的核心地位 [Pan Yue: Let's Confirm the Central Place of Green GDP in Government Evaluations], 北京青年报 [BEIJING YOUTH DAILY], Mar. 1, 2005, <http://news.163.com/05/0301/08/1DOB1ERN0001124T.html>.

¹²⁷ At an exchange rate of 8.3 yuan per USD.

¹²⁸ XINHUA, *supra* note 4.

¹²⁹ *Id.*

¹³⁰ 北大教授：有些省份的GDP实际是零增长 [Peking University Professor: Some Provinces' GDP Actually Reflects Zero Growth], 上海证券报 [SHANGHAI SECURITIES NEWS], Aug. 3, 2007, <http://finance.people.com.cn/GB/1045/6065385.html>.

Though officials cited technical uncertainties as the reason for withholding the report, SEPA sources noted that fierce local government resistance to the green GDP system was the primary reason.¹³¹ The approaching 17th Party Congress, which was a time for determining leadership changes, made the green GDP particularly threatening to leaders in jurisdictions whose economies were built on heavy industry and intensive energy use or production. Two years before the release of the official green GDP results, Pan Yue clarified the stakes in stark terms: “The new view of job performance and the new concept of development require us never to promote or appoint government officials who only focus their attention on mere GDP growth at the sacrifice of resources and environment.”¹³² As of this writing, a Ministry of Environmental Protection (“MEP”) research institute, the China Academy of Environmental Planning, continues to carry out research on green GDP, but the prospects for this concept in its pure form to become central government policy appear to have ended for now.¹³³

Green GDP (that is, literally discounting GDP figures to account for “green” costs) was ultimately scuttled because it was a “disruptive technology” with too great a potential for upending political careers. Nonetheless, the general idea of using bureaucratic incentives to motivate a greater focus on environmental objectives had taken hold. And in the 11th five-year plan, beginning in 2006, China began to implement a new environmental cadre evaluation system. Though not as radical as the green GDP program, it would arguably still be the greatest national effort to elevate environmental priorities the country had ever seen.

* * *

In Part III, this Article turns to its central thesis — that Chinese authorities substantially elevated environmental priorities during the 11th five-year plan in an effort to bolster the core elements of China’s “performance legitimacy.”

III. ENVIRONMENTAL CADRE EVALUATION AND LEGITIMACY

Environmental protection and state legitimacy are not often discussed in the same breath. However, this Part argues that party-state concerns about declining regime legitimacy are the most plausible way to understand China’s elevation of environmental priorities through the environmental cadre evaluation system in 2006.

¹³¹ *Id.*; Jane Qiu, *China’s Green Accounting System on Shaky Ground*, 448 NATURE 518, 519 (2007).

¹³² Pan, *supra* note 119, at 41.

¹³³ Edward Wong, *Cost of Environmental Damage in China Growing Rapidly Amid Industrialization*, N.Y. TIMES, Mar. 29, 2013, <http://www.nytimes.com/2013/03/30/world/asia/cost-of-environmental-degradation-in-china-is-growing.html>; Jonathan Watts, *China’s Green Economist Stirring a Shift Away from GDP*, THE GUARDIAN, Sept. 16, 2011, www.guardian.co.uk/environment/2011/sep/16/china-green-economist-gdp.

According to Huntington, authoritarian states faced with declining legitimacy tend to respond in one or more of five ways. Leaders may (i) ignore the increasing weakness, or simply not be aware of it because of poor feedback mechanisms; (ii) respond with increased coercion; (iii) provoke foreign conflict and appeal to nationalism; (iv) invoke democracy, and attempt to maintain control through (rigged) elections; or (v) actually end the authoritarian state and introduce a democratic system.¹³⁴

Faced with risks of weakening economic growth and declining legitimacy (that is, perceived risks to party-state hold on power) from environmental and energy problems, however, Chinese authorities responded by joining traditional cadre management tools with environmental protection policies in a way not seen anywhere else in the world. Environmental and energy targets became a tool first and foremost for staving off economic stagnation and minimizing social unrest.

In practice, environmental cadre evaluation has focused to the greatest extent on transforming China's economic growth model: seeking new avenues for investment in the environmental and energy industries, attempting to move away from heavy industry into higher margin industries, improving resource efficiency, and closing down polluting small firms to create consolidated corporate powerhouses capable of competing on the global stage. It has also attempted to limit particular environmental problems that have caused acute social instability and scandal — such as heavy metal pollution and heavy urban air pollution.

In linking economic and environmental goals, the system is akin to corporate social responsibility efforts that seek greater profitability and reputational gain through environmental or other social action.¹³⁵ As with corporate social responsibility programs, there are skeptics who believe that environmental cadre evaluation is aimed primarily at public relations or “greenwashing” for domestic and international consumption. However, as will be discussed below,

¹³⁴ See HUNTINGTON, *supra* note 38, at 55–57. While Chinese authorities are arguably adopting a number of the approaches Huntington identifies (for example, increased coercion, appeals to nationalism, and invocation of democratic principles), scholars have also begun to examine the ways that Chinese leaders are attempting to adapt to particular problems perceived as threats to state legitimacy, while maintaining a hold on one-party rule. This emerging governance model has been termed “authoritarian resilience” or “adaptive authoritarianism.” Andrew J. Nathan, *Authoritarian Resilience*, 14 J. DEMOCRACY 6 (2003); see also Conference Overview, Harvard University Weatherhead Center for International Affairs, Adaptive Authoritarianism: China's Party-State Resilience in Historical Perspective (July 14–16, 2008), http://www.wcfia.harvard.edu/conferences/08_china/overview, which generated scholarly papers for MAO'S INVISIBLE HAND, *supra* note 26. A growing body of literature has examined this approach, with many concluding that the Chinese party-state has been more capable at adjusting to myriad economic and social challenges than expected. See, e.g., MAO'S INVISIBLE HAND, *supra* note 26; DALI YANG, REMAKING THE CHINESE LEVIATHAN: MARKET TRANSITION AND THE POLITICS OF GOVERNANCE IN CHINA (2004); Laliberté & Lanteigne, *Legitimacy of CCP Rule*, *supra* note 52; Heberer & Schubert, *supra* note 50; Holbig & Gilley, *supra* note 48. But see MINXIN PEI, CHINA'S TRAPPED TRANSITION: THE LIMITS OF DEVELOPMENTAL AUTOCRACY (2006).

¹³⁵ See, e.g., Orville Schell, *How Walmart is Changing China*, THE ATLANTIC, Dec. 2011, <http://www.theatlantic.com/magazine/archive/2011/12/how-walmart-is-changing-china/8709/>.

the close link between environmental cadre evaluation and traditional growth and stability goals, and clear efforts by authorities at governance reform to attain better performance, suggest that environmental cadre evaluation is not mere propaganda, but also a substantive effort designed to meet genuine party-state needs.

A. *Threats to Regime Legitimacy and the Connection to Environmental Degradation*

1. *General Party-State Concerns About Declining Legitimacy*

In the early 2000s, China's senior leadership initiated an internal debate concerning ways to strengthen China's regime legitimacy, which had long been based to a significant degree on rapid (and largely industrial) economic growth. As the PRC's "fourth generation" of leadership — led by Hu Jintao and Wen Jiabao — assumed power in 2002–03, the themes of senior-level party-state rhetoric reflected an inclination to address various tensions that had arisen within Chinese society. The stated direction of the new administration would be a shift toward "scientific development" (*kexue fazhan*) that "took people first" (*yiren weiben*) and strove to achieve a "harmonious society" (*hexie shehui*). In practice, these broad themes would manifest as efforts to improve the "quality" of China's economic performance and a carrot-and-stick approach to achieving social "harmony." The "carrots" would include enhanced focus on delivery of social goods, such as health care and education reform, retirement insurance, reduction of rural tax burdens, and improved environmental protection. The "sticks" would include massive investment in domestic security and information control.¹³⁶

This populist turn in rhetoric (coupled with coercive and propaganda measures) came in the midst of a broad debate regarding the bases of China's ruling legitimacy. Indeed, since the 1990s, the party-state had studied the causes of the collapses of authoritarian states in the Soviet Union and Eastern Europe to glean lessons for survival.¹³⁷ The early 2000s brought further authoritarian regime collapses with the advent of "Color Revolutions" in Georgia (Rose), Ukraine (Orange), and Kyrgyzstan (Tulip). Senior Chinese authorities ordered researchers to investigate the causes behind these revolutions.¹³⁸ In more recent years, the "Arab Spring" and regime collapses or crises in Libya, Egypt, Syria and elsewhere have kept issues of authoritarian legitimacy at the forefront in

¹³⁶ The practices of local government "stability maintenance" (*weiwen*) offices and funds reflected this double-edged strategy, with heightened security and use of *weiwen* funds to "purchase" stability. See, e.g., 清华大学社会学系社会发展研究课题组 [Tsinghua University Sociology Department, Social Development Research Project Group], "维稳"新思路：利益表达制度化，实现长治久安 ["Stability Maintenance" New Line of Thinking: Systematization of the Expression of Interests, Realize Long-Term Peace and Stability], 南方周末 [SOUTHERN WEEKEND], Apr. 15, 2010, <http://www.infzm.com/content/43853>.

¹³⁷ SHAMBAUGH, *supra* note 61, at chs. 4 & 5.

¹³⁸ Jeanne Wilson, *Coloured Revolutions: The View from Moscow and Beijing*, 25 J. COMMUNIST STUD. & TRANSITION POL. 359, 374–75 (2009).

China. The lessons drawn from these events spawned a range of actions in response.¹³⁹

In September 2004, senior party leaders made an unprecedented and particularly public invitation to open debate on questions of party legitimacy and governing capacity. A party decision entitled the *CCP Central Committee Decision on the Enhancement of the Party's Governance Capacity* stated:

It is not easy for a proletarian political party to seize power, and still less easy for it to hold onto power, and especially over a long period. The party's governing status is not congenital, nor is it something settled once and for all.¹⁴⁰

Bruce Gilley and Heike Holbig have shown that the party's willingness to explore new foundations for regime legitimacy triggered an outpouring of academic research that focused on ideological, rule of law, institutional reform, and populist (including environmental) approaches to bolstering legitimacy.¹⁴¹ The debate reflected concerns about the limits of regime legitimacy based mainly on economic performance,¹⁴² and emphasized the need for "an ongoing shift from growth-centered performance to a post-growth mode of legitimation that incorporated social equality, justice, and welfare."¹⁴³ State researchers were aware of Huntington's "King's Dilemma"¹⁴⁴ (translated in Chinese as *zhengji kunju* or, roughly, "performance dilemma") and proposed various measures to address the social inequality and injustices brought on by rapid economic growth.¹⁴⁵ Gilley and Holbig argue that the Hu-Wen "harmonious society" represented "a programmatic solution to China's 'performance dilemma' and an innovative model of political legitimation."¹⁴⁶

2. *Declining Legitimacy from Environmental Degradation*

At the same time, leaders and citizens alike were increasingly aware of the tremendous environmental and energy risks created by China's economic growth model. China had become, bar none, the most polluted country on

¹³⁹ See, e.g., SHAMBAUGH, *supra* note 61; Heilmann & Perry, *supra* note 26; Nathan, *supra* note 134.

¹⁴⁰ 中共中央关于加强党的执政能力建设的决定 [*Resolution on Strengthening the Construction of the Party's Governing Capacity*], approved by the 4th plenary session of the 16th CCP Central Committee (Sept. 16–19, 2004), translated in *Quarterly Chronicle and Documentation* 180 CHINA Q. 1123, 1153–71 (2004), available at <http://www.people.com.cn/GB/shizheng/1026/2809350.html>. See SHAMBAUGH, *supra* note 61, at 124 (calling this "probably the most important" party document since the beginning of reform and opening in 1978).

¹⁴¹ "The articles appeared in the journals of party theory organs, party schools, public policy schools, academic institutions, and policy think tanks." Gilley & Holbig, *supra* note 39, at 340.

¹⁴² *Id.* at 350–51.

¹⁴³ *Id.* at 357.

¹⁴⁴ The "King's Dilemma" is the risk that autocratic rulers face undermining their own power if reforms that generate good economic performance lead to demands for greater political participation and democracy. SAMUEL P. HUNTINGTON, *POLITICAL ORDER IN CHANGING SOCIETIES* 177 (1968).

¹⁴⁵ Gilley & Holbig, *supra* note 39, at 351.

¹⁴⁶ *Id.*

earth. Its economic growth was built on extremely inefficient use of resources. Environmental and energy problems had become a source of declining legitimacy for the regime. This manifested itself in energy security risks, economic losses associated with environmental degradation, social instability from pollution, and risks to China's international reputation.

Energy security. Chinese authorities had long been aware of the need to improve energy efficiency levels, which were far behind developed countries like Japan, Germany, and even the relatively inefficient United States. Although China's energy efficiency levels had improved markedly in the first two decades of the reform period,¹⁴⁷ after 2002 China's energy intensity — the amount of energy needed to produce a unit of economic growth — spiked unexpectedly as the economy boomed and investment in energy-intensive, heavy-pollution industries, like steel, cement, paper, glass, and chemicals soared.¹⁴⁸ This reversal in energy efficiency trends and the persistence of power shortages sparked concerns about energy security and risks to future economic development.¹⁴⁹

Environmental cost. At the same time, there was growing awareness of the economic costs of environmental pollution. A World Bank study estimated that environmental degradation imposed costs on Chinese society equal to 8 percent of GDP.¹⁵⁰ A Chinese Academy of Sciences study put the cost at 15 percent of GDP.¹⁵¹ Government efforts to control environmental degradation were largely ineffective. China badly missed a number of key environmental targets in the 10th five-year plan. Sulfur dioxide pollution *increased* by 27 percent between 2000 and 2005, far exceeding a 10 percent reduction target.¹⁵² Key river basins and lakes met only 60 percent of their pollution control targets.¹⁵³ Nearly half of cities failed to meet national air quality standards.¹⁵⁴

Energy security risks and environmental cost were both seen as serious limitations on China's continued economic growth. Power blackouts and regions without water clean enough to support industry were but two examples of how these problems would directly constrain economic development, the lifeblood of China's performance legitimacy.

¹⁴⁷ C. FRED BERGSTEN ET AL., CHINA'S RISE: CHALLENGES AND OPPORTUNITIES (2008), 138–44.

¹⁴⁸ *Id.*

¹⁴⁹ Interview with anonymous source, no. 2011-05 (2011) (transcript on file with author); see JIAN ZHANG, BROOKINGS INST., CHINA'S ENERGY SECURITY: PROSPECTS, CHALLENGES, AND OPPORTUNITIES (2011), available at http://www.brookings.edu/papers/2011/07_china_energy_zhang.aspx; Keith Bradsher, *Security Tops the Environment in China's Energy Plan*, N.Y. TIMES, June 17, 2010, <http://www.nytimes.com/2010/06/18/business/global/18yuan.html>.

¹⁵⁰ CLEAR WATER, BLUE SKIES, *supra* note 1, at 23.

¹⁵¹ 陈中/陈初越 [Chen Zhong & Chen Chuyue], 中国呼唤生态文明时代# [China Calls for an Age of Eco-Civilization], 南风窗 [SOUTHERN WIND WINDOW], Feb. 16, 2005, at 13.

¹⁵² Chemical oxygen demand declined by only 2.1 percent, and subsequent data showed these COD statistics to be wildly understated. See 国家环境保护“十一五”规划 [NATIONAL 11TH FIVE-YEAR PLAN FOR ENVIRONMENTAL PROTECTION], 中华人民共和国中央人民政府 [PRC CENT. PEOPLE'S GOV'T] (2007), http://www.gov.cn/zwggk/2007-11/26/content_815498.htm (Chinese-language version), <http://www.chinaenvironmentallaw.com/wp-content/uploads/2008/03/the-national-eleventh-five-year-plan-for-environmental-protection.doc> (English translation).

¹⁵³ *Id.*

¹⁵⁴ *Id.*

Social stability. Environmental degradation had also become a major source of public dissatisfaction. In 2005, some 51,000 disputes over environmental pollution showed up in official statistics, causing “a great threat to social stability.”¹⁵⁵

International reputation. Environmental problems were increasingly harming China’s international reputation as well. The 2005 Songhua River chemical accident led to cross-border pollution and diplomatic conflict with Russia.¹⁵⁶ The anticipation of the expiration of the Kyoto Protocol added additional international pressure for China to prioritize environmental protection.¹⁵⁷ China’s poor standing on environmental issues would, some argued, create more pressure on China to assume international environmental obligations that could limit domestic economic growth prospects.

Pan Yue, the vice-minister of China’s central environmental agency, made explicit the limits of legitimacy based on GDP growth alone in writings published in 2004:

[U]sing a GDP index alone will gradually simplify the legitimacy of the ruling party In Western countries . . . there were many serious economic crises, but these did not result in a crisis of legitimacy for the political regime because the legality of their rule was not entirely . . . tied to . . . economic changes.¹⁵⁸

Environmental protection, he continued, was a critical strategy for avoiding this “crisis of legitimacy.”¹⁵⁹

Other official documents would later note that China’s economic success had been built upon a “coarse” (*cufang xing*), low-quality form of economic growth dependent on “high energy-consuming, high-pollution,” (*gao haoneng, gao wuran*) low-margin industry.¹⁶⁰ This development approach had created severe and growing “social contradictions” (*shehui maodun*) brought on by, among other things, extreme environmental degradation. Statements from the highest reaches of the party-state leadership confirmed the growing importance of environmental priorities, and the perception in the highest echelons of the

¹⁵⁵ Miao Hong, *China Battles Pollution Amid Full-Speed Economic Growth*, EMBASSY OF THE PEOPLE’S REPUBLIC OF CHINA IN BULGARIA (Sept. 30, 2006), <http://www.chinaembassy.bg/eng/dtxw/t274647.htm>.

¹⁵⁶ David Lague, *China Blames Oil Firm for Chemical Spill*, N.Y. TIMES, NOV. 25, 2005, <http://www.nytimes.com/2005/11/24/world/asia/24iht-harbin.html?pagewanted=all>.

¹⁵⁷ Interview with anonymous source, no. 2011-08 (2011) (transcript on file with author); see also Gilley, *supra* note 23, at 295.

¹⁵⁸ Pan, *supra* note 119, at 67.

¹⁵⁹ 潘岳 [Pan Yue], *环保指标与官员政绩考核* [Environmental Targets and Official Government Evaluation], 中国经济时报# [CHINA ECONOMIC TIMES], Apr. 27, 2004, <http://www.china.com.cn/chinese/OP-c/553498.htm>. At about this time, Pan was aggressively promoting the development and piloting of the “green GDP” program discussed in Part II, *supra*, which ultimately was not adopted as state policy.

¹⁶⁰ 第六篇: 建设资源节约型、环境友好型社会 [Chapter Six: Constructing a Resource-Saving, Environmental-Friendly Society], 中华人民共和国国民经济和社会发展第十一个五年规划纲要 [PEOPLE’S REPUBLIC OF CHINA NATIONAL ECONOMIC AND SOCIAL DEVELOPMENT FIVE-YEAR PLAN OUTLINE] (2007) [hereinafter 11TH FIVE-YEAR PLAN], available at http://www.gov.cn/gongbao/content/2006/content_268766.htm.

party-state that China's existing economic growth model had become unsustainable.¹⁶¹

* * *

Against the backdrop of these concerns, Chinese authorities announced the most significant environmental protection initiative in the reform and opening period — the creation of binding “energy saving, emissions reduction” targets paired with stringent bureaucratic incentives implemented through the environmental cadre evaluation system.

*B. The Role of Environmental Cadre Evaluation in Implementation of China's Performance Legitimacy*¹⁶²

Why would China suddenly elevate environmental priorities to such a rarified level? Given the apparent magnitude of the shift, was it any wonder that many observers were skeptical of the sincerity of these efforts? But, an examination of the underlying objectives of China's environmental targets offers us some clarity, and perhaps renders this dramatic elevation of environmental priorities less implausible.

Leadership statements and implementation guidance for the system made clear that the primary drivers of environmental cadre evaluation in the 11th five-year plan were growing concerns about the impact of environmental problems on economic growth and social stability¹⁶³ — the traditional pillars of China's “performance legitimacy.” Environmental quality, human health, and ecosystem protection priorities that are typically presented as central priorities in the environmental protection frameworks of most developed nations are treated as secondary to these core economic and stability aims. This can perhaps be attributed to China needing to address environmental challenges at an earlier stage of economic development than was the case for the United States and other developed countries.

¹⁶¹ Premier Wen Jiabao's statement at the National People's Congress in 2007 was indicative of the official party-state position. The economy was based to an excessive degree on industrial production rather than services (“Contradictions in the economic structure are prominent.”). Economic disparity between rural and urban areas and between regions of the country had become too great. Investment, rather than consumption, was the overwhelming engine of economic growth. Moreover, the economy was based on a high level of energy consumption and pollution, overreliance on heavy industry, the persistence of outdated industrial capacity, and weak environmental regulation and compliance (“The style of economic growth is coarse.”). These problems were causing social unrest (“Some prominent problems that involve the interests of the masses have not been resolved well enough.”). 国务院总理温家宝在十届人大五次会议上所作政府工作报告 [THE GOVERNMENT WORK REPORT OF PREMIER WEN JIABAO AT THE FIFTH MEETING OF THE TENTH NATIONAL PEOPLE'S CONGRESS] (2007) (on file with the Harvard Law School library).

¹⁶² *Id.* This Section benefits in part from preliminary unpublished research conducted by Ms. Xuehua Zhang in 2010 in collaboration with the author. Only public sources identified in that research are discussed herein.

¹⁶³ Interview with anonymous source, no. 2012-01 (2012) (transcript on file with author).

This Section will offer examples, based on examination of primary and secondary source materials and several dozen in-person interviews, to illustrate the economic and stability emphasis at the heart of environmental cadre evaluation. It will also assess the pros and cons of this approach for environmental protection goals.

1. *Environmental Cadre Evaluation in the 11th Five-Year Plan*

Despite China's move toward a "socialist market economy," the "five-year plan," a feature of the planned economy era, remained an important governance tool in the first decade of the 21st century. The plan set forth essential guidance on the direction of economic and social development. In practice, priorities set forth in the plan would receive significant financial, policy, and legal support. The five-year plan priorities were operationalized through China's complex system of bureaucratic performance targets and cadre evaluation.

Environmental objectives had never been an important part of the five-year plans, and environmental targets in the 8th, 9th, and 10th five-year plans were largely ignored. But environmental targets held a particularly prominent place in the 11th five-year plan.

For the first time, environmental targets were designated as "binding" (*yueshu xing*).¹⁶⁴ Of 22 key indicators in the 11th five-year plan, only eight received a "binding" designation, and half of those concerned the environment or energy. The most prominent of these environmental targets were goals to reduce energy intensity by 20 percent and sulfur dioxide and COD pollution by 10 percent.

Critically, the responsibility for meeting these environmental targets was shifted to the "leading cadres" (that is, the governors, mayors, and county heads) in each level of the government, whereas environmental targets had generally been the responsibility of line-level regulators in the past. Later that year, to emphasize the point, the powerful Central Committee of the Communist Party issued a new set of measures that for the first time stressed the evaluation of local leading cadres with respect to their "embodiment of scientific development," including environmental performance.¹⁶⁵

Never before had environmental goals received such sustained public attention from China's senior leadership. Central authorities were, in essence, making a "federal case" out of a number of environmental targets — taking environmental goals that had long been left to local discretion and making them a focus of central policy.

¹⁶⁴ *Id.*

¹⁶⁵ 中央组织部 [CENTRAL COMMITTEE OF THE CHINESE COMMUNIST PARTY], 体现科学发展观要求的地方党政领导班子和领导干部综合考核评价试行办法 [TRIAL COMPREHENSIVE EVALUATION MEASURES FOR LOCAL COMMUNIST PARTY AND GOVERNMENTAL TEAMS AND LEADING CADRES ON THE EMBODIMENT OF SCIENTIFIC DEVELOPMENT] (2006).

2. Case Study — the Hebei Province “Double Thirties” Program

Hebei Province’s “Double Thirties” program exemplified the sense of urgency with which local governments responded to new “hard” environmental and energy targets.¹⁶⁶

At the end of 2007, Hebei Provincial Party Secretary Zhang Yunchuan announced the idea of focusing provincial “energy saving, emissions reduction” (“ESER”) efforts on 30 key counties and 30 high pollution, high energy-use enterprises. These 30 counties and 30 key enterprises accounted for 65 percent of province-wide SO₂ emissions, and 55 percent of COD discharges.¹⁶⁷ In early 2008, at a special meeting of the provincial people’s congress, the leaders of the 30 selected counties, and legal representatives of the 30 key enterprises executed responsibility agreements promising that ESER targets would be achieved in three years.

Failure to meet targets would require county leaders to “admit responsibility and resign,” state-owned enterprise heads to be fired, and private corporations to stop production to remedy violations. These jurisdictions and enterprises faced heightened monitoring — one inspection a month, and reporting on ESER target achievement status every half year. The 10 counties and 10 enterprises with the biggest burdens under the program would meet quarterly to discuss ESER work.

The province provided significant amounts of funding to enterprises in the program in the form of resource conservation subsidies (10.2 million RMB), pollution control investment funds (15 million RMB), and county-level continuous monitoring funds (12 million RMB). The land bureau would suspend land-use approvals for all counties and enterprises not meeting ESER requirements. The finance bureau would stop financial transfers for new projects to intransigent counties. The EPB issued new regulations governing the operation of desulfurization equipment and wastewater treatment plants.¹⁶⁸ The reported

¹⁶⁶ 河北省政府 [HEBEI PROVINCIAL GOV’T], 河北省人民政府关于印发河北省30个重点县(市、区)和30家重点企业节能减排目标考核实施方案的通知 [IMPLEMENTATION PLAN FOR ESER TARGET VERIFICATION AT 30 KEY COUNTIES (CITIES, DISTRICTS) AND 30 KEY ENTERPRISES IN HEBEI PROVINCE] (2008); 河北省人民政府办公厅关于印发《2008年度河北省“双三十”单位节能减排目标考核实施方案》的通知 [Hebei Province People’s Government Office Notice Regarding the Issuance of the “Hebei Province 2008 Annual ‘Double Thirties’ Unit Enterprise Target Verification Implementation Plan”], 河北省政府 [HEBEI PROVINCIAL GOV’T] (2008), available at http://www.chinaacc.com/new/63_74_/2009_2_16_ha542384316161290025376.shtml; 河北新一轮“双三十”工程，打好节能减排攻坚战 [Hebei’s New Round of “Double Thirties” Projects Storm the Fortifications by Doing ESER Well], 长城网河北频道专题报道 [GREAT WALL NET HEBEI CHANNEL SPECIAL REPORT] (2011), available at <http://heb.hebei.com.cn/system/2011/05/17/011146566.shtml>.

¹⁶⁷ The “Double Thirties” included 596 enterprises in all in 2009, including the 30 key enterprises and other enterprises within the 30 key counties.

¹⁶⁸ 关于进一步加强燃煤电厂脱硫设施运行监管的通知 [Implementation Recommendations for Environmental Supervision and Management of the Operation of Desulfurization Equipment at Coal-Fired Power Plant Power Units in Hebei Province], 河北省环境保护厅 [HEBEI PROVINCIAL GOV’T, ENVTL. PROT. BUREAU] (2008); 河北省城镇污水集中处理设施环境保护监督管理规定 [Implementation Recommendations for Environmental Supervision and Management of the

results of the program include rapid achievement of ESER targets and significant numbers of investment projects.

3. *The Promotion of Economic Growth*

The economic motivations behind environmental cadre evaluation were apparent in leadership statements and central implementation guidance for the targets. The head of China's powerful National Development and Reform Commission ("NDRC")¹⁶⁹ said in 2006 that "[e]nergy saving, emissions reduction targets are a very effective entry point and breakthrough point for adjusting economic structure, changing the economic growth model, and elevating economic efficiency."¹⁷⁰ Procedures for new industrial projects (such as environmental impact assessment) would be used to reduce economic overheating.¹⁷¹ Environmental cadre evaluation would be an "important hook" (*zhongyao zhuashou*) for "promoting scientific development."¹⁷²

Beyond leadership pronouncements, the implementation of environmental cadre evaluation provided further evidence of the economic aims of the system. Official implementation guidance reflected promotion of investment in environmental industries, shutdown of "backward industrial capacity," and reduction of regional economic disparities.

The environmental cadre evaluation process consisted of three stages: (i) target allocation, (ii) target implementation, and (iii) target verification. Economic objectives were clearly reflected at each of these stages of the evaluation process.

a. *Target Allocation*

The first step in the environmental cadre evaluation process was the allocation of the national environmental targets to lower levels of the bureaucracy (to government leaders and state-owned enterprise ("SOE") heads). The allocation process explicitly reflected central goals of reducing the economic disparity between coastal provinces and the poorer, less developed Western

Operation of Town-County Wastewater Treatment Plant Equipment, 河北省环境保护厅 [HEBEI PROVINCIAL GOV'T, ENVTL. PROT. BUREAU] (2011).

¹⁶⁹ NDRC is commonly thought of as one of the most powerful agencies in the Chinese bureaucracy with jurisdiction over China's economic direction and industrial planning.

¹⁷⁰ 节能减排将成为我国经济结构调整的重要抓手 [Energy Savings, Emissions Reduction Will Become an Important Hook for China's Economic Restructuring], 新华网 [XINHUA], Dec. 9, 2006, http://news.xinhuanet.com/fortune/2006-12/09/content_5461178.htm; see also Ma Kai, *The 11th Five-Year Plan: Targets, Paths and Policy Orientation*, THE CENT. PEOPLE'S GOV'T OF THE PEOPLE'S REPUBLIC OF CHINA (Mar. 19, 2006), available at http://www.gov.cn/english/2006-03/23/content_234832.htm.

¹⁷¹ 胡锦涛在2007年中央经济工作会议上的讲话 [Hu Jintao, General Secretary, Speech at the 2007 Central Economic Work Conference] (Dec. 6, 2007).

¹⁷² *Id.*; see also 周生贤 [Shengxian Zhou], 以环境保护优化经济发展 [Optimize Economic Development Through Environmental Protection], 中国环境报 [CHINA ENVTL. NEWS], Jun. 5, 2012, http://www.cenews.com.cn/xwzx/zxsw/ybyw/201206/t20120605_718628.html.

provinces.¹⁷³ The national pollution reduction targets first had to be allocated to each province. Each province was then responsible for allocating its particular target to cities and SOEs under its jurisdiction.¹⁷⁴

The allocation of sub-national targets to the provinces reflected what one senior government researcher called a “common, but differentiated, responsibilities” approach to allocation.¹⁷⁵ In other words, less developed provinces would be granted the right to develop (and to pollute) to a greater degree through allocation of less stringent targets.¹⁷⁶

Central guidance on specific industries also reflected economic redistribution aims. For example, environmental ministry guidance on allocation of sulfur dioxide targets for power plants established stricter allocations for eastern and central provinces than for northwestern and southwestern provinces.¹⁷⁷ By contrast, under U.S. air pollution law, regional variation in emissions standards or other environmental metrics explicitly based on geography and economic disparity is not typical.¹⁷⁸ In China, this reflects an explicit policy of promoting economic development in poorer regions of the country (and allowing more

¹⁷³ See, e.g., 中华人民共和国国家发展和改革委员会 [PRC NAT'L DEV. & REFORM COMM'N], 珠江三角洲地区改革发展规划纲要 [THE OUTLINE OF THE PLAN FOR THE REFORM AND DEVELOPMENT OF THE PEARL RIVER DELTA (2008–2020)] (2008), available at <http://politics.people.com.cn/GB/1026/8644751.html>. However, despite the ostensible policy-based rationale for target allocation in the Chinese system, interviewees complained of the “unscientific” nature of the target allocation process, reflecting concerns that allocation was often influenced by interest group dynamics and political clout, rather than policy objectives. Interview with anonymous source, no. 2011-02 (2011), interview with anonymous source, no. 2011-07 (2011) (transcripts on file with author).

¹⁷⁴ 国务院关于印发“十一五”期间全国主要污染物排放总量控制计划的批复 [STATE COUNCIL REPLY REGARDING THE 11TH FIVE-YEAR PLAN NATIONAL KEY POLLUTANT TOTAL EMISSIONS CONTROL PLAN], http://www.gov.cn/gongbao/content/2006/content_394866.htm. Eleventh five-year plan energy intensity targets were announced a month later in September 2006.

¹⁷⁵ Interview with anonymous source, no. 2011-02 (2011) (transcript on file with author). This term is typically associated with the international climate change treaty context.

¹⁷⁶ Note that a zero percent pollution reduction target (for example, Gansu Province) does not mean that a jurisdiction can take no action, as that jurisdiction would nonetheless need to reduce any added pollution from economic expansion. See *infra* note 279 and accompanying text for more detail.

¹⁷⁷ 关于印发《二氧化硫总量分配指导意见》的通知 [Notice Regarding the Distribution of “Guiding Opinions on the Allocation of Sulfur Dioxide Volume”] 中华人民共和国环境保护部 [PRC MINISTRY OF ENVTL. PROT.], 环发 [ENVTL. DEV. REPORT] (2006) No. 182 (Nov. 9, 2006), http://www.mep.gov.cn/gkml/zj/wj/200910/t20091022_172430.htm.

¹⁷⁸ Ackerman and Stewart have criticized this aspect of the U.S. system for increasing the cost of environmental compliance and have called for regional variation in pollution reduction standards according to cost-benefit analysis. Bruce Ackerman & Richard Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1355–56 (1984–85). Moreover, an approach that allocates environmental protection burdens based on perceived economic development needs is not uncommon in developing country contexts. ALLEN BLACKMAN, *Colombia's Discharge Fee Program: Incentives for Polluters or Regulators?* (Oct. 2007) 1–2, available at www.rff.org/rff/Documents/RFF-DP-05-31-REV.pdf; see also GEORGE YU & ROB ELLSWORTH, SANBAG CLIMATE CAMPAIGN, TURNING THE TANKER: CHINA'S CHANGING ECONOMIC IMPERATIVES AND ITS TENTATIVE LOOKS TO EMISSIONS TRADING 24 (2012) (noting the European Union Emissions Trading System's practice of “giving countries with lower than average GDP a more generous target (and those with higher GDP a correspondingly higher target) so that money can flow to these regions”).

pollution).¹⁷⁹ Contrast this with express concerns about the “race to the bottom” and destructive inter-state competition that animate U.S. federal environmental legislation.¹⁸⁰

b. Target Implementation

Official central guidance on target implementation also reflected the underlying economic objectives of environmental cadre evaluation, including aggressive investment in environmental infrastructure, reduction of heavy industry, and elimination of smaller, less efficient facilities. Government guidance set forth three specific favored approaches to target implementation: (i) “project reductions” (*gongcheng jianpai*), or investment in end-of-pipe pollution control equipment; (ii) “structural reductions” (*jiegou jianpai*), or shutdown of outdated industrial capacity; and (iii) “management reductions” (*guanli jianpai*), or more stringent regulation.¹⁸¹ In practice, local actors relied almost entirely on investment and shutdowns to meet their targets. Virtually none of the pollution reductions came from more stringent regulation.

Project reductions. “Project reductions” amounted in practice to a massive investment program in environmental infrastructure. Investment was directed mostly at municipal wastewater treatment, enterprise-level water treatment, and desulfurization equipment for power plants and other facilities (such as steel, petroleum, or cement). This push for “project reductions” was consistent with central goals of promoting the growth of national environmental protection and clean energy industries, as well as formal and informal local incentives to maximize economic development.

This investment in pollution control equipment made up the vast majority of pollution reductions during the 11th five-year plan.¹⁸² For example, investment in flue gas desulfurization equipment soared. Nationwide, the rate of flue gas desulfurization installation in China’s power plants rose dramatically during the 11th five-year plan, rising from a 10 percent installation rate at the end of

¹⁷⁹ See generally David S. G. Goodman, *The Campaign to “Open Up the West”: National, Provincial-level and Local Perspectives*, 178 THE CHINA QUARTERLY (June 2004).

¹⁸⁰ See, e.g., Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 628–37 (1996).

¹⁸¹ Interview with anonymous source, no. 2011-01 (2011), and interview with anonymous source, no. 2011-07 (2011) (transcripts on file with author); see, e.g., 环保总局贯彻落实《节能减排综合性工作方案》的具体方案 [SEPA Specific Plan for Implementing the “Comprehensive Work Plan on Energy Saving and Emissions Reduction”], in 主要污染物减排工作简报 [KEY POLLUTANT REDUCTION WORK REPORT] (2007), <http://bit.ly/uy0Ggr>; 湖南统一部署狠抓工程减排·结构减排和管理减排 [Hunan Vigorously Implements in a Unified Way Engineering, Structural, and Management Pollution Reductions], 湖南省人民政府 [HUNAN PROVINCIAL PEOPLE’S GOV’T] (Jul. 30, 2007), http://www.gov.cn/gzdt/2009-07/30/content_1379465.htm.

¹⁸² Project reductions accounted for 60–70 percent of reductions in the 11th five-year plan period in the jurisdictions where interviews were conducted. See interview with anonymous source, no. 2011-07 (2011); interview with anonymous source, no. 2011-17 (2011) (citing project reductions as the biggest component); interview with anonymous source, no. 2011-15 (2011) (citing to project reductions as 70–80 percent of reductions); interview with anonymous source, no. 2011-13 (2011) (citing project reductions as 60 percent of reductions — from flue gas desulfurization (“FGD”) on power plants, steel plant facilities, water treatment, paper mill equipment) (transcripts on file with author).

2005, to 86 percent at the end of 2010.¹⁸³ The municipal wastewater treatment rate increased substantially — by 24 percentage points to 75 percent between 2005 and 2010.¹⁸⁴ One central province constructed 119 wastewater treatment plants in the last three years of the 11th five-year plan.¹⁸⁵ Another province, which had only two wastewater treatment plants in 2006, constructed more than 100 new plants by the end of the 11th five-year plan — one or two plants for each county.¹⁸⁶

Structural reductions. Target implementation also relied to a significant degree on shutdowns of outdated industrial capacity designated as excessively polluting or energy consuming (for example, power plants, smelters, chemical facilities, paper plants).¹⁸⁷ This policy was an effort to modernize China's industrial infrastructure and reduce reliance on heavy industry. At the macro-level, the shutdown policy has been shown to have positive economic benefits and is consistent with economic rebalancing objectives of environmental cadre evaluation.¹⁸⁸

Management reductions. The least used pollution reduction method is probably also the approach most familiar to environmental law experts — more intensive monitoring, tighter regulation, and stricter enforcement.¹⁸⁹ “Management reductions” include stricter pollution standards, pollution reductions through increased enforcement, regular operation of pollution reduction equipment, implementation of cleaner production plans, and increased efficiency of pollution control operation.¹⁹⁰ Interviewees said that such reductions amounted to little of the total pollution reduction recorded in the 11th five-year plan.

¹⁸³ See Xu, *supra* note 18, at 780; 中国电力企业联合会 [China Electricity Council], 电力行业2010年发展情况综述: 中电联发布《中国电力行业年度发展报告2011》综述篇 [2010 Summary of the Development of the Power Industry: CEC Releases Summary of the “Annual Development Report of China’s Power Industry 2011”] (June 6, 2011), <http://tj.cec.org.cn/niandufazhanbaogao/2011-06-27/58873.html>.

¹⁸⁴ *Municipal Wastewater Treatment Rate Up to 75%*, CHINA DAILY, Mar. 16, 2011, http://usa.chinadaily.com.cn/business/2011-03/16/content_12180396.htm.

¹⁸⁵ Interview with anonymous source, no. 2011-13 (2011) (transcript on file with author).

¹⁸⁶ Interview with anonymous source, no. 2011-11 (2011) (transcript on file with author). An official in a wealthier eastern province noted that the volume of wastewater treated per day in the province had doubled during the 11th five-year plan. Interview with anonymous source, no. 2011-15 (2011) (transcript on file with author).

¹⁸⁷ Shutdowns accounted for 20–30 percent of total reductions in two jurisdictions where field interviews were conducted. Interview with anonymous source, no. 2011-15 (2011) (20–30 percent); interview with anonymous source, no. 2011-13 (2011) (30 percent) (transcripts on file with author); see also interview with anonymous source, no. 2011-07 (transcript on file with author).

¹⁸⁸ See Jing Cao et al., *supra* note 7.

¹⁸⁹ Interview with anonymous source, no. 2011-07 (2011); interview with anonymous source, no. 2011-06 (2011); interview with anonymous source, no. 2011-12 (2011); interview with anonymous source, no. 2011-15 (2011) (transcripts on file with author).

¹⁹⁰ Interview with anonymous source, no. 2011-07 (transcript on file with author). For example, if the efficiency of a flue gas desulfurization unit at a power plant is increased from 80 to 90 percent, or if concentration standards for COD emissions are tightened, credit for pollution reduction can be granted.

* * *

China's target implementation approach is consistent with U.S. experience in some respects, but in other respects it differs quite markedly. United States environmental laws relied to a great extent on investment in the early 1970s as well. For example, the Clean Water Act provided substantial funding to state and local governments for the construction of municipal wastewater treatment facilities. Chinese plant shutdowns are akin to the implementation of technology standards in the United States that would require non-compliant technologies and facilities to be taken out of service (assuming that China's selection of plants for shutdown is rational and standard-based, rather than arbitrary and subject to political influence). The Chinese system differs from the U.S. experience most clearly in the continued lack of attention paid to government and public enforcement of emissions and other environmental standards.

c. *Target Verification*

The target verification process — the top-down process of deciding which local actions would receive credit towards the 11th five-year pollution reduction targets — played a significant role in determining which actions local governments would take. By explicitly issuing guidance that local actors could receive credit towards meeting their targets through investment and industrial upgrade, the verification process spurred the economic growth-oriented actions at the heart of environmental cadre evaluation implementation.¹⁹¹

4. *The Maintenance of Social Stability*

Social stability concerns have been the other key driver of environmental cadre evaluation. Social stability has long walked hand-in-hand with economic growth as one of the central components of China's performance legitimacy. As Andrew Nathan has argued, any collapse of the current regime will likely happen by "rupture," rather than gradual transition.¹⁹² Thus, Chinese authorities have been most concerned about preventing the confluence of factors that emerged around the 1989 Tiananmen Square crisis, namely (i) "a robust plurality of disaffected citizens," (ii) "a catalytic event" that mobilizes "scattered social forces," and (iii) a split in the leadership.¹⁹³ Chairman Mao Zedong put it more succinctly, noting "[a] spark from the heavens can set the whole grassland on fire."¹⁹⁴

Environmental "incidents" certainly have the potential to serve as "catalytic event[s]" that would create masses of "disaffected citizens." By the time

¹⁹¹ See *infra* Part IV(B)(1) for further description of the verification process.

¹⁹² Nathan, *supra* note 46, at 39.

¹⁹³ *Id.*

¹⁹⁴ Willy Lam, *Beijing Plays Up the Carrot While Still Wielding the Stick*, CHINA BRIEF, Jul. 19, 2012, [http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=39644&tx_ttnews\[backPid\]=25&cHash=6fffcf5baba735bd025e1fa81a355b94](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=39644&tx_ttnews[backPid]=25&cHash=6fffcf5baba735bd025e1fa81a355b94).

of the 11th five-year plan, social unrest and dissatisfaction from environmental problems had already become a serious party-state concern. Environmental “incidents” of all types were, on a regular basis, becoming the catalyst for major, spontaneous protests involving, at times, many thousands of participants.¹⁹⁵

Senior leadership pronouncements made clear that environmental targets were aimed, in part, at reducing social conflict, and resolving the “increasingly prominent contradiction between economic growth and resources and environment constraints.”¹⁹⁶ Two robust examples of how environmental cadre evaluation has been used to promote social stability are targets for reduction of (i) heavy metal pollution, and (ii) fine particulate (PM2.5) pollution.

a. Heavy Metal Pollution

Starting in the summer of 2009, lead poisonings and other “heavy metal incidents” triggered riots across the country. According to official statistics, China’s Ministry of Environmental Protection received reports of 12 “heavy metal incidents” in 2009 that led to 4,035 people with excessively high blood lead levels, 182 people with excessively high blood cadmium levels, and 32 “mass incidents.”¹⁹⁷

These “incidents” typically involved smelters or battery plants situated in close proximity to village communities. Many involved heavy metal poisoning of children, which exacerbated social unrest. In August 2009, more than 1,300 children were discovered to have high blood lead levels in Hengjiang County, Hunan Province where a manganese smelter and other industrial facilities operated.¹⁹⁸ “Hundreds of villagers overturned police cars and smashed signposts” upon discovering the extent of the problem.¹⁹⁹ In Fengxiang County, Shaanxi Province more than 600 children living in the vicinity of a lead-zinc smelter were found to have dangerous levels of lead in their blood. Angry parents

¹⁹⁵ High-profile examples in recent years include the Shifang, Sichuan molybdenum copper plant, Xiamen PX, Dalian PX, Shanghai Maglev, Jingko Solar, and Johnson Controls “incidents” (*shijian* — a euphemism for protest and unrest). See Lam, *supra* note 194; Hongjun Zhu, *Xiamen Calls an Abrupt Halt to the PX Project to Deal with the Public Crisis*, SOUTHERN WEEKEND, May 28, 2007, English translation posted at EASTSOUTHWESTNORTH, http://www.zonaeuropa.com/20070601_1.htm; *Poison Protests: A Huge Demonstration Over a Chemical Factory Unnerves Officials*, ECONOMIST, Aug. 20, 2011, <http://www.economist.com/node/21526417>; Royston Chan & Sophie Taylor, *Hundreds Protest Shanghai Maglev Rail Extension*, REUTERS, Jan. 12, 2008, <http://www.reuters.com/article/2008/01/12/us-china-maglev-protest-idUSPEK32757920080112>; Jonathan Kaiman, *China Closes Solar-Panel Plant After Protests*, L.A. TIMES, Sept. 20, 2011, <http://articles.latimes.com/2011/sep/20/world/la-fg-china-solar-20110920>; *China: Villagers Protest at Zhejiang Solar Panel Plant*, BBC, Sept. 18, 2011, <http://www.bbc.co.uk/news/world-asia-pacific-14963354>.

¹⁹⁶ See Kai, *supra* note 170.

¹⁹⁷ 事件回放：重金属污染事件接连发生 [A Look Back: Heavy Metal Pollution Incidents Occur in Succession], 竞报 [FIRST.CN] (Jul. 9, 2010), <http://www.thefirst.cn/1366/2010-07-09/373800.htm>.

¹⁹⁸ *Another Smelter Shut Down Amid Lead Poisoning Fears*, CHINA DAILY, Aug. 20, 2009, http://www.chinadaily.com.cn/bizchina/2009-08/20/content_8595036.htm.

¹⁹⁹ Jonathan Watts, *Lead Poisoning Cases Spark Riots in China*, THE LANCET, Sept. 12, 2009, <http://www.thelancet.com/journals/lanct/article/PIIS0140-6736%2809%2961612-3/fulltext>.

stormed the smelter and smashed fencing and vehicles in response.²⁰⁰ The “grasslands,” it seemed, were about to catch fire, if they were not burning already.

In response, Chinese authorities created “hard” targets for the reduction of heavy metal pollution. In late 2009, central government officials developed emergency plans for addressing heavy metal pollution that culminated in the creation of a special 12th five-year plan on heavy metal pollution.²⁰¹ Key regions and industries, such as lead smelting and lead-acid battery manufacturing, would have to reduce pollution 15 percent from 2007 levels by 2015.²⁰² The plan would “include provisions to make local officials accountable.”²⁰³ Local governments are responsible for incorporating the results of heavy metal pollution prevention into the evaluation of socio-economic development, which is to be an important part of the evaluation of leading cadres and enterprise leaders.²⁰⁴

In contrast to the high level of publicity regarding other environmental cadre evaluation targets, the details of plans regarding heavy metal targets have largely been hidden from the public — a reflection of the more “sensitive” nature of heavy metal pollution and concerns about inflaming the public through offering too much information.²⁰⁵

b. *Fine Particulate (PM2.5) Pollution*

In 2012, environmental cadre evaluation was applied to the reduction of fine particulate (PM2.5)²⁰⁶ pollution in Beijing and other cities around China. While PM2.5 pollution has not actually caused take-to-the-streets protest, it has

²⁰⁰ *Id.*

²⁰¹ Government actions include planning and inspections, among other activities. See 《重金属污染综合整治实施方案》通过 [“Implementation Plan for the Comprehensive Handling of Heavy Metal Pollution” Passes], 中华人民共和国环境保护部 [PRC MINISTRY OF ENVTL. PROT.] (Sept. 2, 2009), available at <http://www.cnmn.com.cn/ShowNews.aspx?id=24025>; 关于深入开展重金属污染企业专项检查的通知 [Notice Regarding Thoroughly Carrying Out Special Inspections of Heavy Metal Polluting Enterprises], 中华人民共和国环境保护部 [PRC MINISTRY OF ENVTL. PROT.], 环发 [ENVTL. DEV. REPORT] (2009) No. 112 (Sept. 29, 2009), http://www.mep.gov.cn/gkml/hbb/bgt/200910/t20091022_174813.htm.

²⁰² Qian Wang, 国务院正式批复《重金属污染综合防治“十二五”规划》 [State Council Formally Replies on “12th Five-Year Plan for Comprehensive Prevention and Treatment of Heavy Metals”], 南方周末 [SOUTHERN WEEKEND] (Feb. 22, 2011), <http://www.infzm.com/content/55538>.

²⁰³ Michael Martina, *China Plans to Rein in Heavy Metal Pollution*, REUTERS, Feb. 22, 2011, <http://www.reuters.com/article/2011/02/22/us-china-metal-pollution-idUSTRE71L2IC20110222>.

²⁰⁴ Wang, *supra* note 202.

²⁰⁵ Only the broad outlines of heavy metal measures have been publicly released. See, e.g., 周生贤：大力防控重金属污染切实解决突出问题 [Zhou Shengxian: Vigorously Prevent and Control Heavy Metal Pollution, Earnestly Resolve This Prominent Problem], 中华人民共和国环境保护部 [PRC MINISTRY OF ENVTL. PROT.] (Sept. 3, 2009), http://www.gov.cn/gzdt/2009-09/03/content_1407999.htm.

²⁰⁶ “PM2.5” or “fine particulate” refers to particulate matter pollution less than 2.5 microns in diameter. PM2.5 particles are believed to cause the greatest health risk because of their ability to lodge deeply in the lungs, due to their small size. See U.S. EPA, *Fine Particle (PM2.5) Designations*, <http://www.epa.gov/pmdesignations/faq.htm>.

the potential to be a catalyst to the mobilization of great numbers of disaffected citizens.

This controversy was triggered by the decision of the U.S. Embassy in Beijing to install a PM2.5 monitor on its roof in 2008 and publicly post hourly readings on Twitter.²⁰⁷ In 2011, public concern and media attention grew in response to a particularly bad period of air pollution in Beijing and various sources pointed out the discrepancy between the U.S. Embassy monitor and official Beijing environmental protection bureau air quality data.²⁰⁸ At that time, China did not have standards for PM2.5, nor did it disclose any monitoring data on PM2.5 (although many Chinese cities collected PM2.5 data for “academic” (*xueshuxing*) purposes).²⁰⁹

On numerous occasions, the U.S. monitor showed severe pollution, when the Chinese data for the same time period showed less significant pollution. For example, on October 9, 2011, the Embassy air monitor registered PM2.5 pollution levels “beyond index” (or worse than “hazardous”), but Chinese data reported air pollution levels officially described as “slightly polluted.”²¹⁰

These repeated discrepancies led to public outcry and a public relations crisis for the Chinese government. Chinese officials expressed concern about the negative impact this would have on the credibility of their environmental protection efforts. According to a leaked U.S. State Department cable, a Chinese Ministry of Foreign Affairs representative said to U.S. Embassy officials that:

[T]he Embassy Twitter site had been causing unwanted “press fuss,” and “confusion” among the Chinese public, which might lead to “social consequences.” Wang [a Chinese foreign ministry representative] further commented that air quality data should not follow a “market-based” approach, which has resulted in the Chinese public now questioning “unnecessarily” the validity of Beijing EPB’s data

²⁰⁷ Hourly readings from this monitor are posted on Twitter at the address: <http://twitter.com/beijingair>. See *Embassy Air Quality Tweets Said to “Confuse” Chinese*, U.S. State Department cable, WIKILEAKS, July 10, 2009, available at <http://wikileaks.org/cable/2009/07/09BEIJING1945.html> [hereinafter July 10 cable].

²⁰⁸ Edward Wong, *Outrage Grows Over Air Pollution and China’s Response*, N.Y. TIMES, Dec. 6, 2011, <http://www.nytimes.com/2011/12/07/world/asia/beijing-journal-anger-grows-over-air-pollution-in-china.html>.

²⁰⁹ See July 10 cable, *supra* note 207; *Hazardous Air Days in Beijing*, U.S. State Department cable, WIKILEAKS, Nov. 27, 2009, available at <http://wikileaks.org/cable/2009/11/09BEIJING3179.html> [hereinafter Nov. 27 cable]. This is also based on the author’s personal observations in Hebei Province.

²¹⁰ *Beijing Air Pollution ‘Hazardous’: U.S. Embassy*, AGENCE FRANCE PRESSE, Oct. 30, 2011, <http://www.google.com/hostednews/afp/article/ALeqM5iJTkt3-cVITDVI6xipFX4aAyYjpw?docId=CNG.d957d0999e1088b0ce61729ec5b6c9f1.5f1>. Note that Chinese data could be misleading in three ways. (i) For the same concentration of pollution, the description in the Chinese system was more euphemistic. For example, a U.S. Air Quality Index (“AQI”) rating of 151 to 200 is described as “Unhealthy.” A score of 151 to 200 in the Chinese system is described as “Lightly Polluted.” (ii) A given score in the Chinese AQI might constitute a significantly greater level of pollution than the equivalent score on the U.S. AQI, reflecting less stringent ambient air quality standards in China. The scores in the two countries are not comparable without conversion. (iii) Moreover, public and government concern about Chinese data manipulation is widespread.

. . . . He cited that the Twitter site's consistent characterization in recent days of Beijing air quality as "unhealthy" or "very unhealthy" takes credit away from "all the progress" Beijing EPB has made in recent years in improving the city's air quality.²¹¹

The debate led to public calls for China to create PM2.5 standards, including from prominent public figures like CCTV commentator Bai Yansong and real estate developer Pan Shiyi.²¹² Pan initiated a public vote through his Sina Weibo (a Chinese microblogging service) account on the question of whether China should begin to measure and regulate PM2.5. More than 33,000 people (95 percent of voters) agreed "the authorities would [(sic)] adopt PM2.5 measurement this year."

Environmental performance targets for heavy metals and PM2.5 represented ad hoc responses, not just to widespread public unrest, but also, more generally speaking, to controversies or scandals that could catalyze the masses against the party-state.²¹³

5. *Implications for Environmental Protection*

To suggest that environmental cadre evaluation is motivated in large part by economic and social stability concerns is *not* to say that it is ineffective as an approach to environmental protection. Rather, in practice, this linkage has both positive and negative implications for environmental protection.

a. *Positive Impacts on Environmental Protection*

Environmental cadre evaluation has transformed China's environmental protection in a number of positive ways. These include (i) greater leadership "attention" to environmental protection at each level of the system, and (ii) empowerment of environmental authorities.

i. *Leadership "Attention" and Political Support*

Most critically, environmental cadre evaluation has raised local official and enterprise "attention" (*guan Zhu*) on environmental protection. Without a doubt, local leaders are now aware that environmental targets are meant to be a central priority and have been motivated to take steps to meet the targets. Whether this means that implementation is carried out effectively or as central authorities intended is another question, as will be discussed below.

Broadly speaking, the linkage of environmental aims to economic growth and stability priorities strengthens the environmental mission and gives envi-

²¹¹ July 10 cable, *supra* note 207.

²¹² *Pressure Builds Up for Tighter Air Quality Monitoring in Beijing*, XINHUA, Nov. 7, 2011, http://news.xinhuanet.com/english2010/china/2011-11/07/c_122243130.htm.

²¹³ This crisis-driven regulation in the name of maintaining social stability creates a perverse incentive. When the government only acts in the face of protest and social unrest, it creates an incentive for citizens to use protest as a favored tool for expressing public preferences. Protest, in a sense, becomes the citizen "vote."

ronmental protection a certain political credibility that would be weakened by perceived conflicts with economic and stability objectives. Imagine, as a practical matter, the potential reaction if environmental targets were set for a broader range of pollutants that had less immediate impact on economic growth or social stability. The pushback from bureaucratic and business interests would likely be greater, and implementation — already difficult — would be made all the more difficult.²¹⁴

ii. Empowerment of Environmental Authorities

This leadership focus on environmental protection has empowered environmental officials in a variety of ways — both through formal governance reform and in practice. Formally, key governance reforms in the 11th five-year plan period included the elevation of the environmental protection agency to ministry status, increases in funding and staffing, and creation of regional enforcement offices. In practice, environmental officials now receive substantially greater cooperation from other agencies. At the central level, the Ministry of Environmental Protection has utilized this new dynamic to partner with more powerful agencies (such as the National Development and Reform Commission, the Ministry of Finance, the People's Bank of China, the national securities regulator, and others) to implement environmental objectives. At the local level, officials have noted the important cooperation now attainable from local planning, construction, and land bureaus that previously might not have given environmental officials the time of day.²¹⁵ This cooperation has come with enhanced fiscal and policy support that has strengthened the hand of environmental authorities. This includes subsidies for laborers put out of work by shutdowns, funds for operation of pollution control equipment, relaxed credit standards, and fiscal stimulus funds channeled at environmental action.

Environmental regulators have been able to wield environmental law much more aggressively than in the past when the national priority on environmental objectives was lower. For example, the Environmental Impact Assessment Law, long viewed as ineffective and weak, has been used to block “high-energy consuming, high pollution” industries that directly affected target performance. Environmental officials have also been able to develop a tool called “regional approval restrictions” (*quyu xianpi*) that allows environmental authorities to block further industrial project approvals in places that have failed to meet pollution reduction targets.²¹⁶ Chinese experts have recognized the op-

²¹⁴ Indeed, China's 9th and 10th five-year plans included a much broader range of pollution targets — although they were designated as soft targets (and, as previously discussed, largely ignored). When authorities made the ESER targets hard targets, they chose to limit the initial number of targets to just two — sulfur dioxide and COD.

²¹⁵ Interview with anonymous source, no. 2011-12 (2011); interview with anonymous source, no. 2011-15 (2011) (transcripts on file with author).

²¹⁶ The MEP used this tool against twelve cities for failure to properly operate wastewater treatment, and six major state-owned enterprise groups (*jituan*). Interview with anonymous source, no. 2012-01 (2012) (transcript on file with author).

portunity to use environmental cadre evaluation as a rationale for strengthening environmental law.²¹⁷

The substantial elevation of even the narrow set of environmental priorities set forth in the environmental cadre evaluation system creates greater space for the environmental ministry and other pro-environment stakeholders to press for a broader environmental agenda. In the 12th five-year plan, for example, the environmental ministry's environmental protection plan includes a range of additional environmental objectives, such as clean drinking water, improved environmental health, and mitigation of the risks associated with toxic chemicals.²¹⁸ Officials and researchers will likely utilize the various rationales for environmental cadre evaluation targets to support elevation of these and other additional environmental priorities.

iii. Lessons for Developing and Developed Countries

For developing countries, the Chinese effort to link environmental and economic aims may offer a useful lesson in how to address severe environmental degradation at an earlier stage of development than was the case for most developed nations. For developed nations, China's example may offer some evidence that economic development and environmental goals need not be in conflict.

The impact of central prioritization of environmental protection in China is consistent with experience in other countries. Blackman has noted a similar phenomenon in the context of Colombian discharge fee implementation.²¹⁹ High-level support for the regulatory tool led to substantial publicity, investment of resources, and expanded capacity building that helped to strengthen the necessary elements of an environmental regulatory regime — trained and diligent staff, sufficient technical equipment, regular monitoring, and cooperation from other parts of government. The point is that these are benefits separate from or in addition to whatever impact the particular new governance mechanism (environmental cadre evaluation in China, market-based discharge fees in the Colombian context) might have directly.

At the same time, China's approach to implementing the environmental cadre evaluation system reflects elements of, but also goes beyond, what experts have recommended for environmental protection in developing countries (like China) characterized by relative poverty, weak rule of law, and insufficient technical and financial capacity. For example, Blackman — in a separate work on the challenge of regulating small firms that proliferate in developing

²¹⁷ Sun, *supra* note 35.

²¹⁸ 中华人民共和国中央人民政府 [THE CENT. PEOPLE'S GOV'T OF THE PEOPLE'S REPUBLIC OF CHINA], 国家环境保护“十二五”规划的通知 [NATIONAL ENVIRONMENTAL PROTECTION TWELFTH FIVE-YEAR PLAN] (2011), available at http://www.gov.cn/gongbao/content/2012/content_2034724.htm [hereinafter 12TH FIVE-YEAR ENVTL. PROT. PLAN].

²¹⁹ Blackman has shown how a high-profile discharge fee program in Colombia had a similar effect of incentivizing officials to improve the fundamentals of environmental regulation, such as basic infrastructure investment, staffing, and training programs. BLACKMAN, *supra* note 178, at 32–36.

countries — notes that developing countries with capacity challenges would be well advised to emphasize techniques like investment in pollution treatment, technology- and process-based standards, and “green” taxes and subsidies.²²⁰ These, Blackman argues, are preferable to difficult-to-monitor emissions standards and complicated systems of marketable permits and emissions fees that require substantial regulatory capacity and resources.

China’s approach emphasizes those measures — like investment, shut-downs and financial incentives — that are more feasible to carry out. The system has performed less successfully on traditional regulatory response (for example, monitoring, fining, and enforcement) and is only now beginning to explore more complicated market measures. On the other hand, whereas the international literature focuses on techniques for regulating small firms, China’s approach goes beyond the literature in its effort to simply eliminate difficult-to-regulate small firms (in order to consolidate industries and make them more globally competitive).²²¹ As industries in China are consolidated, one would in theory expect to see regulatory enforcement improving against these larger, more capable targets of enforcement.

b. Limitations of Cadre Evaluation as an Environmental Protection Mechanism

Environmental cadre evaluation nonetheless has some significant limitations as a tool of environmental governance. The system faces serious implementation problems that are largely endogenous to the cadre evaluation approach, such as goal displacement and data falsification problems.²²²

As an environmental protection mechanism, the system suffers from limitations related to the choice to use environmental measures to promote non-environmental aims (that is, economic and social stability). This approach will most likely give short shrift to environmental problems that do not offer a clear economic or social stability benefit, but simply create harm to human health or ecosystems. It also creates the possibility that environmental outcomes will lose out to economic or stability benefits during the implementation process, even for priorities designated as environmental targets. To improve environmental performance, the mechanism would benefit from the inclusion of environmental quality or health outcome-based metrics, such as the health-based ambient environmental quality standards under the U.S. Clean Air Act or Clean Water Act.²²³ For example, the U.S. sulfur dioxide trading program is part of a

²²⁰ See Allen Blackman, *Introduction: Small Firms and the Environment*, in *SMALL FIRMS AND THE ENVIRONMENT IN DEVELOPING COUNTRIES: COLLECTIVE IMPACTS, COLLECTIVE ACTION 1*, 6–9 (Allen Blackman ed., 2006).

²²¹ See, e.g., China’s “implement the large, crush the small” campaign (*shangda, yaxiao*). 发改委能源局局长：电力工业如何“上大压小” [Head of NDRC National Energy Administration: How to “Implement the Large, Crush the Small” in the Power Industry], *经济日报* [ECON. DAILY], Feb. 25, 2007, http://news.xinhuanet.com/fortune/2007-02/25/content_5768734.htm.

²²² See *infra* Part IV.

²²³ The closest equivalent in the Chinese system is probably the use of “blue sky day” targets for city mayors, which measure compliance with ambient air quality standards. The most significant

larger regulatory universe that includes stringent requirements related to ambient air quality levels for SO₂. States have the legal responsibility to take a range of actions, such as creating state implementation plans and taking stronger action against polluting facilities, if in-state ambient SO₂ levels exceed standards.²²⁴

* * *

Whereas Part III has focused on the motivations behind environmental cadre evaluation, Part IV turns to a discussion of implementation innovations and problems.

IV. IMPLEMENTATION OF ENVIRONMENTAL CADRE EVALUATION

It is axiomatic that performance legitimacy depends on a sufficient level of performance. If environmental cadre evaluation is, as this Article argues, mainly an effort to sustain the traditional economic and stability grounds for legitimacy, and secondarily an effort to elevate environmental protection as a new basis of legitimacy, then it follows that actual performance matters. It cannot rest on intentions and mere efforts at implementation.²²⁵

Central officials are well aware of traditional problems of central-local control in Chinese governance. This Part first examines official outcomes of the 11th five-year plan ESER targets and describes a number of measures taken by central authorities to counter known implementation problems. These results and efforts are contrasted with widespread reports of continued implementation problems. This Part analyzes the implementation challenges of environmental cadre evaluation through the lens of the economic and political science literature on principal-agent relationships — examining, in particular, problems of goal specification, goal displacement, data falsification, and collusion. These problems increase the risk that substantive objectives will not be achieved. Environmental cadre evaluation aims to reduce resource bottlenecks that limit economic growth and to limit pollution that has caused riots and

problem with this metric has been widespread data manipulation that generates compliance on paper, but not in practice. *See infra* Part IV(B)(3).

²²⁴ Note that this comparison to U.S. environmental law focuses on what the U.S. system purports to require on paper. In practice, commentators have argued, among other things, that (a) the overall cap of the U.S. sulfur dioxide trading system was set based on politics rather than science, and (b) the setting of U.S. ambient air quality standards incorporates incoherent, implicit trade-offs not allowed by the statute. The point of this Section is that the Chinese rules do not even *purport* to disallow these practices.

²²⁵ Performance legitimacy can potentially also rest on the *appearance* of performance. For example, environmental quality data can be falsified, hiding latent problems from citizens, sometimes for years. Nonetheless, such charades can be difficult to sustain. Many direct impacts of environmental degradation and inefficient energy use — such as visible air pollution, lead poisoning, or power shortages — appear in the near-term, and can only be avoided through *actual* performance. It may be easier, however, to obscure the *extent* of such environmental problems.

scandal. If targets are not in fact being met, then the risk is increased that these outcomes, which are in the regime's self-interest, will not be attained.

These problems also weaken the public credibility of environmental cadre evaluation, if there is a general impression that environmental results are falsified. Data problems in particular render it difficult to know with any degree of certainty how well the system is actually performing.

A. *Official Outcomes and Actions Taken*

The *official* results at the end of the 11th five-year plan demonstrated success on all counts. China reportedly exceeded its key pollution reduction targets (requiring a 10 percent reduction). Sulfur dioxide emissions were reduced by 14.29 percent. Chemical oxygen demand was reduced by 12.45 percent. Energy intensity was reduced by 19.1 percent, "basically meeting" the target of "about 20%." These results were announced with much fanfare in early 2011, although — as will be discussed *infra* — the reliability of these statistics faces many unanswered questions.

As discussed above, preliminary evidence suggests the environmental cadre evaluation system and ESER targets have caused government officials and enterprises to pursue target compliance. Government interviewees and enterprise representatives stated that they believed that pollution was genuinely being reduced, even though data quality and implementation problems are widespread.²²⁶

As presaged by early local pilots on environmental cadre evaluation, strict environmental targets for government leaders led to greater investment in environmental protection, better coordination of different agencies, and stronger support for the environmental protection bureau.²²⁷ As one provincial environmental official put it: Because of the environmental targets, provincial leaders "now care about the environment."²²⁸

Environmental targets appear to have had an impact on polluting enterprises as well. The director of environmental affairs at a state-owned power company stated that it did not install any desulfurization equipment or continuous emissions monitors prior to the 11th five-year plan. It viewed its previous environmental responsibility as merely to pay appropriate pollution discharge fees.²²⁹ Under the 11th five-year plan, the company received targets for installed Flue Gas Desulfurization capacity, coal consumption, and coal quality, which were set forth in a responsibility agreement. Enterprise leaders were

²²⁶ Interview with anonymous source, no. 2011-01 (2011); interview with anonymous source, no. 2011-02 (2011); interview with anonymous source, no. 2011-03 (2011); interview with anonymous source, no. 2011-05 (2011); interview with anonymous source, no. 2011-06 (2011); interview with anonymous source, no. 2011-10 (2011); interview with anonymous source, no. 2011-15 (2011); interview with anonymous source, no. 2011-16 (2011); interview with anonymous source, no. 2011-17 (2011) (transcripts on file with author).

²²⁷ Lo & Tang, *supra* note 111.

²²⁸ Interview with anonymous source, no. 2011-12 (2011) (transcript on file with author).

²²⁹ Interview with anonymous source, no. 2011-14 (2011) (transcript on file with author).

personally responsible for meeting these targets. This drove officials in the power company to install required pollution reduction equipment.²³⁰

Interviewees also attributed success in implementation to a number of measures taken in “target implementation” and “target verification” to combat well-known central-local implementation problems.²³¹

1. *Environmental Infrastructure Investment as an Implementation Strategy*

The emphasis on investment in environmental infrastructure was not just a normative priority, but also an implementation strategy that reflected central ideas about how to reduce local implementation problems. That is, investments in environmental infrastructure were designed to meet central goals of GDP growth and greater international competitiveness in “green” industries. But central environmental officials were also quite aware that an investment focus would help to minimize local resistance to pollution reduction efforts, since China’s local governments, in practice, spend much of their time seeking new investment to generate GDP growth and tax income.²³²

Investment is also consistent with less savory corporatist incentives for rent seeking and corruption at the local level. Local governments have reportedly invested in intermediary companies — such as energy service companies and brokers of pollution control equipment — in order to profit from the business of pollution control installation. Investment also provides opportunities for patronage, outright corruption, and other forms of rent seeking. At the same time, the literature on developing country environmental protection also suggests that government and private investment in pollution control is a typical first step in pollution control, and more easily implemented in situations where, as in China, regulatory capacity and institutions are undeveloped.²³³

2. *Implementing Shutdowns of Outdated Facilities*

Implementation of industrial shutdowns has also been helped by the confluence of local stakeholder interests and central priorities.²³⁴ Local govern-

²³⁰ It is less clear how local officials motivated non-SOEs to act since the leaders of those enterprises were not under the cadre evaluation system. However, one interviewee noted that all enterprises have “original sin” — that is, existing violations that the government can use to apply pressure when necessary. Interview with anonymous source, no. 2011-15 (2011) (transcript on file with author).

²³¹ Interview with anonymous source, no. 2011-07 (2011); interview with anonymous source, no. 2011-15 (2011); interview with anonymous source, no. 2012-01 (2012) (transcripts on file with author).

²³² Interview with anonymous source, no. 2012-01 (2012); interview with anonymous source, no. 2011-09 (2011) (transcripts on file with author).

²³³ See Blackman, *supra* note 220, at 6–9.

²³⁴ Interview with anonymous source, no. 2012-04 (2012) (transcript on file with author); see also Genia Kostka & William Hobbs, *Energy Efficiency in China: The Local Bundling of Interests and Policies*, FRANKFURT SCHOOL — WORKING PAPER SERIES (2010), <http://econpapers.repec.org/paper/zbwfsfmwp/151.htm>.

ments have been incentivized to push through shutdowns of facilities, for example, because of the possibility of more valuable uses of land on which facilities are located (for example, for real estate development), or because more powerful business interests have an incentive to see their competitors eliminated.²³⁵ Enterprises have been required to shut down old facilities as a condition to approval of newer, larger (and presumably more technologically advanced and efficient) projects.²³⁶ Kostka and Hobbs have demonstrated how local officials in Shaanxi used this sort of “bundling” in the context of energy efficiency targets (that is, tying central energy efficiency goals to local economic priorities or interests of powerful economic stakeholders) to drive target achievement.²³⁷

Shutdowns are a powerful means of reducing pollution, but interviewees have suggested that the selection of facilities for shutdown was vulnerable to fraud and political influence.²³⁸ Shutdown targets are, in principle, selected according to performance standards set by the Ministry of Industrial and Information Technology (“MIIT”), but interviewees noted that shutdown lists were compiled by local governments and reported to MIIT for approval with little top-down verification.²³⁹

3. *Central Efforts to Counter Data Falsification*

Central officials and researchers also developed explicit central-level strategies designed to counter local falsification of monitoring data. In short, these techniques included various ways of limiting reliance on local monitoring data to circumvent local data manipulation. These are described in greater detail in Part IV(B)(3) below.

B. *Persistent Implementation Problems*

Despite positive official reports and efforts to resolve traditional implementation problems, persistent principal-agent problems continue to raise serious questions about the fundamental credibility of these environmental efforts. To any student of Chinese governance, this should come as no surprise. After all, China’s rich history of central-local implementation problems has spawned at least two well-known idioms — “heaven is high and the emperor is far away” (*tiangao huangdi yuan*), and “the center has measures, and those below have counter-measures” (*shang you zhengce, xia you duice*).

²³⁵ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

²³⁶ Interview with anonymous source, no. 2011-02 (2011); interview with anonymous source, no. 2011-05 (2011); interview with anonymous source, no. 2011-06 (2011) (transcripts on file with author).

²³⁷ Kostka & Hobbs, *supra* note 234.

²³⁸ *Id.* Media have also reported that these lists are sometimes larded with facilities that do not exist, went bankrupt, or were shut down long ago. See, e.g., 淘汰落后产能企业中存造假现象 [Falsification Amidst the Retirement of Backward Enterprise Capacity], 中国经济时报 [ECON. DAILY], Mar. 22, 2012, <http://finance.jrj.com.cn/2012/03/22005212547637.shtml>.

²³⁹ Interview with anonymous source, no. 2012-04 (2012) (transcript on file with author).

The principal-agent problems of cadre evaluation are familiar in any context where strict evaluation targets are coupled with significant penalties, be it corporate earnings, crime reduction, school testing, or law school ranking targets. These include problems of goal specification, goal displacement, information asymmetry, and collusion.²⁴⁰

Goal specification. Sometimes the problem is that goals set do not accurately reflect what the principal hopes to achieve. While measurable, quantitative goals (for example, annual tax collection targets) tend to be easier to implement than qualitative targets, poorly specified quantitative goals have driven undesirable behavior. For instance, in the 1980s, local Chinese targets for “gross value of industrial output” led to rampant industrial investment without regard to market demand and profitability. The result was heavy investment losses and bankruptcies.²⁴¹ The target was subsequently changed to a profit target, so that local officials would not be rewarded for unprofitable, irrational investment. Too often cadre targets specify outputs that may not be accurate proxies for desired outcomes.

Goal displacement. Even if goals are set to measure the right metrics, they may still drive undesirable behaviors. Strict consequences for failure to meet targets have led to overtly illegal behavior, “overcontrol” (that is, regulating beyond what targets demand to ensure a margin of safety), or collusion among government officials at and between different levels of government to falsify performance data or hide malfeasance. Local governments have engaged in forced sterilizations and abortions in order to meet family planning targets.²⁴² Gangs of thugs hired by local governments kidnap petitioners to Beijing in an effort to meet targets for maintaining stability.²⁴³

Numerous, sometimes conflicting targets have led to selective implementation and goal displacement. For example, industrial profit targets can conflict with social stability targets if the best way to boost profits is to lay off redundant workers. Environmental targets have long been sacrificed in the name of maximizing economic growth.

Information asymmetry. Falsification of information is a persistent problem and the central government faces a perennial challenge in attempting to obtain an accurate assessment of what local agents are doing. Studies have shown information problems in a range of areas, including GDP, village income statistics, and population data.²⁴⁴

²⁴⁰ See Michael Jensen & William Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FINANCIAL ECON. 305 (1976).

²⁴¹ Whiting, *Cadre Evaluation*, *supra* note 60, at 113.

²⁴² Jonathan Watts, *China's Family Planning Policy Enforced with Heavy-Handed Tactics*, THE GUARDIAN, Oct. 25, 2011, <http://www.guardian.co.uk/environment/2011/oct/25/china-family-planning-policy-heavy-handed?newsfeed=true>.

²⁴³ Andrew Jacobs, *China Investigates Company Linked to “Black Jails”*, N.Y. TIMES, Sept. 27, 2010, <http://www.nytimes.com/2010/09/28/world/asia/28china.html>.

²⁴⁴ Kevin O'Brien, *Neither Transgressive Nor Contained: Boundary-Spanning Contention in China*, 8 MOBILIZATION 51, 60 (2003); Murray Scot Tanner & Eric Green, *Principals and Secret Agents: Central versus Local Control Over Policing and Obstacles to ‘Rule of Law’ in China*, 191 CHINA Q. 644, 646–47 (2007); Lily Tsai, *Understanding the Falsification of Village Income Statistics*, 196 CHINA Q. 805, 809 (2008); Thomas Rawski, *What is Happening to China's GDP*

Collusion. Multiple layers of principal-agent relationships can lead to incentives for collusion. There is a rich literature on principal-supervisor-agent relationships and the potential for supervisors, who are accountable to the ultimate principal, to collude with agents.²⁴⁵ This is possible, for example, where a firm engages an auditor to monitor managers' financial performance, a government authorizes a regulator to inspect a regulated firm, or a firm hires a manager to monitor its employees. Auditors may see their interests as more aligned with managers than with shareholders. Regulators may be captured by industry.

The environmental cadre evaluation system has not escaped these principal-agent problems. Despite significant efforts to counter principal-agent problems, environmental cadre evaluation continues to be fraught with serious implementation challenges including problems with the scope of pollutants (goal specification), local agents responding to incentives in ways that do not promote central objectives (goal displacement), challenges with data accuracy and measuring performance (information asymmetry), and possible collusion between inspectors and local governments.

In the remainder of this Part, this Article provides an analysis of the environmental cadre evaluation system using the analytical framework set forth above.

1. *Goal Specification (and the Scope of ESER Targets)*

Do the particular targets selected by Chinese authorities achieve the party-state's primary economic growth and social stability objectives? Do they support emerging environmental norms? Are these targets selected in a rational way that supports these objectives?

Whether China's environmental targets suffer from goal specification problems depends in large part on what we construe as the goal of environmental cadre evaluation. If we view the goal as primarily economic growth, then the failure of local actors to operate pollution control equipment is not necessarily inconsistent with investment goals — since money will have been spent, jobs will have been created, and pockets will (likely) have been lined.

But if we believe that pollution reduction is meant to be an important (albeit secondary) objective, then we might view the way that "target verification" is carried out as creating a goal specification problem. For example, to the extent that pollution reduction credit is granted for an investment "output" (for example, the construction of a wastewater treatment plant), rather than the "outcome" of verified pollution reduction, then local governments may be able

Statistics?, 12 CHINA ECON. REV. 347 (2001); Thomas Scharping, *Hide-and-Seek: China's Elusive Population Data*, 12 CHINA ECON. REV. 323 (2001).

²⁴⁵ See, e.g., Roland Strausz, *Collusion and Renegotiation in a Principal-Supervisor-Agent Relationship*, 99 SCAND. J. ECON. 497 (1997); Sandeep Baliga, *Decentralization and Collusion*, 83 J. ECON. THEORY 196 (1998); Kouroche Vafai, *Collusion and Organization Design*, 72 ECONOMICA 17 (2005).

to meet the “letter” of the target implementation guidance without coming close to the “spirit.”²⁴⁶

Improperly defining the scope of the environmental targets (that is, which pollutants to include as targets) also constitutes a sort of “goal specification” problem. Environmental cadre evaluation was launched in the 11th five-year plan with three primary targets — for reduction of two pollutants (sulfur dioxide and COD), and energy intensity (the amount of energy needed per unit of economic growth). In the 12th five-year plan (2011–15), China added two new pollutant targets (nitrogen oxide and ammonia nitrogen), a target for reducing carbon intensity, an afforestation target, and a target for percentage of energy from non-fossil sources. Moreover, Chinese authorities have added six heavy metal pollutant reduction targets in selected industries and areas of the country.

Nonetheless, many environmental problems remain outside of the scope of the environmental cadre evaluation system, and interviewees have confirmed that environmental problems not specified as ESER targets continue to receive scant regulatory attention. The pollutants specified in the environmental cadre evaluation system are not the only ones that can hinder economic growth, exacerbate social tensions, or cause serious harm to the environment and human health.

Moreover, the lack of a public process for determining which performance targets to select heightens the possibility that the targets selected will fail to fulfill at least some of the system’s stated goals.²⁴⁷ The 2011 PM2.5 fine particulate controversy in Beijing (discussed above) is a good example of how China’s environmental target setting process failed to include a pollutant that would be both extremely harmful to human health and a source of great public concern. The exclusion of this pollutant from regulation was the very cause of social instability and embarrassment to the party-state. The lack of an objective, formal process for proposing and evaluating new pollution reduction targets meant that the public had no formal channel through which it could have expressed its preference for PM2.5 regulation. As a result, the public “participated” through ad hoc, informal, high-publicity means of advocacy that ultimately had significant negative implications for the credibility of China’s environmental regulatory efforts.

U.S. environmental law, by contrast, establishes a more open system with channels (administrative petitions, lawsuits) for triggering the consideration of

²⁴⁶ Interviewees suggested that the verification process could catch this sort of shirking. Interview with anonymous source, no. 2012-01 (2012); interview with anonymous source, no. 2011-06 (2011); interview with anonymous source, no. 2011-07 (2011) (transcripts on file with author). But this leaves open the question of whether top-down verification teams have the capacity to catch all (or even a significant amount) of such problems, given staffing and time constraints. Moreover, collusion incentives suggest that verification teams might purposely overlook such problems even if they were technically able identify them.

²⁴⁷ This is particularly true for pollutants that lead to social stability problems. The lack of public process reduces the likelihood that social stability-related pollution problems will be discovered before they reach an advanced stage, and the focus on social stability (rather than say health outcomes) means that regulatory attention is only triggered once social instability has already occurred.

new rules and standards.²⁴⁸ The U.S. standard setting process mandates strong transparency and public participation, which limits to some extent the risk of goal specification problems. China has no such process. For example, Beijing's decision to regulate PM_{2.5} was driven by public outcry expressed on microblogs and in the media, rather than through any formal channel. Hard targets for heavy metal pollution were only established after widespread local protests against heavy metal smelters and similar facilities.

2. Goal Displacement

Even if we assume that the targets selected are the “right” ones, numerous instances of goal displacement raise genuine concerns about whether local actions that lead to target compliance are actually promoting economic growth and social stability, or improving environmental protection.²⁴⁹

The most notorious examples of goal displacement during the 11th five-year plan and an illustration of the limitations of environmental cadre evaluation concerned local government attempts to meet energy intensity reduction targets. In May 2010, Premier Wen Jiabao held a national teleconference to emphasize the importance of meeting the ESER targets.²⁵⁰ The country was behind schedule, and Wen famously proclaimed that all levels of government were to work with an “iron fist” to shut down backwards facilities and meet the targets. “Each region, each department should unite their thinking behind central policy, strengthen the organization of (local) leadership, and realize a ‘level by level,’ ‘layer (of government) upon layer’ implementation.”²⁵¹

The consequences for failure would be serious, he reiterated:

The main leader in each local government jurisdiction and enterprise leaders are personally responsible for their government or enterprise completing ESER work. We must strengthen leadership accountability — giving rewards to those who complete their targets well, and punishing (even removing) the main leader and relevant leadership for failure to meet targets.²⁵²

²⁴⁸ For example, ambient air quality standards under the U.S. Clean Air Act (“CAA”) are required for pollutants considered harmful to human health and the environment. The CAA provides various avenues for initiating review of the need for new or revised standards. *See* Clean Air Act, 42 U.S.C. §§ 7408–7409 (2006).

²⁴⁹ There is some overlap between “goal specification” and “goal displacement.” This Article construes “goal displacement” to include an element of cheating or intent to do something other than what is ostensibly intended by the targets. Therefore, though a number of the examples in this section might also be construed as “goal specification” problems, this Article discusses them in this section on “goal displacement” because of the degree to which they appear to represent intentional efforts to circumvent the rules.

²⁵⁰ 温家宝:抓好七项工作,确保实现“十一五”节能减排目标 [Wen Jiabao: Grab 7 Pieces of Work, Ensure the Realization of the ‘11th Five-Year Plan’ Energy Savings, Emissions Reductions Targets], 新华网 [XINHUA], May 5, 2010, http://news.xinhuanet.com/politics/2010-05/05/c_1275546.htm [hereinafter *Grab 7 Pieces*]; Jing Li, ‘Iron Hand’ to Help Realize Green Goals, CHINA DAILY, May 6, 2010, http://www.chinadaily.com.cn/china/2010-05/06/content_9814122.htm.

²⁵¹ *See Grab 7 Pieces*, *supra* note 250.

²⁵² *Id.*

The impact of such top-down signals, particularly in jurisdictions behind schedule, was predictable. Many local governments at risk of missing their targets in the last year of the 11th five-year plan responded through draconian (and often illegal) actions, such as forced power outages to enterprises, residences, and city services. The problem would come to be called *lazha xiandian* — literally meaning “to pull the breakers and limit power.”²⁵³ For example, officials in Anping County, Hebei Province (in central China) shut down power not only to high-energy consuming enterprises, but also to hospitals, schools, traffic lights, and homes in an effort to meet energy efficiency targets.²⁵⁴ Nanpi County (also in Hebei) reportedly carried out similar practices.²⁵⁵ State media reported that last-minute forced power outages “spread to many provinces around China,”²⁵⁶ including Henan Province,²⁵⁷ Zhejiang Province,²⁵⁸ and Shandong Province,²⁵⁹ among other places.

These power stoppages helped local jurisdictions to meet sulfur dioxide reduction targets as well, by taking coal-fired power plants temporarily out of service. The stoppages did not necessarily reduce pollution, however. The power outages led to a run on diesel fuel as “thousands” of enterprises resorted to using backup diesel power generators to provide power for factory operations.²⁶⁰ Power production through small-scale individual power generators is

²⁵³ 拉闸限电“遍地开花”，五大质疑待解 [Forced Power Outages Flourishing Everywhere, Five Major Unresolved Questions], 红网 [RED NET], Nov. 11, 2010, <http://hlj.rednet.cn/c/2010/11/11/2108956.htm>.

²⁵⁴ Jim Bai & Tom Miles, *China County Institutes Blackouts to Save Energy — Media*, REUTERS, Sept. 6, 2010, <http://af.reuters.com/article/energyOilNews/idAFTOE68502L2010090>.

²⁵⁵ 大环渤海区域：节能考核有“危”有“安” [Dahuan Bohai Region: Energy Savings Verification Shows “Danger” and “Success”], 中国经济时报 [CHINA ECON. TIMES], Nov. 22, 2010, <http://green.sohu.com/20101122/n277813330.shtml> [hereinafter *Dahuan Bohai*].

²⁵⁶ *Energy Reduction Policies Causes (sic) Unexpected Diesel Shortage in China*, XINHUA, Nov. 7, 2010, http://news.xinhuanet.com/english2010/china/2010-11/07/c_13594922.htm.

²⁵⁷ Henan province is in central China. 林州停暖事件调查：电厂若趁早关停可享优惠政策 [Investigation of the Linzhou Heating Stoppage Incident: Power Plants Can Enjoy Preferential Policies for Closing as Soon as Possible], 21世纪经济报道 [21ST CENTURY BUS. HERALD], Jan. 17, 2011, <http://green.sohu.com/20110117/n278911498.shtml>; 河南林州为完成减排任务停止供暖，今冬不再恢复 [Henan Linzhou Failed to Complete Pollution Reduction Tasks and Stopped Heating, Won't Restore This Winter], 新京报 [BEIJING NEWS], Jan. 12, 2011, <http://green.sohu.com/20110112/n278816841.shtml>.

²⁵⁸ Zhejiang province is in eastern China. 温州减排顶风上演“断电风暴” 开工1天停电4天 [Wenzhou Emissions Reduction Faces into the Wind, Shows a “Power Outage Storm,” Operate for a Day, Stop Power for 4 Days], 中国青年报 [CHINA YOUTH DAILY], Sept. 27, 2010, <http://green.sohu.com/20100927/n275286183.shtml>; 浙江等省份现柴油荒 节能减排限电被指为主因 [Zhejiang and Other Provinces in a Diesel Frenzy], 新京报 [BEIJING NEWS], Jan. 12, 2011, <http://green.sohu.com/20110112/n278830546.shtml>; 浙江节能减排百日冲刺 高能耗企业停电轮休15天 [Zhejiang Energy Savings, Emissions Reduction's 100 Day Spring, High Energy-consuming Enterprises Take a Holiday for 15 Days], 中国经济时报 [ECON. TIMES], Sept. 28, 2010, <http://green.sohu.com/20100928/n275317323.shtml>.

²⁵⁹ Shandong province is in eastern China. *Dahuan Bohai*, *supra* note 255; 多地为完成节能目标拉闸限电 加剧柴油供应紧张 [Many Places That Failed to Complete the Energy Savings Target Instituted Forced Power Outages, Intensifying Tight Supplies of Diesel], 新京报 [BEIJING NEWS], Nov. 5, 2010, <http://green.sohu.com/20101105/n277171140.shtml>.

²⁶⁰ Joe McDonald, *China Suffers Diesel Shortage, Disrupting Industry*, ASSOCIATED PRESS, Nov. 8, 2010, http://www.boston.com/business/articles/2010/11/08/china_suffers_diesel_shortage_disrupting_industry.

less efficient and generally more polluting than power from larger power plants. However, diesel-powered self-generation had the benefit of not showing up in official sulfur dioxide statistics.

These local government actions technically improved achievement of quantitative targets, but directly contravened the central party-state's substantive goals. Indiscriminate, forced power outages did not improve energy efficiency and in fact led to less efficient use of diesel fuel, reduced economic output, increased pollution, and angered local residents.²⁶¹

NDRC responded in September 2010 with an official document clarifying that stopping power was counter to state objectives.²⁶²

Realization of ESER targets should primarily rely on work and mechanisms, not short-term 'sudden actions' ESER implementation . . . must be scientific, rational, and orderly. It cannot simply involve forced power outages and particularly cannot involve stoppages to residential power, heating, and public services.

In the fall of 2010, government officials and media alike promoted the message that "ESER is not forced power outages" or "[g]reen growth does not mean stopping growth."²⁶³

Goal displacement has also arisen from the conflict between energy efficiency and pollution reduction targets. One provincial environmental official recounted how their department had become aware of a power plant that was surreptitiously turning off its desulfurization equipment in order to save energy and other operating costs.²⁶⁴ Before they could organize an enforcement effort against the enterprise, the provincial bureau in charge of energy efficiency work issued a public commendation honoring the factory for its efficient use of energy.²⁶⁵ No action was taken against the facility, and the official lamented the lack of coordination between the agencies.

Another form of goal displacement is the problem of pollution control equipment not being operated properly or at all.²⁶⁶ A 2008 Massachusetts Insti-

²⁶¹ Bai & Miles, *supra* note 254.

²⁶² 发展改革委发布紧急通知要求规范节能减排工作 [NDRC Issues Emergency Notice Requiring Standardized Energy Savings, Emissions Reduction Work], 新华社 [XINHUA], Sept. 19, 2010, http://www.gov.cn/jrzq/2010-09/19/content_1706054.htm; 我委印发《关于进一步做好当前节能减排工作的紧急通知》指导各地正确做好节能减排工作 [NDRC Issues "Emergency Notice Regarding Taking a Step Forward and Doing Well Current Energy Savings, Emissions Reduction Work," Directing Each Locale to Correctly and Properly Carry Out Energy Savings, Emissions Reduction Work], 中华人民共和国国家发展和改革委员会 [PRC NAT'L DEV. & REFORM COMM'N], Sept. 17, 2010, http://www.sdpc.gov.cn/gzdt/t20100917_371741.htm.

²⁶³ 发改委电监会：节能减排不是“拉闸限电” [NDRC, Electricity Supervision Council: Energy Savings, Emissions Reduction Cannot Rely on Forced Power Outages], 新京报网 [BEIJING NEWS], Sept. 8, 2010, <http://energy.people.com.cn/GB/12662958.html>; 视频：工信部表示绝不允许为节能减排拉闸限电 [Video: MIIT Expresses that Energy Savings, Emissions Reduction Work Cannot Rely on Forced Power Outages], 新浪视频 [SINA VIDEO] (Jan. 28, 2010), <http://video.sina.com.cn/p/news/cv/2010-10-28/195161169551.html>.

²⁶⁴ Interview with anonymous source, no. 2011-15 (2011) (transcript on file with author).

²⁶⁵ *Id.*

²⁶⁶ The China Greentech Report 2011, at 37–39, (2011), available at <http://www.china-greentech.com/report> [hereinafter China Greentech]; *China Launches Special Supervision in 15 Companies*

tute of Technology study made an assessment that “the basic story is that while market pressures seem to be driving substantial upgrading on the combustion technology side, and regulatory pressures seem to be bringing about widespread installation of environmental cleanup systems, neither of these forces appears to be driving sound environmental practice at the plant level.”²⁶⁷ Chinese power plants “do not appear to be operating [their pollution control] equipment. The FGD systems are going in, but they are not, it would appear, being turned on.”²⁶⁸

Wastewater treatment plants face problems of poor or improper operation as well. For example, a 2010 investigation of 61 wastewater treatment plants uncovered a series of problems.²⁶⁹ A portion of the plants were operating at 60–75 percent of capacity due to lagging construction of pipe networks that feed wastewater to the treatment plants. The magnitude of this problem nationwide is unclear, but the proliferation of media reports (many in the state media) and the listing of pipe network upgrades as a key task in the 12th five-year plan suggest that central authorities believe the problem to be significant.²⁷⁰

Other problems in wastewater treatment have arisen in the 11th five-year plan. Enterprises send wastewater that has not been pre-treated to treatment plants.²⁷¹ This reduces treatment costs for enterprises, but can overwhelm treatment facilities. The extent of these problems is, again, difficult to ascertain. Official Chinese environmental agency statistics show that of 2,872 national key wastewater treatment facilities, over 334 violated discharge standards in the first half of 2011.²⁷² However, routine monitoring data is widely believed to understate enterprise pollutant releases and every Chinese monitoring official can recount the endless ways in which wastewater treatment facilities and power plants can cheat monitoring data, including adding clean water to dilute

for *Pollution Control Violations*, XINHUA, Aug. 29, 2011, http://english.gov.cn/2011-08/29/content_1935901.htm.

²⁶⁷ Edward S. Steinfeld et al., *Greener Plants, Grayer Skies? A Report from the Front Lines of China's Energy Sector*, MIT INDUS. PERFORMANCE CTR., Aug. 2008, at 30, available at web.mit.edu/ipc/publications/pdf/08-003.pdf.

²⁶⁸ *Id.*; see also China Greentech, *supra* note 266, at 37.

²⁶⁹ 河北省突击检查11个设区市的61家城镇污水处理厂 [Hebei Province Makes Sudden Concentrated Inspections of 61 City-Town Wastewater Treatment Plants in 11 Districts, Cities], 河北日报 [HEBEI DAILY], May 25, 2010, http://www.he.xinhuanet.com/news/2010-05/25/content_19876165.htm.

²⁷⁰ 抚州市政工程被指用非标涵管 [Fuzhou Municipal Project has Been Identified as Using Non-standard Drainage Pipes], 新法制报 [NEW LEGAL REPORT], Apr. 15, 2010, <http://jjangxi.jxnews.com.cn/system/2010/04/15/011349990.shtml>; 管网建设滞后 废水直排河涌 [Piping Network Construction Delayed, Wastewater Discharged Directly into Rivers], 南方都市报 [SOUTHERN METROPOLIS DAILY], Jun. 21, 2011, <http://gcontent.oeeee.com/5/31/531a7a573b64cf81/Blog/a7b/c5fc6a.html>.

²⁷¹ See *supra* note 270; interview with anonymous source, no. 2011-04 (2011) (transcript on file with author).

²⁷² 余于发布《2011年上半年国家重点监控污水处理厂监督性监测结果超标名单》的公告 [Notice on Issuing Supervisory Monitoring Result of National Key Monitored Wastewater Treatment Plants in Violation of Discharge Standards, Public Announcement 2011, No. 71], 中华人民共和国环境保护部 [PRC MINISTRY OF ENVTL. PROT.], Sept. 23, 2011, http://www.zhb.gov.cn/gkml/hbb/bgg/201109/t20110929_217868.htm.

effluents, burning cleaner coal on the days monitoring officials are in-house, reducing production/treatment levels, and so on.²⁷³

Goal displacement has been rumored in the area of shutdowns as well. Some shutdown facilities are believed to resume operations or move to other jurisdictions once inspectors leave the scene.

3. Information Problems

One might argue that these goal displacement problems are mere anomalies that have not hindered broader progress on the targets. The trouble is that data falsification and structural collusion incentives render it difficult to determine exactly how well local actors are actually performing. As a Chinese saying goes, “[t]he cadres produce the data, and data produces the cadres.” Assertions of success can only be accepted if taken largely on faith.²⁷⁴ Widespread citizen belief that data is falsified also means that Chinese authorities may not get credit even where regulatory efforts are genuinely bringing about performance improvements.²⁷⁵

The target verification process reflects efforts to counter local falsification. But target verification procedures themselves also create further opportunities for further falsification. Central inspectors have decided to minimize reliance on local environmental monitoring data and rely on estimates calculated through the use of emissions factors because of a general belief that local data is unreliable. Use of emissions factors to counter potential data falsification manifests itself in two ways: (i) estimates of increases in pollution from economic activity, and (ii) estimates of pollution reduced.²⁷⁶ Estimates of pollution increases were calculated by multiplying locally reported GDP levels, urbanization rates, and coal use by emissions factors.²⁷⁷ Central researchers explained that GDP and urbanization rates are important cadre evaluation metrics and, as

²⁷³ Personal communications with province-level monitoring officials in a southwestern province.

²⁷⁴ For discussion of China’s data problems in the environmental and energy areas, see Dabo Guan et al., *The Gigatonne Gap in China’s Carbon Dioxide Inventories*, NATURE CLIMATE CHANGE (June 10, 2012), available at <http://www.nature.com/nclimate/journal/v2/n9/full/nclimate1560.html>; J.E. Sinton, *Accuracy and Reliability of China’s Energy Statistics*, 12 CHINA ECON. REV. 373 (2001); J.E. Sinton & D.G. Fridley, *What Goes Up: Recent Trends in China’s Energy Consumption*, 28 ENER. POLICY 671 (2000); G. Marland, *Uncertainties in Accounting for CO₂ from Fossil Fuels*, 12 J. INDUSTR. ECOL. 136 (2008).

²⁷⁵ Nov. 27 cable, *supra* note 209; *Air Pollution Exposes Public Distrust*, GLOBAL TIMES, NOV. 2, 2011, <http://www.globaltimes.cn/NEWS/tabid/99/ID/682078/Air-pollution-exposes-public-distrust.aspx>.

²⁷⁶ Note that each jurisdiction needs to reduce any pollution increases (for example, from new factories or increased production levels) and meet its pollution reduction target as well. For example, if a jurisdiction had annual emissions of 100 tons at the beginning of the 11th five-year plan, it would need to have annual emissions of 90 tons per year by the end of 2010. If that jurisdiction built factories or power plants that emitted ten additional tons of pollution, then to meet its ESER target that jurisdiction would need to eliminate the ten ton increase and find 10 additional tons of pollution reduction — a total reduction of twenty tons.

²⁷⁷ GDP levels were used to estimate industrial COD (water pollution) levels. Urbanization rates were used to estimate residential COD levels. Coal use levels were used to estimate sulfur dioxide emissions levels (for example, from power plants).

such, tend to be inflated. Tying pollution increases to these two data points would in essence penalize local governments for inflating statistics for those metrics.²⁷⁸ If a city increased reported GDP, it would also have to reduce more pollution to meet its pollution reduction target.²⁷⁹

Pollution reductions were verified by calculating reduction credit based largely on installed pollution control equipment and industrial capacity taken out of production. Rather than rely on local self-reported monitoring data, central inspectors calculated an estimated reduction amount by looking at, for example, how many wastewater treatment plants were constructed or how many flue gas desulfurization systems were installed at power plants. Researchers calculated reductions based on estimated pollution reduction efficiency, hours in use, and other factors.²⁸⁰ Likewise, shutdowns of “backward” facilities were credited based on estimated pollution previously emitted by that facility.²⁸¹

Nonetheless, both of these techniques, while intended to improve data accuracy, are subject to political pressure and falsification. Interviewees stated that many jurisdictions complained that the emissions factors used to calculate pollution increases were too strict and unfair. Thus, it was likely that these factors would be adjusted in the 12th five-year plan, likely with no public notice. Enterprises could still falsify the data points that inspectors used to estimate pollution reduction levels. Outdated industrial capacity could be moved or put back into production (“rise from the ashes again”)²⁸² after local officials received credit for the pollution reduction. Local officials submitted lists of outdated capacity that sometimes had been shut down long ago in an effort to bolster pollution reduction credits.²⁸³ These are all scenarios that interviewees witnessed first-hand.

Technological solutions are not necessarily a solution to the problem. While a number of environmental officials suggested that continuous monitor-

²⁷⁸ Interview with anonymous source, no. 2011-06 (2011); interview with anonymous source, no. 2011-07 (2011) (transcripts on file with author). This approach has similarities to the “self-assessed valuation” approach developed by Saul Levmore in 1982 to achieve more accurate assessments of property tax base values, tort damages, and securities valuations in the U.S. See generally Saul Levmore, *Self-Assessed Valuation Systems for Tort and Other Law*, 68 VA. L. REV. 771 (1982).

²⁷⁹ Coal data was used to estimate sulfur dioxide levels, researchers said, because coal sales data is believed to be more reliable than factory-level emissions monitoring data.

²⁸⁰ Interviewees indicated that documents verifying operational efficiency, hours in service, energy use, and other factors were used to counter the possibility of pollution reduction credits being given for equipment installed, but not used. However, other interviewees questioned whether such a verification process could truly avoid falsification. Interview with anonymous source, no. 2012-01 (2012); interview with anonymous source, no. 2011-06 (2011); interview with anonymous source, no. 2011-07 (2011); interview with anonymous source, no. 2011-01 (2011), interview with anonymous source, no. 2011-02 (2011); interview with anonymous source, no. 2011-03 (2011) (transcripts on file with author).

²⁸¹ In principle, this is analogous in some cases to the requirement for emissions offsets in the New Source Review Program under the U.S. Clean Air Act. See, e.g., *THE CLEAN AIR ACT HANDBOOK* 180–81 (Robert J. Martineu & David P. Novello eds., 2004).

²⁸² 工信部落后产能名单“被注水”？ [Has the MIIT Backward Industrial Capacity Namelist “Been Flooded?”], 21世纪经济报道 [21ST CENTURY BUS. HERALD], Aug. 8, 2010, <http://green.sohu.com/20100810/n274105418.shtml>.

²⁸³ *Id.*

ing equipment (*zaixian jiance*) could help to reduce falsification, others noted that companies now sold software that could provide a realistic-looking but falsified stream of continuous monitoring data.²⁸⁴ EPBs have begun to strategize about how to counter this new form of falsification. Some factories have been asked to alter production levels to see how it impacts data produced by continuous emissions monitors (“CEMs”). Other problems with CEMs data reliability include calibration and reference test problems and inconsistencies between onsite records and reported pollution data.²⁸⁵ While environmental officials say that falsification has become more difficult to accomplish, it is still possible. The best hope for enforcers is to make falsification costlier than mere compliance.²⁸⁶

The complete absence of legal deterrence for falsification also contributes to the problem. Extremely low fines in environmental laws for obstruction of inspections and falsification of data practically invite falsification.²⁸⁷ They certainly have no deterrent effect, and send a signal about whether central authorities take falsification seriously as a problem to be eliminated. Moreover, other rules to fight “statistical corruption” are generally viewed as too vague and ineffective.²⁸⁸ This treatment of falsification stands in stark contrast to, for example, U.S. law, which authorizes criminal penalties and heavy fines for falsification.

Interviewees indicated that the most effective way to falsify data is to show performance that is good, but not so good as to be unbelievable. After the central government announced in mid-2007 that local governments were behind on their pollution targets and threatened to punish poor performers, many local governments reported major improvements in performance in pollution reduction in the span of just a few months. The improvements were so sudden that central officials did not believe they could possibly be genuine. One interviewee suggested that this was taken as a lesson for inspection teams working on final verification of 11th five-year plan ESER targets.²⁸⁹ Final official pollution reduction target results for the 11th five-year plan fit this “good, but not too good” profile perfectly.

In addition to this anecdotal evidence, official statements from senior level environmental officials and a number of empirical studies confirm that data quality issues are widespread. This Article describes three examples below: (i)

²⁸⁴ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

²⁸⁵ Xuehua Zhang & Jeremy Schreifels, *Continuous Emission Monitoring Systems at Power Plants in China: Improving SO₂ Emission Measurement*, 39 ENERGY POL'Y 7432, 7435 (2011).

²⁸⁶ Interview with anonymous source, no. 2011-15 (2011) (transcript on file with author).

²⁸⁷ See, e.g., Art. 46, 中华人民共和国大气污染防治法 [Law on Prevention and Control of Atmospheric Pollution] (adopted by the Standing Comm. Nat'l People's Cong., Apr. 29, 2000, effective Sept. 1, 2000), available at <http://www.chinaenvironmentallaw.com/wp-content/uploads/2008/03/air-pollution-control-law.doc>; Art. 70, 中华人民共和国水污染防治法 [Law on Prevention and Control of Water Pollution] (adopted by the Standing Comm. Nat'l People's Cong., Feb. 28, 2008, effective June 1, 2008), available at <http://www.chinaenvironmentallaw.com/wp-content/uploads/2008/03/water-pollution-prevention-and-control-law.pdf>.

²⁸⁸ Junguo Liu & Hong Yang, Letter to the Editor, *China Fights Against Statistical Corruption*, SCIENCE, 7 Aug., 2009, at 675–76, available at <http://www.sciencemag.org/content/325/5941/675>.

²⁸⁹ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

data discrepancies in the 2007 National Pollution Census, (ii) widespread falsification of ambient air quality data discovered in cities across China, and (iii) the “gigatonne gap” in China’s carbon dioxide inventories.

a. National Pollution Census Data

In 2010, China’s environmental ministry announced the results of a nationwide pollution census, which measured annual emissions of various pollutants. Census results showed that new 2007 COD (water pollution) figures were more than twice numbers initially announced: 13.8 million metric tons versus a new figure of 30.3 million metric tons. Though Vice-Minister Zhang Lijun “played down the difference,” the official *China Daily* noted that “[t]he data . . . revives persistent questions about the quality of Chinese official statistics and the effectiveness of the government push for cleaner growth after decades of unbridled expansion.”²⁹⁰ Environmental officials continued to use original COD statistics and did not alter pollution reduction targets to reflect this substantial revision of data.

Official proclamations of meeting this water pollution target are rendered less meaningful when alternative (yet still official) statistics suggest that pollution levels were more than 16 million metric tons higher than originally estimated. The 10 percent pollution reduction target in the 11th five-year plan equaled only about 1.41 million metric tons of pollution. This suggests that any estimated reductions could be completely overwhelmed by data inaccuracies that exceeded claimed pollution reductions by more than ten times.

b. Ambient Air Quality Data

Environmental quality data is another area where falsification has been a substantial problem. In 2009, the head of the Beijing environmental monitoring center, Yu Jianhua, admitted to “engineering” data to meet air quality targets. The local government used emergency measures “such as closing down construction sites near monitor locations on days when it expected pollution would exceed targets.”²⁹¹ Interviewees told of various strategies to falsify air quality monitoring data, including the moving of air quality monitors into local parks surrounded by foliage and isolated from traffic.²⁹² The EPB in a western coal-producing city reportedly owns several sanitation street-watering trucks that it uses to absorb dust around air quality monitors and improve statistics.²⁹³

An empirical analysis of publicly reported air quality data in Chinese cities revealed the degree to which Chinese air quality data was manipulated in

²⁹⁰ *China Says Water Pollution Double Official Figure*, CHINA DAILY, Feb. 10, 2010, http://www.chinadaily.com.cn/opinion/2010-02/10/content_9457182.htm.

²⁹¹ See Nov. 27 cable, *supra* note 209.

²⁹² Interview with anonymous source, no. 2011-01 (2011); interview with anonymous source, no. 2011-19 (2011) (transcripts on file with author).

²⁹³ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

response to bureaucratic targets.²⁹⁴ An important metric for environmental protection officials has been the number of days meeting national air standards, known colloquially as “blue sky days.” China began to make public disclosures of air quality in 1997 and 1998 in 39 cities,²⁹⁵ and, by 2007, reported daily air quality information for 86 cities.²⁹⁶ Beijing faced intense pressure to show improvements in air quality prior to the 2008 Summer Olympics, and publicly reported an upward trend in “blue sky days.”

The study showed that much of the improvement in air quality was achieved by moving air monitoring stations to more remote (and less polluted) areas in the outskirts of Beijing. Moreover, air quality data was manipulated at the cutoff line for air quality that constituted a “blue sky day.” It appeared that data on numerous days that just exceeded the blue sky day limit had been adjusted a few points down to qualify as blue sky days. This practice created the false impression that air quality was improving, even though it had either remained roughly the same or had even worsened. The study examined a range of other Chinese cities and found the same practice nationwide. In fact, Beijing was hardly the worst data manipulator.²⁹⁷ Though a Beijing official issued a flat denial (“[the] phenomenon does not exist”) in response to media inquiries, spokesmen offered no alternative explanation for the data anomalies.²⁹⁸

The Beijing PM_{2.5} controversy also reinforced the widely held view that authorities are willing to hide material environmental information from the public. This willingness to hide “bad news” was confirmed, for example, in leaked U.S. State Department cables that documented Chinese officials’ efforts to stop disclosure of U.S. PM_{2.5} monitoring data gathered at the U.S. Embassy in Beijing. In this author’s personal experience over seven years of working with local government officials and researchers in China, this willingness to hide information perceived as likely to cause public dissatisfaction (or “instability”), such as environmental quality and environmental health data, is widespread.²⁹⁹

²⁹⁴ See, e.g., Steven Q. Andrews, *Seeing Through the Smog: Understanding the Limits of Chinese Air Pollution Reporting*, in WILSON INT’L CTR. CHINA ENV’T. SER. 2008/2009 5 (2009) [hereinafter Andrews, *Seeing Through the Smog*]; Steven Q. Andrews, *Inconsistencies in Air Quality Metrics: ‘Blue Sky’ Days and PM₁₀ Concentrations in Beijing*, 3 ENVTL. RES. LETTERS (2008); Steven Q. Andrews, *Beijing’s Hazardous Blue Sky*, CHINA DIALOGUE, Dec. 5, 2011, <http://www.chinadiologue.net/article/show/single/en/4661> [hereinafter *Beijing’s Hazardous Blue Sky*].

²⁹⁵ See Elisabeth Rosenthal, *China Officially Lifts Filter on Staggering Air Pollution Data*, N.Y. TIMES, Jun. 14, 1998, <http://www.nytimes.com/1998/06/14/world/china-officially-lifts-filter-on-staggering-pollution-data.html>.

²⁹⁶ See Andrews, *Seeing Through The Smog*, *supra* note 294, at 6.

²⁹⁷ *Id.* at 16.

²⁹⁸ See Austin Ramzy, *Is Beijing Manipulating Air Pollution Statistics?*, TIME, Mar. 14, 2008, <http://www.time.com/time/world/article/0,8599,1722450,00.html>.

²⁹⁹ See *My Children Have Been Poisoned: A Public Health Crisis in Four Chinese Provinces*, HUM. RTS. WATCH, Jun. 15, 2011, <http://www.hrw.org/node/99451>.

c. *The “Gigatonne Gap” in Carbon Dioxide Emissions*

China’s carbon dioxide inventories present another case in which data discrepancies render it difficult to determine whether China’s environmental protection efforts have actually been effective. In June 2012, researchers reported in *Nature Climate Change* magazine the discovery of a 1.4 gigaton gap in carbon dioxide emissions as reflected in discrepancies between national and provincial energy statistics in 2010.³⁰⁰ This represented an amount greater than the annual emissions of Japan, the world’s fourth largest emitter, making up 5 percent of global emissions.³⁰¹ Differences in reported coal consumption were a major reason for the discrepancy. Provincial coal consumption figures were 24 percent higher than national figures.³⁰² The authors of the study argue that much of this can be explained by political pressure on statistics departments “to fit” different political purposes.³⁰³ Cadre targets for GDP create incentives leading to “significant over-reporting on local and regional outputs,” and local authorities “frequently report higher energy consumption data to match their reported GDP.”³⁰⁴ But national energy efficiency improvement targets create incentives to reduce energy output figures at the national level.³⁰⁵

4. *Collusion*

Finally, the basic organization of inspection and verification creates a conflict of interest that invites collusion and data falsification.³⁰⁶ Verification is not conducted by an independent third party organization. Rather, it is led by the environmental ministry and its research institutes, which have a significant stake in national achievement of pollution reduction targets. If the national pollution reduction targets were not met, the environmental minister and his staff would themselves face significant consequences. It is not hard to imagine that central inspectors might feel pressure to give credit for questionable or non-existent reductions if there were a potential that targets would not be met.

* * *

In summary, Part IV argues that implementation problems (and data falsification, in particular) threaten China’s efforts to bolster its legitimacy through environmental cadre evaluation. Part V posits that these implementation problems create risks for the regime that generate an imperative for reform. It notes various emerging strands of reform and argues that only governance re-

³⁰⁰ Guan et al., *supra* note 274, at 672.

³⁰¹ *Id.* It also amounted to more than the combined emissions of all African countries. *Id.* at 673.

³⁰² *Id.* at 673.

³⁰³ *Id.* at 674.

³⁰⁴ *Id.*

³⁰⁵ *Id.*

³⁰⁶ See Kevin O’Brien, *How Authoritarian Rule Works*, 36 *MOD. CHINA* 79, 81 (2010).

forms aimed at developing greater public supervision can provide accountability sufficient to mitigate persistent principal-agent problems of implementation.

V. IMPLICATIONS — SEARCHING FOR A MORE SUSTAINABLE LEGITIMACY

What are the implications of these implementation challenges for future reform? How will the party-state respond, if at all? This Part sets forth a preliminary evaluation of approaches that Chinese authorities have taken to address the principal-agent problems described in Part IV and makes a proposal for reform and further research. Consistent with the “adaptive authoritarian” thesis, Chinese authorities have continued to identify systemic problems with environmental cadre evaluation, and are undertaking a variety of reforms.

At the outset of the 12th five-year plan (2011–15) we see three strands of reform under way. The first two — increased top-down administrative monitoring and expanded use of market measures — have received the most attention in the official government rhetoric. They are probably the least contested or politically sensitive. At the same time, they are unlikely to solve implementation problems seen in the 11th five-year plan (and in Chinese environmental regulation in general) because they do not fundamentally remedy problems of accountability and collusion that have long infected the system.

The third strand of reform — rule of law and governance reforms that enhance public supervision — is less discussed as a way to improve environmental cadre evaluation in the 12th five-year plan, but more likely to have a substantive impact on performance. Furthermore, reforms in this vein also have the potential to bolster what has commonly been viewed as China’s faltering attempts to develop a politico-legal legitimacy based on rule of law (that is, China’s recent “turn against law”).³⁰⁷ However, reforms aimed at greater public supervision are most likely to take China in the direction, not of Western-style democracy, but toward what has been termed “deliberative authoritarianism” or “consultative authoritarianism,” if such a thing is possible.³⁰⁸ This is an approach that is designed to expand civic participation and government accountability, but under one-party CCP rule.³⁰⁹ As discussed in Part I(C), however, China’s ambivalence toward rule of law reform stems from the potential of law to serve as a check on government power and to incite citizens to take up ever-intensifying levels of “rightful resistance,” among other things.³¹⁰ These political barriers make rule of law and governance reform toward genuine pub-

³⁰⁷ See, e.g., Ping Jiang, *China’s Rule of Law in Full Retreat*, CHINESE L. PROF. BLOG (Feb. 21, 2010), http://lawprofessors.typepad.com/china_law_prof_blog/2010/03/jiang-ping-chinas-rule-of-law-is-in-full-retreat.html.

³⁰⁸ For further discussion on this issue, see generally DEBATING POLITICAL REFORM IN CHINA: RULE OF LAW VS. DEMOCRATIZATION (Suisheng Zhao ed., 2006).

³⁰⁹ Wei Pan, *Toward a Consultative Rule of Law Regime in China*, in DEBATING POLITICAL REFORM IN CHINA: RULE OF LAW VS. DEMOCRATIZATION 32–40 (Suisheng Zhao ed., 2006).

³¹⁰ O’BRIEN & LI, *supra* note 96.

lic supervision, even a limited type of reform under one-party rule, anything but inevitable.

Nonetheless, the very fact that Chinese authorities are already actively seeking to remedy implementation problems seen in the 11th five-year plan is a reflection of China's adaptive approach to governance and offers insight into how China has managed to persist when so many other authoritarian states have fallen. Whether this process of adaptation can continue to sustain the party-state, particularly if economic growth falters, is the great unknown. The discussion of these issues will help move us closer to an answer to the question of whether China will continue to adapt to difficult and rapidly changing circumstances,³¹¹ or whether, as some have argued, China has fallen into a "trapped transition" with institutional pathologies and corruption blocking necessary reforms.³¹²

Part V will introduce a framework for thinking about these questions that sets the stage for more comprehensive subsequent research.

A. *The Reform Imperative*

Chinese central authorities are acutely aware of implementation problems of environmental cadre evaluation. Zhang Ping, the director of China's NDRC, for example, made a much-publicized "self-criticism" (*jian tao*) in March 2011 regarding forced power outages by local governments in the final year of the 11th five-year plan. "I must apologize for these acts, because we, as the responsible department, did not give proper guidance This was not what we'd intended."³¹³ The media has reported widely on the numerous problems of shoddy construction, failure to operate pollution control equipment, and falsification of data. Experts and officials interviewed spoke openly of persistent central-local implementation challenges that plague the system. Moreover, it is well accepted that environmental cadre evaluation is a work in progress, with much more to do. Economic rebalancing has not been successful. Heavy industry still predominates. Environmental and "green tech" industries are still in their infancy.

Nonetheless, China's 12th five-year plan (2011–15) can be seen as a resounding vote of confidence in the overall environmental cadre evaluation approach. First, the basic environmental cadre evaluation approach of setting targets and attaching accountability to the leading cadres at each level of the bureaucracy has been maintained, and the range of targets has been expanded as described above in Part IV(B)(1).

³¹¹ Heilmann and Perry describe this not so much as an institutionalized process, but a flexible, pragmatic *modus operandi* for governance that they have termed "guerilla policy making." See Heilmann & Perry, *supra* note 26, at 11–15.

³¹² For a book-length treatment of this theme, see PEI, *supra* note 134.

³¹³ NDRC: *Carbon Intensity Goals to be Met*, CHINA DAILY, Mar. 7, 2011, http://www.china.org.cn/environment/2011-03/07/content_22073772.htm.

The officially approved approaches for meeting the targets remain largely the same. These include continued focus on shutdowns of “backward” production capacity,³¹⁴ government investment in pollution control equipment,³¹⁵ and improvements in top-down monitoring and statistics systems.³¹⁶

The push to capitalize on the economic development opportunities in the environmental and energy efficiency sectors is, if anything, stronger than before. The 12th five-year plan designated three environmental and clean energy industries among seven “strategic emerging industries” that will receive focused funding and policy support. These include new energy (for example, nuclear, wind, and solar power), energy conservation and environmental protection, and clean energy vehicles. Total output from China’s “energy saving and environmental protection” industries is expected to rise to 4.5 trillion yuan (US\$708 billion) by 2015.³¹⁷

B. A Preliminary Evaluation of the Reform Response

At the same time, a number of additional reform initiatives have been announced. Three components of the reform response deserve particular attention as they relate to the core issue of insufficient accountability highlighted in this Article. These components are (i) further top-down administrative monitoring, (ii) market measures, and (iii) law and governance reform that strengthens public supervision. Each is aimed at improving local agent (government and state-owned enterprise) accountability to the central government. But public supervision has the greatest potential to bring about truly transformative

³¹⁴ 12TH FIVE-YEAR ENVTL. PROT. PLAN, *supra* note 218, § 3(1). Key industries targeted for shut-down include steel, non-ferrous metals, construction materials, chemicals, power, coal, manufacturing, and dyeing. *See id.*; *see also* 中华人民共和国国家发展和改革委员会 [PRC NAT. DEVEL. & REFORM COMM.], 产业结构调整指导目录 [INDUSTRIAL STRUCTURE ADJUSTMENT GUIDANCE CATALOG] (2011), available at <http://www.ndrc.gov.cn/zcfb/zcfbl/201111ing/W020110520354241732397.pdf>; 部分工业行业淘汰落后生产工艺装备和产品指导目录 [Guidance Catalog of Partial Industrial Sectors Elimination of Backward Production Technology Equipment and Products], 中华人民共和国工业和信息化部 [PRC MINISTRY OF INDUS. & INFO. TECH.], available at <http://www.miit.gov.cn/n11293472/n11293832/n12845605/13528159.html>.

³¹⁵ 12TH FIVE-YEAR ENVTL. PROT. PLAN, *supra* note 218, §§ 3(2), 3(3), 7.

³¹⁶ *Id.* § 6(3). For example, at the end of 2011 (the end of the first year of the 12th five-year plan), provincial governors and heads of China’s largest state-owned enterprises executed responsibility agreements setting forth plans for the 2011 to 2015 period, which stated that “a total of 1,184 sewage plants will be built in the next five years, with a combined treatment capacity of 45.7 million tons. And nitrogen oxide removal facilities [would] be installed for coal-fired power plants with a total installed capacity of 400 gigawatts.” *Li Calls for Green Drive to Improve Economy*, CHINA DAILY, Dec. 22, 2011, http://english.sepa.gov.cn/News_service/media_news/201112/t20111222_221672.htm.

³¹⁷ Lan Lan, *China’s Green Industries Output to Rise*, CHINA DAILY, Jul. 4, 2012, http://usa.chinadaily.com.cn/business/2012-07/04/content_15562415.htm. China’s annual GDP in 2011 was roughly US\$7.3 trillion, so the direct contribution of such industries to economic output will still be relatively small; however, as stated above, these environmental goals offer a multiplier effect by contributing more broadly to the party-state’s overall project of rebalancing the economy, reducing reliance on energy intensive, heavily polluting industry, reducing regional wealth distribution, and limiting the economic costs of environmental pollution. *See* The World Bank GDP Database, available at data.worldbank.org/indicator/NY.GDP.MKTP.CD/countries.

improvements in accountability sufficient to counter implementation problems, given broad alignment between central party-state and citizen environmental goals.

1. *Creating Greater Accountability? Top-Down Monitoring and Market Reforms*

First, the government has announced plans to expand investment in top-down environmental monitoring. This is enhancement of “police patrol” supervision, including plans to invest heavily in monitoring infrastructure and training of monitoring staff.³¹⁸ Advances in satellite technology are also allowing researchers to make independent assessments of pollution reductions, apart from locally reported data and the cadre evaluation verification process. This sort of technical capacity building is a necessary step for strengthening environmental protection. The trade-off is that central authorities are reducing the benefit of having local agents implement their priorities by increasing their monitoring costs. However, capacity building in top-down monitoring cannot insulate monitoring officials from political pressures and collusion incentives discussed in Part IV.³¹⁹

At the same time, interviewees indicated that the intensity and stringency of monitoring might be relaxed in other ways, suggesting that monitoring costs under the 11th five-year plan were considered to be too high. Pressure from local governments regarding the perceived unfairness of verification emissions factors may lead to adjustments that in practice would reduce estimates of pollution increases.³²⁰ Top-down national inspection campaigns, some suggested, may be reduced from twice to once a year to lessen monitoring costs.³²¹ As targets proliferate, monitoring improvement may be insufficient to counter the reduction in monitoring attention necessarily given to each particular target. Even as monitoring technologies are upgraded, the intensity of inspections may decrease.

Second, greater use of market measures for environmental protection is a strongly favored direction for reform in the 12th five-year plan. From a principal-agent perspective, market measures are meant to align central-local incentives and reduce the need for top-down monitoring. They are also meant to offer actors the freedom to comply in more efficient ways. Proposals for greater use of market measures include continued utilization of discounted power rates for coal-fired power plants with desulfurization equipment and economic policy support for wastewater treatment plants, cement factories, non-power industry desulfurization/de-nitrification, and waste incinerators. China

³¹⁸ See Mathew McCubbins & Thomas Schwartz, *Congressional Oversight Overlooked: Police Patrols vs. Fire Alarms*, 28 AM. J. POLI. SCI. 166 (1984).

³¹⁹ Interview with anonymous source, no. 2011-19 (2011) (transcript on file with author).

³²⁰ Interview with anonymous source, no. 2011-15 (2011) (transcript on file with author).

³²¹ Interview with anonymous source, no. 2011-07 (2011) (transcript on file with author).

has also announced plans for carbon trading pilot programs in seven provinces and cities.³²²

These proposals have the potential to reduce principal-agent problems but suffer from implementation challenges of their own. The literature on use of market measures in developing countries — with weak regulatory and judicial institutions — offers a cautionary tale as to relying too greatly on market measures without strengthening basic regulatory capacity.³²³ Without a strong foundation in basic environmental enforcement, markets are not likely to work well or as efficiently as intended. Implementation problems and fraud will persist.

During the 11th five-year plan, enterprises attempted to game market measures in various ways. For example, some enterprises accepted desulfurization equipment subsidies, but then did not operate the equipment. Without mechanisms for increasing local accountability, there is no reason to believe that 12th five-year plan market measures will be free from similar problems.

2. *Improving Implementation and Legitimacy Through Enhanced Public Supervision*

Governance reform to enhance public supervision is a third area for improvement.³²⁴ This is an expansion of so-called “fire alarm” oversight.³²⁵ China has actually long used “fire alarm” approaches of bottom-up supervision. Channels include public appeal to the media,³²⁶ petitioning (*xinfang*),³²⁷ litigation,³²⁸ and protest.³²⁹ Nonetheless, scholars have generally found the efficacy of these mechanisms and the overall impact of public supervision to be uneven. Public supervision channels have been more about government information gathering than problem solving on behalf of the public.³³⁰

The influx of Western concepts of administrative law and the challenges of managing public access to information in the Internet Age, among other things, have increased Chinese officials’ interest in reform (and greater control) of pub-

³²² Beijing, Chongqing, Guangdong, Hunan, Shanghai, Shenzhen, and Tianjin.

³²³ See, e.g., Blackman, *supra* note 220. But see Hua Wang & David Wheeler, *Financial Incentives and Endogenous Enforcement in China’s Pollution Levy System*, 49 J. ENVTL. ECON. & MGMT. 174 (2005) (arguing that “pollution control through financial incentives has a much greater impact on production processes than on end-of-pipe abatement”).

³²⁴ 12TH FIVE-YEAR ENVTL. PROT. PLAN, *supra* note 218, § 8(11).

³²⁵ See McCubbins, *supra* note 318, at 166.

³²⁶ See Benjamin L. Liebman, *Watchdog or Demagogue? The Media in the Chinese Legal System*, 105 COLUM. L. REV. 1 (2005).

³²⁷ Carl Minzner, *Xinfang: An Alternative to Formal Chinese Legal Institutions*, 42 STAN. J. INT’L. L. 103 (2006).

³²⁸ See, e.g., Wang, *The Role of Law*, *supra* note 104; Benjamin L. Liebman, *A Populist Threat to China’s Courts?*, in CHINESE JUSTICE: CIVIL DISPUTE RESOLUTION IN CONTEMPORARY CHINA (Margaret Y.K. Woo & Mary E. Gallagher eds., 2011).

³²⁹ Peter Lorentzen, *Regularizing Rioting: Permitting Public Protest in an Authoritarian Regime* (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=995330.

³³⁰ *Id.* at 3.

lic supervision channels. Such reform currents have been particularly strong in the realm of environmental protection.

Transparency and civic participation tools, in particular, have in a number of instances already served as an independent third-party check on government or enterprise malfeasance. This reform can address persistent implementation problems by increasing accountability to the public. Central Chinese environmental regulators tend to view the public as an ally with aligned interests, and so public accountability can serve to improve central-local accountability as well. In contrast, top-down administrative monitoring and market measures typically perform poorly in environments with low levels of public accountability, a tendency toward capture, and structural incentives for collusion. Top-down monitoring and market measures do not by themselves fundamentally alter these negative influences on environmental cadre evaluation performance.

The potential benefits of public supervision are well recognized by Chinese officials. Perhaps less recognized is the possibility for such measures to advance rule of law in China. The following section will discuss both aspects of public supervision as a descriptive and normative matter.

a. Achieving Performance Objectives

A few examples illustrate some of the approaches to expanding public supervision, and the potential to improve accountability in environmental cadre evaluation performance.

The central environmental ministry has been relatively more active in governance reforms that expand public supervision compared to other agencies. These include mechanisms from the U.S. administrative law toolkit, such as rules on civic participation, transparency, and citizen suit-like civil actions. Persistent weaknesses in the Chinese judiciary mean that courts will not likely serve as the “vital cockpit”³³¹ for implementing and enforcing these measures. Nonetheless, these approaches can expose problems (such as data falsification), highlight regulatory inaction, and channel public input into the environmental governance process.

Examples of public participation and transparency laws and regulations include the 2002 Environmental Impact Assessment Law, the 2004 SEPA Measures on Public Participation in the Environmental Impact Assessment Process, the 2008 State Council Open Government Information Regulations and SEPA Measures on Open Environmental Information, and similar local regulations and administrative measures.

During the 11th five-year plan, the environmental ministry and other ministries incorporated civic participation and transparency measures into their work in a variety of ways to little fanfare. These types of measures are standard in Western bureaucracies, but are quite new in the Chinese context. Specific measures taken included disclosure of enterprise pollution information and

³³¹ Richard Stewart, *U.S. Administrative Law: A Model for Global Environmental Law?*, 68 L. & CONTEMP. PROBS. 63, 75 (2005).

environmental quality data, lists of enterprises slated for shutdown, the establishment of public complaint lines,³³² public interest environmental litigation,³³³ and public participation in lawmaking, rulemaking, and standard setting.

Expansion of environmental transparency has been a particularly important area of reform. The Ministry of Environmental Protection has engaged in a range of new disclosure practices in recent years. One is a requirement that corporations seeking refinancing or listing on securities exchanges disclose a much broader range of information, including emissions data, accidents, and other criteria relevant to environmental performance. MEP has also disclosed the identities of “key polluting enterprises” that have violated standards, and a list of heavy metal facilities (including addresses and contact information) that are the subject of intensified regulation under 11th and 12th five-year plan heavy metal regulatory actions. In another example, MIIT which is responsible for setting standards for “backward” facilities to be shut down, publicly released a complete list of industrial capacity to be retired. The disclosure led to criticisms that many of the facilities or equipment on the list did not exist or had already been retired. However, one could also view this outcome as the very purpose of the disclosure — that is, to make it more difficult for local facilities to falsify information and claim shutdowns that did not in fact happen.

Incremental steps have also been taken to increase the role of the judiciary in environmental protection work. The 2010 Supreme People’s Court (“SPC”) annual work report, typically viewed as an indication of SPC priorities, prominently listed the number of environmental compensation cases handled in 2010.³³⁴ The SPC authorized local experimentation with environmental courts that would specialize in handling environmental cases. Dozens of these specialized courts have been established around the country. These courts have also passed rules allowing “public interest litigation” by prosecutors, environmental agencies, and environmental advocacy groups.³³⁵ The verdict on the efficacy of these courts is still out, but they show promise at a minimum in increasing the technical capacity of judges in many regions to handle complicated environmental cases and take on cases that otherwise would have no remedy in or out of court. One successful case brought by the quasi-governmental All-China Environment Federation (“ACEF”) involved a suit against a local agency for improper land management that could lead to pollution of a local lake.³³⁶

³³² See, e.g., Tseming Yang & Zhang Xuehua, *Public Participation in Environmental Enforcement . . . with Chinese Characteristics?: A Comparative Assessment of China’s Environmental Complaint Mechanism* (Vermont Law Sch. Faculty Working Paper No. 11-21, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1920611.

³³³ See, e.g., *Environmental Courts and Public Interest Litigation in China*, 43 CHINESE L. & GOV’T 4 (Alex Wang & Jie Gao eds.) (Nov.–Dec. 2010).

³³⁴ *Highlights of Work Report of China’s Supreme People’s Court*, XINHUA, Mar. 11, 2011, http://news.xinhuanet.com/english2010/china/2011-03/11/c_13773183.htm (noting 12,018 environmental pollution compensation cases, up 2.83 percent from the previous year).

³³⁵ See Alex Wang & Jie Gao, *Environmental Courts and the Development of Environmental Public Interest Litigation in China*, 3 J. CT. INNOVATION 37 (2010).

³³⁶ See *Eight Cases that Mattered*, CHINA DIALOGUE, July 26, 2011, <http://www.chinadialogue.net/article/show/single/en/4429-Eight-cases-that-mattered>.

Public supervision has the potential to constrain undue political influence on environmental enforcement and increase government and enterprise accountability. In a one-party system, internal lobbying, personal networks, and the risks of offending powerful interests can immobilize environmental regulation to a much greater extent than in systems with more diverse channels of accountability. One interviewee described how powerful provincial officials often challenged mid-level environmental officials at the central ministry with threats to go above their heads to appeal to their bosses for more lenient treatment: “You’re young; you don’t understand politics. You say we did not complete the target? Our leader is up for review. He must pass and needs to be close to the front. I can’t talk with you about this. I’ll talk with your [boss]. The [boss] certainly will understand.”³³⁷

A deeper examination of how “fire alarm” approaches are evolving in China, and the circumstances under which they can be expected to perform their intended functions is a critical next research step.

b. Greater Rule of Law Legitimacy

Governance reforms that improve public supervision can offer Chinese leaders legitimacy beyond mere improvements in performance. A central driver of China’s rule of law project in the reform period has been the desire to align China’s governance approach with international practices and to create a system of governance that citizens view as fair and just. This has led Chinese leaders, over the past 30 or so years, to develop a substantial legal framework, to incorporate “rule of law” into the Chinese Constitution as a guiding principle, and to invest in the construction of the myriad component parts of a legal system — including lawyers, judges, courts, and so on.

The process described above of opening government affairs up to the public, seeking public input, and responding to problems is an important aspect of some definitions of what has been termed a “thick” conception of rule of law. This conception of rule of law, while helpful to improved government performance, is also supportive of greater Weberian “politico-legal” legitimacy for China.

Chinese authorities clearly see the functional, performance benefits of such reforms, but Chinese leaders should not overlook the additional “politico-legal” legitimacy benefits of such reforms. To the extent that such reforms push China in the direction of being more responsive to the citizenry, this experience in the environmental arena is a concrete example of what has been termed by some as a “deliberative authoritarianism.”³³⁸

The open question is how well such a system — a “deliberative authoritarianism” — will actually work in China today, and whether it is desirable as a normative matter. Can an authoritarian state be truly deliberative in its govern-

³³⁷ Interview with anonymous source, no. 2011-01 (2011) (transcript on file with author).

³³⁸ See, e.g., Baogang He & Mark E. Warren, *Authoritarian Deliberation: The Deliberative Turn in Chinese Political Development*, 9 *PERSPECTIVES ON POLITICS* 269 (2011).

ance? Without the “vital cockpit” of an independent court system,³³⁹ are the incentives and checks in the system simply insufficient to cause authorities to actually consider citizen interests — particularly in cases where citizen interests conflict with leadership or business interests? And, in the event that performance based on economic growth inevitably falters (as it must), can this more modest level of deliberation “with Chinese characteristics” actually sustain the state?

CONCLUSION

The arguments set forth in this Article have significant practical implications. To summarize, this Article argues first of all that Chinese action on environmental protection has been motivated by different concerns compared to, for example, what motivated the acceleration of environmental regulation in the United States. In China, the elevation of environmental protection has been motivated by economic development and social stability concerns, which in turn have been the pillars of China’s “performance legitimacy” since the late 1970s. The way in which authorities have chosen to implement this elevation of environmental priorities — through the use of bureaucratic mandates and hierarchical evaluation, rather than reform of the legal system — has important implications for our understanding of environmental regulation, governance in general, and the role of law in China.

Environmental Regulation

With regard to environmental protection, the findings of this Article suggest a top-down policy rationale for environmental regulation that is quite different from the bottom-up, citizen-driven story seen in most developed world, democratic states. This confluence of authoritarian self-interest with norms of environmental protection suggests a path by which China may be able to achieve better environmental outcomes within the contours of its current political system. Nonetheless, the persistent problems of implementation associated with a top-down, hierarchical approach to governance with little independent, public accountability create serious risks for the successful achievement of environmental mandates.

Authoritarian Governance

With regard to China’s approach to governance in general, this study of environmental cadre evaluation reflects China’s adaptive approach to governance and regime survival in recent decades. This is a process of governance marked by feedback loops for problem identification and a willingness to experiment, adjust priorities, and adapt governance mechanisms.

³³⁹ See Stewart, *supra* note 331, at 75.

It is a system that by no means produces perfect results, as evidenced by the discussion in Part IV of persistent principal-agent problems. And — given the connection between environmental priorities and broader leadership concerns about political legitimacy — the principal-agent problems of cadre evaluation generate much greater (and potentially existential) risks for the regime. If Chinese authorities agree with the premise that reforms to improve local accountability are necessary to address genuine risks to the regime, then the next question is what sorts of reforms are the most effective and desirable. This Article's suggestion is that central authorities have favored top-down monitoring enhancements and market measures in the name of improving local accountability to the center without incurring excessive political risk. But, for the reasons stated above, these measures are less likely to be effective in practice than governance reforms that create accountability to the public, which is a more diffuse and independent accountability that is less susceptible to gaming and political manipulation.

However, governance (or political) reforms that create some level of check on government power have typically been considered unlikely in China, and indeed have been explicitly rejected by some senior members of the Chinese leadership. And while central environmental regulators may tend to be more amenable to the development of public supervision channels, local officials who are the objects of such supervision are typically less than willing to cooperate.

Even so, reforms of this very nature have quietly been implemented in the environmental sector with some signs of success. This is an opportunity created by a confluence in the interests of the principal (central authorities) and citizens who can serve as monitors of local party-state agents. Though potential political risks to the party-state (and the potential that the interests of the principal might shift away from environmental protection) make continuation of such reforms anything but inevitable, the confluence of factors described at length in this Article (that is, egregious environmental degradation, energy shortages, public unrest, and recognition of the unsustainability of this state of environmental affairs) present as good an opportunity as any for such governance reforms to inch forward for now — out of necessity and party-state self-interest in survival.

If the goal of Chinese authorities is truly to seek out a more sustainable regime legitimacy, however, it is an open question whether this relatively limited notion of “deliberative dictatorship” — in the absence of deeper political reform — can actually fit the bill. Nonetheless, the point here is that Chinese leaders have exhibited a track record of adaptive governance that is very much reflected in the process by which environmental cadre evaluation was developed and implemented. This approach to governance suggests an openness to further experimentation that creates an opportunity for new ideas to enter China's governance system. In part, the discussion of public supervision in Part V above is a proposal for how Chinese leaders might choose to proceed with such reforms.

Legal Development

Finally, the way in which Chinese leaders have adapted the cadre evaluation system to turn once neglected environmental priorities into senior priorities of the party-state offers a window into the relative roles of bureaucratic targets and law in China. This case study suggests that bureaucratic cadre mandates, not laws and regulations, are at the core of Chinese governance. Laws and regulations are more likely to be implemented when supportive of these mandates. Legal implementation is likely to be weaker (or non-existent) when laws conflict with these bureaucratic norms. This decentered view of law offers a new lens through which to assess the role of law in China.

* * *

China has approached environmental protection in a distinctive manner, with an unprecedented elevation of environmental priorities since 2006. While China's approach borrows techniques and mechanisms from developed countries, its focus on hierarchical cadre evaluation, distrust of law and judicialization, and use of environmental protection to promote economic, stability, and environmental objectives arise out of a uniquely "adaptive authoritarian" approach to rule.

To be sure, China is now in uncharted territory. China's current approach to environmental protection has never been attempted before in quite this way, on this scale, and in the face of such urgent, seemingly intractable environmental problems. Those who have argued that China is engaged in a "green leap forward" are surely getting ahead of themselves. Environmental problems in China continue to be some of the worst the world has ever seen.

Yet, without a doubt, China is in the midst of the most serious long-term campaign to tackle environmental problems it has ever implemented. It is an effort deeply and inextricably linked to the party-state's ultimate self-interest: doing what it takes to remain in power.