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Does cadre turnover help or hinder China's green rise? Evidence from Shanxi province

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No. 184

**Does Cadre Turnover Help or Hinder
China's Green Rise? Evidence from
Shanxi Province**

by Sarah Eaton and Genia Kostka

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Abstract

China's national leaders see restructuring and diversification away from resource-based, energy intensive industries as central goals in the coming years. This paper argues that the high turnover of leading cadres at the local level may hinder state-led greening growth initiatives. Frequent cadre turnover is intended to keep local Party secretaries and mayors on the move in order to curb localism and promote compliance with central directives. Yet, with average term lengths of between three and four years, local leaders' short time horizons can have the perverse effect of discouraging them from taking on comprehensive restructuring, a costly, complex and lengthy process. On the basis of extensive fieldwork in Shanxi province during 2010 and 2011, the paper highlights the salience of frequent leadership turnover for China's green growth ambitions.

Key words: Local state, China, policy implementation, governance, cadre rotation

JEL classification: D78, D73, O18, R58, Q48, Q58

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1 Introduction

In the last decade Beijing has presided over an ambitious effort to lay the foundations of a green economy. The clear message sent by China's top leadership is that environmental constraints and resource scarcity imperil future economic growth and social harmony in China. Greening growth initiatives—here defined as measures promoting the use of less resources for economic growth—aim to help China change lanes from a heavily polluting, growth-at-any-cost model to a resource-efficient and low carbon model. Yet, Beijing's various efforts to steer China in the direction of greener growth have often met with resistance during policy implementation, when sub-national leaders take center stage. This study argues that, among a range of factors that shape the local politics of greening growth, the frequent turnover of local leaders contributes to the green implementation gap.

This research is addressed to a growing literature exploring why the central government's environmental aspirations are not always mirrored at local levels. Previous contributions have illuminated the significance of bureaucratic fragmentation, decentralization, limited institutional capacity and incentives embedded in the cadre evaluation system in deflecting and diluting Beijing's green growth initiatives. To this list we add high cadre turnover. We argue that the typically brief tenure of local leaders exists in some tension with the weighty leadership demands of greening growth, a core priority of China's two most recent "green" five year plans. The state-led greening growth envisioned in China's 11th and 12th Five Year Plans (FYPs) requires far-sighted and locally-rooted leaders. Since local leaders tend to cycle in and out of the leadership group (*lingdao banzi* 领导班子) at three- or four-year intervals, they are often ill-equipped and insufficiently incentivized to steer their localities in the direction set by Beijing.

The findings are based on extensive fieldwork in Shanxi province during 2010 and 2011. In a first phase of research, over a four month period in 2010, green initiatives and variations in cadre turnover were studied in five municipalities and 11 counties in Shanxi. Shanxi is an appropriate choice since Shanxi leaders' efforts to diversify away from heavy reliance on the coal industry and embark on a "green rise" (*lüse jueqi* 绿色崛起) offer critical insights into the opportunities and challenges on the road ahead for the country as a whole. This preliminary research highlighted the crucial role played by Party secretaries and mayors in shaping local development patterns and also suggested the downsides of high cadre turnover. During the second phase, in a one month period in 2011, we selected two coal-dependent localities within Shanxi currently in the midst of green growth transformations with contrasting experiences of cadre rotation in the local leadership group: Datong city (*Datong shi* 大同市) and Xiaoyi city (*Xiaoyi shi* 孝义市). For most of the last two decades, Datong has had a high rate of turnover in the local leadership group. Xiaoyi, by contrast, is characterized by an unusually continuous and stable leadership.

The case study analysis draws on 45 interviews. The majority of interviews were conducted with leading officials in government as well as the Chinese Communist Party Organization Department, Environmental Protection Bureau (EPB), Development and Reform Commission (DRC) and Economic Commission. We also spoke with industrial enterprise

managers involved in economic transformation programs and green initiatives. Interviews were semi-structured and provided an understanding of overall greening growth initiatives in Datong and Xiaoyi and shed light on the significance of the two localities' distinct experiences of cadre turnover. Our findings are also based on government policy documents provided in interviews, as well as local statistical yearbook data, local gazetteers and media reports.

The argument starts from an overview of China's national green growth ambitions before turning to a brief review of the literature on the green implementation gap in China. The next section explores the rationale of China's post-1978 cadre rotation system and summarizes its perceived advantages and disadvantages for policy implementation. In the subsequent section we narrate the case studies and unpack the complex factors giving shape to green growth initiatives in Datong and Xiaoyi. The analysis focuses particularly on the role of cadre turnover in shaping implementation outcomes. The final two sections discuss the lessons and policy implications suggested by this research.

2 Greening Growth

Over the last decade, China has begun to form a national answer to the challenges of domestic resource scarcities and environmental degradation. China's two most recent national FYPs, the 11th (2006-2010) and 12th (2011-2015), outline China's ambitious national vision for shifting towards a more sustainable and resource-secure growth path. The 11th FYP established conservation, efficient use of resources and economic transformation in the interests of sustainable development as a "basic national policy" (*jiben guocce* 基本国策).¹ The 12th FYP has deepened Beijing's vision for upgrading and restructuring the economy by offering specific guidance on how to shift to higher value-added manufacturing, improve the conservation of energy and resources, and develop service industries. It also identifies seven strategic emerging industries (SEIs) which state agencies are to nurture in order to aid the shift to higher-value industries and sustainable growth.² The core priority of the recent "green" plans is economic transformation based on industrial upgrading in the second sector and expansion of the third sector. *Table A1* in the appendix summarizes the main "hard", literally restricted (*yue-shuxing* 约束性), and "soft", expected (*yuqixing* 预期性) targets of the 11th and 12th FYPs.³ In

¹ Joseph Case and Katherine Koleski, "Backgrounder: China's 12th Five-Year Plan", U.S.-China Economic & Security Review Commission, June 24, 2011, pp. 1-19, available at http://www.uscc.gov/researchpapers/2011/12th-FiveYearPlan_062811.pdf.

² Three SEIs—alternative energy, clean energy vehicles, and clean energy technology sectors—align with the broader goal of conserving resources. The other four SEIs—biotechnology, new materials, next-generation IT, and high-end equipment manufacturing—align with the aim of moving up the value chain. See Case and Koleski, "Backgrounder: China's 12th Five-Year Plan", p. 18.

³ Although central planners leave it largely up to local governments to devise local initiatives and projects to achieve a green transformation, both FYPs rely upon the inclusion of "hard" and "soft" targets. These targets serve as important signals to governments and managers of key enterprise managers. Fulfilling "hard" targets is nominally required for a cadre to advance up the ladder and receive bonus payments. In addition to the allocation of targets, cadres in leading positions also sign personal responsibility contracts for the fulfillment of relevant mandatory targets for their localities.

addition to the national plans, a mix of laws, taxes, industrial policies, guidelines and regulations are also propelling the switch to a resource-efficient and low carbon growth path.⁴

The Green Implementation Gap

Yet Beijing's expansive vision does not always find a receptive audience at lower levels. Indeed, recent reported figures show that many of Beijing's green growth initiatives are implemented only selectively across China. For example, most targets related to transforming China's economic development pattern were only partially met during the 11th FYP period (2006-2010). Officially, the only hard target not fulfilled was the goal of reducing energy intensity per unit of GDP by 20% as compared to 2005 levels (the actual recorded reduction was 19.1%). But, anecdotally, among the localities reported to have met the energy intensity target, there may well have been falsification of these figures.⁵ Among the softer targets related to economic restructuring in the 11th FYP, fully three were unmet: (1) increasing service sector as a percentage of GDP, (2) service sector as a percentage of employment, and (3) R&D as a percentage of GDP.⁶

Moreover, plan fulfillment is not always a reliable indicator of true progress on greening growth. Many of the environmental targets in the 11th FYP were implemented late in the game and were not achieved by making lasting changes. For example, in some localities, mandatory energy intensity targets were fulfilled only at the last minute using extreme and sometimes socially harmful measures. Such energy saving measures included cutting electricity to hospitals, homes and rural villages. During the last quarter of the 11th FYP, local governments also used "sleeping management" (*xiumian guanli* 休眠管理) to temporarily shut energy-intensive companies.⁷ Such drastic eleventh-hour practices illustrate that some local leaders choose the path of least resistance in selecting short-term, low quality approaches to satisfying environmental targets and, while nominally following green directives, are actually putting off the difficult business of changing lanes. Achieving the economic restructuring envisioned in China's green plans will often require a high degree of local policy coordination, significant government expenditure and overcoming opposition from polluting industries and other entrenched interest groups. Previous work sheds light on many of the factors that make the launching of such complex, costly and long-term initiatives a difficult proposition in many localities.

Determinants of the Green Implementation Gap

The existing literature has uncovered a variety of factors that contribute to the green "implementation gap." First, while national ministries set the overall direction and long-term goals,

⁴ The main government regulations related to renewable energy and energy conservation are a Renewable Energy Law (2006), a revised Energy Conservation Law (2007), and a Circular Economy Promotion Law (2009).

⁵ For instance, officially, Inner Mongolia reported they had met and exceeded energy intensity reduction targets with 23% during the 11th FYP period. The accuracy of these figures is, however, doubtful since, in September 2010, three months before the end of the 11th FYP period, leading officials in Inner Mongolia indicated that the province was far from meeting the target (Interview 65, Leading Provincial Official in Inner Mongolia, September 2010).

⁶ Case and Koleski, "Backgrounder: China's 12th Five-Year Plan", p. 6

⁷ See Genia Kostka and William Hobbs, "Local Energy Efficiency Policy Implementation in China: Bridging the Gap between National Priorities and Local Interests", *The China Quarterly*, Vol. 211 (2012), forthcoming.

these aspirations are often diluted as they pass through the institutions that make up China's fragmented vertical and horizontal (*tiao tiao kuai kuai* 条条块块) governance structure.⁸ A second view explains the gap between national policies and local practices with reference to China's decentralized governing structure, which allows local officials to be choosy about which national policies to faithfully implement and which to put on the back burner.⁹ Other scholars reject the decentralization premise and argue that the center still wields substantial power; this perspective holds that formal constraints imposed by the central government should be held to account for shortcomings in environmental policy implementation.¹⁰ And yet another branch of literature points to the frequent divergence of national and local interests, as local leaders tend to place greater emphasis on economic and industrial development than on environmental and resource concerns.¹¹ For example, in defiance of the center's 7% GDP growth target in the 12th FYP, provincial FYPs for the period show that only five of the 31 provinces have set growth rate targets below 10%, indicating that provinces continue to place most emphasis on growth-focused development.¹²

Another branch of research sees selective policy implementation as largely a function of incentives embedded in the cadre responsibility and evaluation systems.¹³ Presented with a menu of policy goals, promotion-hopeful "street-level bureaucrats" tend to apportion their finite energy and resources to projects which they expect will enhance their career.¹⁴ In angling for promotion, leading cadres appeal not to central bureaucrats but, first and foremost, to leaders one administrative level above who bear responsibility for personnel decisions. While the true bases of personnel decisions remains something of a black box in the study of Chinese politics, we surmise that cadres strive to enhance their chances of promotion through a combination of informal personal relationship-building with decisionmakers and on-the-job efforts to deliver "political accomplishments" (*zhengji* 政绩).¹⁵ So-called "political accomplishment projects" (*zhengji gongcheng* 政绩工程) often take the form of extravagant con-

⁸ Kenneth Lieberthal and Michel Oksenberg, *Policy-Making in China: Leaders, Structures, and Processes*, (Princeton, N.J.: Princeton University Press, 1988).

⁹ Elizabeth C. Economy, *The River Runs Black the Environmental Challenge to China's Future*, (Ithaca, NY: Cornell University Press, 2004).

¹⁰ Ran Ran, *Environmental Politics at Local Levels in China: Explaining Policy Implementation Gap and Assessing the Implications*, (PhD Dissertation, University of Duisburg-Essen, 2009).

¹¹ Benjamin van Rooij, "Implementation of Chinese Environmental Law: Regular Enforcement and Political Campaigns," *Development and Change*, Vol. 37, No. 1 (2006), pp. 57 – 74.

¹² Huang Jingwen, "China Prepares to End GDP Obsession", *China Daily*, March 07, 2011, available at http://www.chinadaily.com.cn/bizchina/2011-03/07/content_12129931.htm.

¹³ Kevin O'Brien and Liangjiang Li, "Selective Policy Implementation in Rural China," *Comparative Politics*, Vol. 31, No. 2, (1999), pp. 167 - 186.

¹⁴ O'Brien and Li, "Selective Policy Implementation," p. 168. Of course, not all officials are doggedly careerist. In addition to the differences of personality, research examining the behavior of officials at different points in their careers suggests that cadres are most likely to engage in promotion-seeking activities in their 30s and 40s. "Terminal" officials in their 50s (ie. those holding their final post) are seen to be less strongly incentivized by the cadre evaluation system, Cf. Zhong Yang, *Local Government and Politics in China: Challenges from Below* (Armonk, NY: M.E. Sharpe 2003).

¹⁵ It seems likely that the relative importance of political accomplishments as compared to factional ties/graft as a strategy of advancement probably varies from place to place. For example, in the case study of Datong described below, political accomplishments were seen not to have been of primary importance in promotion decisions.

struction projects which can crowd out implementation of more hum-drum policies. For careerist officials, choosing *zhengji gongcheng* is seen as a tried and true tactic for currying favor with upper-level authorities.¹⁶

In the process of selective implementation, carrying out less measurable environmental policies may well fall to the bottom of a leading cadre's implicit list of priorities. To be sure, Beijing continually tinkers with the cadre responsibility and evaluation systems in order to incentivize leaders in local governments and state-owned enterprises (SOEs) to carry out the green growth vision outlined in the national planning documents. Yet, the properties of certain environmental policies make them leading candidates for implementation shirking.¹⁷ In China, as in many political systems, there appears to be a structural bias favoring implementation of readily measurable goals.¹⁸ Most targets handed down to the localities—e.g. government revenue targets and caps on the number of local petitioners—orient local leaders toward attaining readily measurable goals. By contrast, some aspects of the nascent green growth agenda are far more elusive. Whereas assessment of a locality's performance in raising forest coverage rates (one of the notable successes of the 11th FYP) is relatively straightforward, technological and organizational challenges make measurement of energy and carbon intensity extremely difficult. In combination with weak checks in the environmental reporting system, it is not hard to see why, under these circumstances, local leaders might be tempted to simplify falsify reports on less readily measurable elements of the green growth agenda.

To these factors contributing to the green implementation gap identified in previous work, we add the high rate of turnover among local leaders. In the following section we explore how incentives in the cadre evaluation system interact with the typically short time horizons of local Party secretaries and mayors to encourage local leaders to select the path of least resistance in local implementation of greening growth initiatives. Given a strong interest in selecting projects that will place realized "political accomplishments on their CVs by the end of their term, policies that are more risky or which need a longer time to complete are sometimes sidelined. As such, cadres' incentives to secure short-term goals are sometimes starkly at odds with the center's green growth mandate, many aspects of which are not realizable in the short term.¹⁹ High cadre turnover can also frustrate green growth implementation in more prosaic ways since frequently rotated officials spend much of their time simply getting up to speed in their new localities.

¹⁶ Guo Gang "China's Local Political Budget Cycles" *American Journal of Political Science* Vol. 53, No. 3, July 2009, p. 623.

¹⁷ For a detailed description of how the cadre responsibility and evaluation systems promote environmental governance, see Thomas Heberer and Anja Senz, "Streamlining Local Behaviour Through Communication, Incentives and Control: A Case Study of Local Environmental Policies in China," *Journal of Current Chinese Affairs*, Vol.40, No. 3 (2011), pp. 77-112.

¹⁸ O'Brien and Li, "Selective Policy Implementation," p. 174.

¹⁹ Government officials' incentive systems are also insufficient as tensions between environmental and competing targets remain in the cadre evaluation system due to the different weights allocated to targets in the cadre evaluation forms (*kaohebiao* 考核表). Generally, economic targets significantly outweigh social and environmental targets. For example, in one county in Shanxi province, government officials can obtain a maximum of 28 points for meeting economic targets in the 2011 evaluation forms, while the maximum is 19 points for improving people's lives, 11 points for social development, 14 points for resources and environment, and 13 points for social safety. 2011 *Nian shi kaohe jingji shehui fazhan mubiao yaoqiu ji zeren fenjie bao* ("2011 Annual Evaluation of Economic and Social Development Targets Demands and Responsibilities Points Explanation Form").

3 The Rationale and Policy Impact of High Cadre Turnover

Whereas the significance of election cycles is well-established in the study of democratic politics, the policy impact of local leadership cycles in China—which actually move at a faster rate than their democratic counterparts—remains curiously underexplored. In the following pages we briefly outline the basic characteristics and policy background of cadre turnover before turning to a discussion of the perceived intended and unintended consequences of this system for local implementation of greening growth policies. While there is a lack of empirical research on the effects of high cadre turnover on local governance, there is a range of informed opinion on the subject which, together, comprise the set of loose hypotheses which we bring to our case study analysis.

Available data suggest that the two pillars of local leading groups (*lingdao banzi* 领导班子), Party secretaries and mayors, are typically whisked off to a new locale every three to four years. Cadre turnover takes the form of promotion, lateral rotation and, much less frequently, demotion.²⁰ Official figures record that between 2003 and 2009, a total of 2.3 million leading Party and government cadres were transferred between cities, counties, provinces, and central Party and government departments.²¹ The authors' own analysis of data on 618 former municipal Party secretaries across China reveals that average serving time was 3.8 years.²² 23% of municipal Party secretaries (or 142 cadres) spent two years or less in their positions, while only 25% (or 152 cadres) stayed for five years or more. Mayors at county and municipal levels also tend to serve between three and four years before moving on to their next assignment.²³

Policy Origins of High Cadre Turnover: The Central Control Mandate

This churning of local leaders is largely a legacy of the Deng-era leadership's interest in strengthening the center's levers of control over the localities. As part of a broad effort to rebuild the cadre management system in the early reform period, the central leadership strove to place limits on local cadres' incentives and opportunities to engage in localism by both keeping them away from their home turf and on the move. They sought, first, to revive the imperial "Rule of Avoidance" (*huibi zhidu* 回避制度) which directs cadres away from holding

²⁰ The post-switching of leading cadres' (*lingdao ganbu* 领导干部) takes place via two systems within the cadre management bureaucracy, both of which are managed ultimately by the CCP Organization Department. The appointment system handles promotion and demotion decisions for leading cadres while the cadre rotation system (*ganbu jiaoliu zhidu* 干部交流制度) applies to cadre flows between positions of equal rank.

²¹ Central People's Government Official Website, "China's Human Resources" available at:

http://www.gov.cn/english/official/2010-09/10/content_1700448_11.htm, last accessed on 16 November 2011.

²² The authors are grateful to Yu Xiaofan for sharing with us his dataset on Party secretaries at the municipal level. Current Party secretaries were excluded from the analysis since their terms are ongoing. Among the 618 Party secretaries analyzed, average tenure was 3.77 years with a standard deviation of 1.91 years. The minimum tenure was 0.17 years and maximum 12.76 years.

²³ Ian Seckington's work on county level leaders suggests that leaders at this level are likely to stay in their posts between 3 and 4 years (Ian Seckington, "County Leadership in China: A Baseline Survey", Nottingham China Policy Institute, Discussion Paper 17, 2007, p. 19.) Mei Ciqi collected data for all municipal-level mayors and Party secretaries in Zhejiang and Hubei provinces between 1983 and 2006. He finds that the average tenure for Hubei municipal chiefs is 3.86 years and 3.58 years for Zhejiang (Mei Ciqi, "Bringing the Politics Back in: Political Incentives and Policy Distortion in China", unpublished Doctoral Dissertation, Department of Government and Politics, University of Maryland (2009), p. 102.

office in their places of origin.²⁴ References to the Rule of Avoidance began to reappear in policy documents after 1978 and the terms have been gradually clarified and hardened over time.²⁵ The Central Organization Department's 1999 "Interim Measures for Rotation of Party and Government Leading Cadres" significantly broadened the scope of avoidance by stipulating that leading cadres in key Party and governments positions should not serve in their ancestral homes, places of birth nor in the place they grew up (though exceptions may be granted in autonomous regions for ethnic minorities). To combat problems of nepotism in the localities, the policy also stated that leading cadres must not be married nor have direct blood relations to other cadres working in the same organization (see *Table A2* in the appendix).

The central control rationale also informed the leadership's calls for restoring the practice of periodic leadership rotation on the principle that "Flowing water does not get stale, a door hinge is never worm-eaten" (*liushui bu fu, hushu bu du* 流水不腐, 户枢不蠹). An official rotation system (*ganbu jiaoliu zhidu* 干部交流制度) had been in existence prior to the onset of the Cultural Revolution which mandated the periodic exchange of senior cadres in central and provincial Party and government organs as well as leading cadres in municipal and county levels.²⁶ Previous work has argued that, after 1978, reviving the rotation system was a key move in the center's largely successful efforts to enhance its control and monitoring of local agents.²⁷ The control logic is that a leading cadre stationed in a post for no longer than five years—the recommended tenure limit for civil servants and Party cadres in leadership positions—will be less inclined, all else equal, to side with local interests against the center's demands than would a leader with long-standing ties to their locality.²⁸ Regarding the monitoring function of cadre rotation, each changing of the guard represents an opportunity for a new leader to provide upper levels with inside information on the predecessor's reign.²⁹

Conjectures about the Policy Impact of Cadre Turnover

While the political rationale behind high cadre turnover is clear, there has, as yet, been little empirical work on the actual effects of the system in practice. In the following paragraphs, we outline the range of informed opinion on the effects of cadre turnover at local levels. Overall, we find that while there are some benefits associated with the system, scholars and practitioners also see some notable downsides. In particular, the expectation of a short stay may en-

²⁴ The Rule dates to the Sui dynasty (581-618 CE) when, in an effort to gain control of the local bureaucracy, Emperor Sui Wendi decreed that magistrates not be appointed to their hometowns. In the Qing dynasty, military rulers and civilian officials were bound by a more elaborate version of the Rule of Avoidance and the early period of Communist rule also employed it.

²⁵ Mei, "Bringing the Politics Back in", p. 49.

²⁶ Zhong, *Local Government and Politics in China*, p. 117.

²⁷ Huang Yasheng "Managing Chinese Bureaucrats: An Institutional Economics Perspective" *Political Studies* Vol. 50 (2002), pp. 61-79; Maria Edin, "State Capacity and Local Agent Control in China: CCP Cadre Management from a Township Perspective," *The China Quarterly*, Vol. 173 (2003), pp. 35-52.

²⁸ The five-year tenure limit is, in reality, a firm recommendation rather than a hard and fast rule. A 1999 CCP Organization Department document set ten years as the absolute limit for cadres in leading position but rules stating that cadres change positions at five year intervals is phrased in the language of "should" (*yinggai* 应该) rather than "must" (*bixu* 必须). The Ministry of Human Resources 1996 pronouncement on this issue remains current: "Civil servants in a leadership position for longer than five years, will, in principle, implement rotation. According to actual needs, rotation periods can be either extended or shortened" (See *Table A2* in appendix). This flexibility explains why some cadres have tenures longer than five years.

²⁹ Huang "Managing Chinese Bureaucrats", p. 72.

courage leaders to place most emphasis on policies that will bear fruit quickly and to tacitly sideline policies with a longer time to maturity. Frequent post changes may also limit local leaders' capacity to comply with central directives given friction costs associated with adapting to new localities.

Cadre turnover is seen to have a number of benefits for policy implementation. First, previous work suggests that short leadership cycles can, indeed, aid the implementation of certain policies. One study found that cadres with short tenures were more likely to comply with the center's efforts to curb inflationary investment in periods of austerity.³⁰ Second, cadre turnover can serve to disseminate effective governing practices from place to place. For example, Qiu He brought his heavy-handed approach to stamping out crime and government corruption, honed in leadership posts in Suqian City (Jiangsu) to his current position as Party secretary of Kunming city in Yunnan province. Third, cadre turnover can generate much-needed policy support and project funding for local governments trying to follow upper-level directives. One central government official posted to work in a coastal locality described how his relationships in Beijing helped the city where he temporarily served as vice mayor win a coveted model environmental city designation (*huanbao mofan chengshi* 环保模范城市).³¹

Although the cadre rotation system has many supporters within China, there are also acknowledged downsides to the system in its current form. Of most relevance to this paper is the suggestion that institutionalized post-shuffling of local leading cadres can result in damaging discontinuity in local development initiatives. The short tenure of leaders combined with their interest in accumulating *zhengji* can encourage short-sighted behavior and inhibit the formation of long term development plans. As one commentator in a prominent Party journal put it:

[T]here are some cadres who, because they know there is a 'when the time comes they'll move on' guarantee, give weight to 'apparent accomplishments' (*xianji* 显绩) and much less to 'potential accomplishments' (*qianji* 潜绩). They place less emphasis on foundational, long-term, strategic work and pursue short term, false political accomplishments.³²

Short-termism associated with "tenure rush" (*gan renqi* 赶任期) recently prompted the Guangdong Provincial Party Committee to remind local leaders that "success does not have to be realized in my tenure" (*gongcheng bu bi zai wo renqi* 功成不必在我任期).³³ Similarly, those local leaders who are strongly self-maximizing may prefer to gain exclusive credit for successful initiatives rather than share the glory with successors. This can result in adverse effects for local development when newly-posted cadres indiscriminately stop existing initiatives in order to place their own stamp on a locality in accord with the tradition of "new lords, new laws" (*xin guan shang ren san ba huo* 新官上任三把火).

³⁰ Huang, Yasheng, *Inflation and Investment Controls in China: The Political Economy of Central-Local Relations During the Reform Era* (New York: Cambridge University Press, 1996).

³¹ Interview 5, Government Official at the Ministry of Commerce, 8 September 2011.

³² Fan Yi "Ganbu jiaoliu fujian yingxiang jiqi kongzhi" ("The adverse effects of the cadre rotations system and how to control them"), *Zhongguo dang zheng ganbu lun tan* (Chinese Party and Government Cadres Forum), 09 March 2007, available at: <http://theory.people.com.cn/GB/49150/49152/5456856.html>.

³³ Meiti pi zhengji gongcheng 'gan renqi' ("Media criticize political accomplishment projects 'tenure rush'"), *Renmin ribao*, 15 July 2011, available at: http://news.xinhuanet.com/politics/2011-07/15/c_121671897.htm.

Figure 1 suggests how the personal incentives of promotion-hopeful cadres might affect their prioritization of different green growth policies. While there are likely to be many factors involved in the selective implementation of greening growth, we see the political accomplishment (*zhengji*) value along with the time frame of a given initiative as particularly important in steering cadres toward some policies and away from others.³⁴ In the context of the recent green plans, hard targets (e.g. forest coverage rate) would tend to be assigned a higher *zhengji* value than soft targets (e.g. increasing service sector as a proportion of GDP). The “project time to maturity” axis implies that projects which deliver tangible results within the leaders’ tenure (i.e., within three to four years) will tend to be selected over projects with a longer time-frame. The matrix shows how these *zhengji* and time considerations interact in the process of selective policy implementation. It suggests that, in allocating their energy and scarce resources to competing projects and fulfilling environmental policy mandates, leading officials are likely to pick green projects with both high political accomplishment (*zhengji*) value and a high probability of producing results within their own tenure cycle (quadrant 3). By contrast, projects which are not seen to enhance a cadre’s chances of promotion and which take a long time to produce results will tend to be ranked at the bottom of the prioritization list (quadrant 1). Projects that make cadres stand out in their peer group (high *zhengji*) but without deliverables at the end of the tenure period might also be sidelined, depending on how much credit he or she can expect to gain from the long-term initiative (quadrant 2). Finally, projects with low perceived value for cadre evaluations but with realizable results in the short term might be picked to highlight the wide range of activities undertaken in a particular cycle (quadrant 4).

³⁴ Other salient factors might include: the relative importance of factional ties and office-buying as an advancement strategy; implementation capacities; available funding; measurability and verifiability of targets; leaders’ previous working background, personal preferences, and beliefs.

Figure 1: Project Prioritization Matrix: The View

		Promotion-Seeking Official*	
Project Time to Maturity	Long	1 Lowest Priority <ul style="list-style-type: none"> Low perceived value for cadre evaluation Project results <i>not</i> exhibited within tenure cycle <i>Example: Increase proportion of service sector</i>	2 Medium Priority <ul style="list-style-type: none"> High perceived value for cadre evaluation Project results <i>not</i> exhibited within tenure cycle <i>Example: Increase non-fossil fuels (e.g., power plant) in primary energy mix</i>
	Short	4 Medium Priority <ul style="list-style-type: none"> Low perceived value for cadre evaluation Project results exhibited within tenure cycle <i>Examples: Introduce green government procurement measures</i>	3 Highest Priority <ul style="list-style-type: none"> High perceived value for cadre evaluation Project results exhibited within tenure cycle <i>Example: Establish an industrial park for SEIs (e.g., renewables)</i>
		Low	High
		Expected "Zhengji" value	

Source: Authors

Finally, in addition to incentivizing cadres to engage in short-term, self-maximizing behavior, high cadre turnover can also hamper effective policy implementation in more commonplace ways. In essence, familiarizing oneself with a new locality is no easy task. Zhong Yang offers a pointed description of the problem:

It usually takes key county or township/town officials one or two years to settle in, familiarize themselves with the environment and various governmental agencies under their jurisdiction, and establish smooth working relationships with colleagues and subordinates. It probably takes the same amount of time, if not longer, to study and develop a new comprehensive economic development plan for the locale.³⁵

Thus, in an average tenure period, more than half of a leader's time could potentially be taken up with getting to know the lay of the land. Second, in addition to the need to establish relationships with colleagues in government, new leaders also need time to establish ties to leaders in industry and society. As our subsequent case studies show, when facing costly and complex policy mandates, local leaders with strong links to local industry may receive help from leading enterprises in sharing the burdens of policy implementation. The following case studies return to the themes discussed here.

³⁵ Zhong, *Local Government and Politics in China*, p. 119.

4 Case Studies: Datong and Xiaoyi - Variation in Cadre Turnover

Our case studies focus on two localities in Shanxi province currently in the midst of greening growth. Datong is a municipal-level city (*di ji shi* 地级市) while Xiaoyi city is a county-level city (*xian ji shi* 县级市) under the administration of Lüliang municipality. While the implementation contexts in counties and municipalities differ in important ways, our primary aim is not to directly compare the two but, given the exploratory nature of this research, to assess the significance of cadre turnover within each case study. Despite their different administrative designations, the two localities' economies and coal extraction volume are comparable in size. Reported GDP in 2009 for Datong and Xiaoyi were 33 billion RMB and 20 billion RMB, respectively. Datong and Xiaoyi are similar in that they are well-known for coal production and lack a diversified industrial structure and are home to a large proportion of energy-intensive enterprises. In 2007, Datong produced 24.6 million tons of coal and Xiaoyi 25.1 million tons. The cities differ in terms of population and average income distribution. Datong has a population of 3.2 million and Xiaoyi just 0.4 million. GDP per capita was 19,774 RMB in Datong and 45,538 RMB in Xiaoyi (the highest in Shanxi) in 2009.³⁶

The two localities have had markedly different experiences of cadre turnover. Leadership in Datong has been fairly unstable, with Party secretaries staying an average 3.73 years and mayors an average 2.45 years with the accumulated average time served in either position summing to 3.93 years. Prior to the 2008 arrival of a charismatic mayor who pledged, at a minimum, to serve out his five years in full, the turnover of Party secretaries and mayors every three to four years made Datong a fairly typical city in China. By contrast, in Xiaoyi, local leaders tend to stay in office for much longer. Recent Party secretaries have served an average 8.29 years and mayors an average 6.22 years. It is also common practice in Xiaoyi that mayors stay on to become Party secretaries, and, consequently, the accumulated average serving time in both positions is 9.31 years. The large discrepancy between leadership patterns in Datong and Xiaoyi presented an opportunity to investigate the possible impact of high/low cadre turnover on local leaders' ability and motivation to green local economies.

³⁶ 2010 Shanxi tongji nianjian ("Shanxi 2010 Statistical Yearbook"), Tables 18.13, 19.1, 19.3, pp. 627-38.

Table 1: Party Secretaries and Mayors in Datong and Xiaoyi

	Datong city		Tenure	Xiaoyi city		Tenure
	Years			Years		
Party Secretary	Feng Lixiang 丰立祥	02/08-		Zhang Xuguang 张旭光	12/09-	
		02/06-02/08	2.00		05/01-12/09	8.58
	Guo Liangxiao 郭良孝	10/01-02/06	4.33	Li Liangsen 李良森	05/93-05/01	8.00
	Lai Yulong 来玉龙	02/00-10/01	1.67	Zhang Huosheng 张霍生		
	Jin Shanzhong 靳善忠	03/93-02/00	6.92			
	Ji Youwei 纪友伟					
Average (1993-)			3.73			8.29
Mayor	Geng Yanbo 耿彦波	02/08-		Guo Jiping 郭继平	12/09-	
		03/06-02/08	1.92		12/01-12/09	8.00
	Feng Lixiang 丰立祥	06/03-03/06	2.75	Zhang Xuguang 张旭光	06/98-12/01	2.50
	Guo Liangxiao 郭良孝	02/00-06/03	3.33	Li Liangsen 李良森	04/90-06/98	8.17
		03/98-02/00	1.92	Cao Jinchu 草金初		
	Sun Fuzhi 孙辅智	02/95-03/98	3.08			
		11/92-02/95	2.25			
	Jin Shanzhong 靳善忠	09/90-11/92	2.17			
	Du Yulin 杜玉林					
	Cheng Buyun 程步云					
	Li Youmei 李有美					
Average (1990-)			2.45			6.22

Sources: Datong and Xiaoyi gazetteers (various years)

4.1 Datong: Geng Yanbo lai le!

“We say that Datong has only had two great mayors. One is Tuo Bahong [founder of the Northern Bei dynasty who chose Datong as the capital] and Geng Yanbo.”³⁷

Shanxi's second-largest city, Datong, is in the throes of an ambitious and costly effort to shed its title as China's “coal capital” and reinvent itself as a tourist destination. Historical records suggest that as early as the Tang dynasty local residents began mining the 1800 km² Datong Coalfield for heating and iron smelting purposes and, ever since, the city's fortunes have been tied to the vast deposits of coal underfoot.³⁸ Datong's two pillar enterprises attest to this legacy. Datong Coal Group, China's second largest coal enterprise, produces about 100 million tons of coal annually and the coal-fired Datong No. 2 Power Station is a major electricity supplier to the Beijing-Tianjin-Tangshan region. The air and water pollution caused by the predominance of coal in Datong's industrial structure has earned the city a “black hat” (*hei maozi* 黑帽子) for environmental degradation. Indeed, a national 2005 EPB ranking of the environ-

³⁷ Interview 23, Leading Government Official at District Development and Reform Commission, 27 September 2011.

³⁸ Fu Peiyi, Ge Yonghui, Ma Chao, Jia Xiuming, Shan Xinjian, Li Fangfang, and Zhang Xiaoke, “A Study of Land Subsidence by Radar Remote Sensing at Datong Jurassic and Carboniferous Period Coalfield”, *Proceedings of the 2010 3rd International Congress on Image and Signal Processing*, Vol. 9, (2010), p. 1

mental quality of 113 Chinese cities found Datong third from the bottom.³⁹ Besides severe air and water pollution, heavy mining activity has badly deformed much of the local geological environment causing soil avalanches, landslides and surface cracking, among other problems.⁴⁰ The heavy environmental toll of Datong's coal-reliance, in addition to dwindling supplies of marketable coal, have long been recognized as near-crises. However, a succession of lackluster leaders failed to develop any strategy for greening the city's growth.

4.1.1 Leadership Cycles

The arrival of a new mayor in 2008, Geng Yanbo, marked a decisive break with the past and this charismatic leader has worked to develop new sources of growth in the second and third sectors, though in a risky and highly controversial fashion. Prior to Geng's arrival, Datong had a run of unremarkable leaders with weak incentives to correct the city's coal dependence. Looking at the average tenure of local leaders over the past two decades we find that Datong was fairly typical of Chinese municipalities in having mayors and Party secretaries come and go quickly. One well-placed city official said that the leaders before Mayor Geng had used their time in Datong primarily as an opportunity for advancement:

Usually, previous leaders stayed for a couple of years and then found a chance to get promoted. They used Datong as a springboard. The Party secretary of Datong is a position from which it's easy to get promoted because there are many coal bosses here. That means they can get a lot of bribes and use them to bribe the upper level government to get promoted. They didn't even need any *zhengji* to prove themselves...None of them made any difference. When they left, Datong was the same as when they came. For them, all was good so long as no major problems arose.⁴¹

The career paths of two recent leaders illustrate this pattern. Guo Liangxiao was Datong's mayor for 2.8 years (2003-2006) then Party secretary for a 2-year stint (2006-2008) before being promoted to vice chairman of Shanxi's Chinese People's Political Consultative Conference (CPPCC). Jin Shanzhong followed a similar route. He was Datong mayor for 1.9 years (1998-2000) and then Party secretary for 1.7 years (2000-2001) before moving on to leadership positions in the provincial Shanxi Enterprise Work Committee, SASAC and the NPC Standing Committee.

Mayor Geng Yanbo cannot be accused of indolence or risk-averse opportunism. Geng's uncompromising leadership style resembles that of China's other prominent "officials with personality" (*gexing guanyuan* 个性官员) such as Party secretary of Chongqing, Bo Xilai and Qiu He, current Party secretary of Kunming.⁴² Reportedly, from his very first days in office in

³⁹ Ma Jingbo and Zhang Zhihong "Datong zhai diao daqi wuran 'hei maozi'" ("Datong is taking off the air pollution 'black hat'"), *Shanxi ribao* (*Shanxi Daily*), 29 August 2006, available at <http://news.sina.com.cn/s/2006-08-29/03459874550s.shtml>.

⁴⁰ Fu et al., "A Study of Land Subsidence", pp.1-4.

⁴¹ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁴² Joseph Fewsmith "Bo Xilai Takes on Organized Crime", *China Leadership Monitor*, No. 32, (2010); Joseph Fewsmith, "Promotion of Qiu He Raises Questions about Direction of Reform" *China Leadership Monitor*, No. 17 (2006); Chen Jianfen "Geng Yanbo: You yi ge Qiu He?" ("Geng Yanbo: Another Qiu He?") *Xiaokang*, available at <http://politics.people.com.cn/GB/8198/71979/71980/5739426.html>.

2008, Mayor Geng assumed the role of first in command (*yi ba shou*—一把手) much to the displeasure of Datong's current Party secretary, Feng Lixiang. Feng is said to have complained to the provincial authorities about Geng's flouting of rank but the upper levels ultimately backed Geng and, by all accounts, the mayor is now the final authority on all important decisions in Datong.⁴³

Soon after taking office in 2008, Geng let it be known that he would play by different rules. A government official recalls one of Geng's first new measures:

When Geng first arrived in Datong, he stopped all the real estate projects that did not meet construction standards. Real estate developers interpreted this as a sign that Geng wanted bribes but they were wrong. Geng directed his subordinates to take the money they offered him and deposit it in a special government fund used for city construction.⁴⁴

While many within Datong government seem to appreciate the vigor Geng brings to his work, his subordinates are also fearful of his bad temper:

Sometimes Geng swears at or even beats people. At first, officials didn't know him well and came late to meetings. Geng would then tell them "you don't need to come here anymore" and remove them on the spot. If they failed to complete their tasks, they were also removed. Some officials handed in their resignation because there was too much pressure. Geng would refuse them. They had no other choice but to do it well.⁴⁵

Geng's dictatorial style has certainly made him enemies within Datong government but many ordinary people admire his enthusiasm—he often says he "wants the city to get excited"—as well as his work ethic and his reputation for non-corrupt rule. Geng actively uses the local media to promote this hardworking image and he has even inspired a pop song tribute called "The Soul of Datong" circulating on the internet. Presumably most of those displaced by the grand-scale demolition of old buildings as part of Geng's city revitalization initiatives would be slightly less upbeat about the new mayor and there have been significant numbers of petitioners and "nailheads" (*dingzihu* 钉子户) since Geng's arrival.⁴⁶

A history enthusiast, Geng had a vision for Datong's green growth based on refurbishing and sometimes outright rebuilding Datong's cultural riches in order to attract tourism. In settling on this approach, Geng drew from his experience in previous posts elsewhere in Shanxi. In Lingshi county in Jinzhong municipality, where Geng was vice Party secretary and then mayor (1993-2000), a major project of his was restoration of the Wang Family Mansion.⁴⁷ In Yuci (2000-2006), another district under Jinzhong municipality, Geng presided over a large number of controversial construction projects. These included demolition of old buildings and their replacement with new ones as well as refurbishment of Chang Manor and Yuci Old

⁴³ Interview 37, Manager of Private Coal Mine in Lingshi, 16 July 2010.

⁴⁴ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁴⁵ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁴⁶ Nailheads are households that refuse to relocate when the land is requisitioned. "Datong shi zhang geng yanbo 15 nian de chengjian zhengzhi" ("The 15 years of construction politics of Datong's Mayor Geng Yanbo"), *Lianzheng liaowang* (Honesty Outlook), 28 September, 2011 available at: <http://news.sina.com.cn/c/sd/2011-09-28/125923231364.shtml>.

⁴⁷ Interview 37, Manager of Private Coal Mine in Lingshi, 16 July 2010.

Town in order to promote tourism.⁴⁸ Such was the degree of opposition to these construction projects in Yuci that, at the end of his term, someone left Geng three memorial wreaths. Yet, interviews in both localities conducted in 2010 suggest that, for some, Geng's tenure is now seen with a measure of nostalgia: "People all miss him in Lingshi and Yuci because they benefited from the construction. Especially in Yuci, he is still a hero."⁴⁹ Geng also learned in his previous posts that top-to-bottom city remodeling cannot be compressed into the typical term of a municipal mayor or Party secretary. One informant told us: "When Geng was working in Taiyuan as vice mayor [2006-2008] and he knew that he was going to be sent elsewhere, he demanded to be stationed in Datong for at least five years, otherwise he would not want to go. The reason was that he wanted to make a long-term impact and be a leader with vision and not be stationed for a short time only."⁵⁰

4.1.2 Greening Growth

The official "three famous, one strong" (*san ming yi qiang* 三名一强) moniker for Datong's development under Geng's leadership envisions Datong as a famous cultural, tourist and ecological city with a strong economy. "Three famous" indicates the high priority placed on tourism in Geng's greening growth strategy. In his first Government Work Report, Geng declared: "Culture is always a city's means of survival and a source of competitiveness in development. Datong's rich historical relics are non-renewable, irreplaceable and the city's most valuable resources."⁵¹ "One strong" refers, in part, to the promotion of non-coal industries in the second sector. Within the city limits, Geng's major cultural projects include renovation of significant Buddhist sites including Huayan and Shanhua temples and reconstruction of the ancient city wall. Geng's cultural restoration initiative extends to select counties under the "body and two wings" approach (*yi ti liang yi* 一体两翼) in which Datong proper is the body and the wings are formed by the Yungang Grottoes (in Datong's Western district) and Mount Heng (in Hunyuan county), one of the five sacred Daoist mountains and home of the Xuankong "Hanging" temple. For Hunyuan county, inclusion in Geng's plans has meant an influx of financial support from the municipality and the central government for tourism-related projects.⁵² Investment in restoration of the Yungang Grottoes amounts to 1.7 billion RMB, a combination of funding from the National Heritage Board, the province and the municipality.⁵³ In addition to large-scale cultural construction projects, Geng's three years in office have also seen huge infrastructure investment in Datong. Total investment in road and bridge construction is said to amount to 6 billion RMB and, in 2010 alone, 38 new roads were completed, bringing the total built in Geng's tenure to 69.⁵⁴

⁴⁸ Interview 20, General Manager of Real Estate Company in Datong, 6 July 2010.

⁴⁹ Interview 37, Manager of Private Coal Mine in Lingshi, 16 July 2010.

⁵⁰ Interview 2, Government Official in Datong, 1 September 2011.

⁵¹ Acting Mayor Geng Yanbo, "Zhengfu gongzuo baogao" ("Government Work Report"), *Datong Ribao* (*Datong Daily*), 11 July 2008, p. 4.

⁵² Interview 26, County-Level Government Official in Development and Reform Commission, 28 September 2011.

⁵³ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁵⁴ Interview 20, Government Official in Development and Reform Commission in Datong, 26 September 2011.

Since Geng's arrival, Datong government has also taken a strong approach to implementation of national policy on coal industry consolidation. Central documents urging the promotion of large-scale coal enterprises have been issued largely because larger mines tend to be safer (due to higher mechanization rates), less polluting and more efficient in energy use and coal extraction.⁵⁵ In 2008, Geng pledged support for Datong Coal Group's "going big and going strong" (*zuo da zuo qiang* 做大做强) and promised the gradual closure of coal mines with annual production of less than 30 million tons of coal.⁵⁶ In the following year, the municipal government led a major industry restructuring which saw 127 coal mines consolidated into 65. In the process, Datong Coal Group took over eight new mines. The 2009 consolidation had benefits in terms of helping surviving enterprises achieve scale economies and the associated energy savings contributed to Datong's reported achievement of its 11th FYP energy efficiency targets. The bold approach to scaling up Datong's coal industry has, though, come at great cost in terms of lost revenue. As of June 2011, of the 65 consolidated coal mines, just 8 were producing normally, while 17 others are said to be improving their capacity and facilities.⁵⁷ The slow-down in coal mining activity since the 2009 consolidation is part of the reason Datong's GDP rank among Shanxi cities slipped to number eight in 2010 from number two in 2005.⁵⁸

Geng has also presided over the development of non-coal industries in the city's outskirts. The city's "one axis, two cities" (*yi shou shuang cheng* 一轴双城) approach refers, first, to the makeover of the old city within Datong and, second, to establishment of the Yudong New Area to the east of city. Set up in 2009, Yudong is a new industrial and residential area where the city has pinned its hopes of developing new industries. The area features a 20 km² automotive-focused manufacturing park, two pharmaceuticals parks, a new materials park and a new energy (solar and wind) park. While interviewees expressed cautious optimism about the prospects for these new industries in reducing Datong's coal dependence, like many of Geng's initiatives, Yudong New Area has also stirred controversy. Datong municipality directly manages the Yudong New Area but the manufacturing and pharmaceuticals parks are physically located within the boundaries of poor, revenue-strapped Datong county.⁵⁹ Datong municipality reportedly told Datong county officials that in order to lay claim to 20-30% of future taxes in these industrial parks the county would first have to invest 100 million RMB in their construction.⁶⁰ To this end, Datong county, which is on an "eating budget" (*chi fan caizheng* 吃饭财政), has already invested 72 million RMB in the new projects.⁶¹ County officials

⁵⁵ International Energy Agency, *Cleaner Coal in China*, (2009), p. 44, available at: http://www.iea.org/textbase/nppdf/free/2009/coal_china2009.pdf

⁵⁶ Acting Mayor Geng Yanbo, "Zhengfu gongzuo baogao" ("Government Work Report"), *Datong Ribao* (*Datong Daily*), 11 July 2008, p. 10. At the time of Geng's speech the most important national policy on coal was NDRC's 2007 11th Five Year Plan for Coal Industry Development. The plan calls for large coal bases such as Datong to promote industrial consolidation around large enterprises and raise industry concentration rates.

⁵⁷ Datong Development and Reform Commission, "Guanyu datong shi 2010 nian guomin jingji he shehui fazhan jihua zhi hang qingkuang yu 2011 nian guomin jingji he shehui fazhan jihua de baogao" ("On Datong's 2010 economic and social development implementation plan and the 2011 report on the national plan for economic and social development), 16 June, 2011, p. 4.

⁵⁸ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁵⁹ Datong county is one of the seven counties and four areas under Datong municipality.

⁶⁰ Interview 29, County Government Official in Development and Reform Commission in Datong, 29 September 2011.

⁶¹ Datong County Economics and Business Information Bureau, "Gongzuo huibao" ("Work Report"), p. 14

also worry about the pollution these industrial parks will bring to their predominantly agricultural region and are particularly concerned about the impact of waste water from pharmaceuticals factories. In the context of Datong municipality's own growing revenue woes, Yudong is seen by some as an effort to push pollution out of the city while bringing revenue in.⁶²

While many see Geng as laying a firm foundation for Datong's industrial transformation, it remains to be seen whether this greening growth strategy is in fact viable. To be sure, there have been notable improvements in the local environment in recent years. In 2010, the EPB's air quality monitoring system showed Datong as having air quality of Level Two or above on 341 days, up from 307 in 2008.⁶³ Cleaner air reflects reduced coal mining activity as well as the municipal government's 500 million RMB investment in district heating and cogeneration facilities to replace highly-polluting coal-fired boilers.⁶⁴ And Geng's cultural projects may have begun to lure visitors to Datong as tourist numbers have apparently been increasing at a rate of about 20% annually in recent years.⁶⁵ Reinventing Datong as a tourist destination will likely be an uphill battle, however, as many Chinese and foreigners alike still associate the city more strongly with the "black hat" than with Buddhist treasures. Likewise, switching to greener sources of growth will be a slow and difficult process. As a recent Datong DRC report put it: "The situation of relying mainly on coal, electricity and other energy industries for industrial economic growth has not changed much. Improvement of the eco-environment and energy savings and emissions reduction work is still arduous"⁶⁶

Aside from the inherent risks of this tourism-based strategy, Mayor Geng's one-man show has also placed enormous pressure on municipal finances. Under the pressure of a *de facto* five-year term limit, Geng launched many initiatives almost immediately upon taking office and project financing has been pieced together on the fly. Geng's strategy of attracting central SOE investment (*yangqi jintong* 央企进同) has had some success but, on the whole, enterprise investment has played only a minor role in Datong's transformation so far.⁶⁷ Typical of his cannot-wait attitude, Geng's reply to recent questions about city construction projects plagued by legal violations was "I do not have time to wait, so demolition cannot wait."⁶⁸ Some funding for cultural restoration projects has come from the central and provincial governments (e.g. for the Yungang Grottoes and Mount Heng) but funds for the huge city wall construction project is drawn exclusively from municipal finances.⁶⁹ The final tab for these projects may total 50 billion RMB, a vast sum considering that Datong municipality's revenue came to only 14 billion RMB in 2010.⁷⁰ Revenue shortfalls have been made up with bank loans, land

⁶² Interview 34, Leading Government Official in Datong, 30 September 2011.

⁶³ Wang Yan, "Datong qunian kongqi wuran zhishu jiangfu quan sheng di yi" ("Last year Datong's air pollution decreased the most in Shanxi province", *Shanxi jingji ribao* (Shanxi Economic Daily), 2nd Version, 6 February 2010.

⁶⁴ Interview No. 22, Government Official in Economic Commission in Datong, 23 September 2011.

⁶⁵ Interview 20, Government Official in Development and Reform Commission in Datong, 26 September 2011.

⁶⁶ Datong Development and Reform Commission, "Guanyu datong shi 2010 nian guomin jingji he shehui fazhan jihua zhi hang qingkuang yu 2011 nian guomin jingji he shehui fazhan jihua de baogao", p. 7

⁶⁷ For instance, oil giant China National Offshore Oil Corporation (CNOOC) and Datong Coal Mining Group have jointly invested in a 30 million RMB natural gas project near Datong.

⁶⁸ Quoted in "Shi zhang 'deng bu qi', ze qiang chai ting buxia" ("Mayor will not stop demolitions"), *Xin jing bao* (The Beijing News), 22 May 2011, available at: http://news.xinhuanet.com/comments/2011-05/22/c_121443752.htm.

⁶⁹ Interview 34, Leading Government Official in Datong, 30 September 2011.

⁷⁰ "Datong shi zhang geng yanbo 15 nian de chengjian zhengzhi", *Lianzheng liaowang* (Honesty Outlook).

sales, the marketization of some public services and high ticket prices for the refurbished sites.⁷¹ Geng has, reportedly, begun to run out of credit with local banks and a saying circulating in Datong officialdom is that “Geng cannot get a loan” (*geng ban bu liao daikuan* 耿办不了贷款).⁷²

4.2 Xiaoyi: The Benefits of Low Cadre Turnover and Leadership Continuity

“You know, the worst thing for a local government is frequent change in the leading group and planning. In Xiaoyi, the mayor will usually become the next Party secretary so the top leaders of the two terms are old partners meaning there is good continuity.”⁷³

In contrast to Datong's one-man show approach to economic transformation, Xiaoyi's greening growth strategy has built up gradually with guidance from a strong and locally-rooted leadership group. Like Datong, Xiaoyi is a resource-based economy in the midst of transformation. Xiaoyi is one of China's 50 largest coal bases and home to about 20% of China's total bauxite reserves.⁷⁴ Coal coking is especially important to the local economy and drove a period of fast-paced GDP growth in the late 1990s and early 2000s. Over the past two decades the local leadership's priorities have evolved in step with those of the central government, from an early more conventionally developmental focus on maximizing economic growth and building roads and physical infrastructure, to the current leadership's green growth strategy based on reducing the proportion of heavy industry and cleaning up the industry-ravaged local environment. City leaders' efforts in establishing a “Xiaoyi paradigm” have won the locality plaudits from the upper levels of government and a long list of distinctions. A crucial element of Xiaoyi's success has been effective *guanxi*-building, especially with provincial and central governments as well as with local industry. Titles awarded by upper levels of government have brought in financial and advisory support and, working closely with local industry, Xiaoyi leaders have effectively induced the private sector to share the financial burden of greening growth. A high degree of continuity in the *lingdao banzi* has contributed to Xiaoyi's strong government and business networks because valuable connections are maintained and strengthened over time rather than discarded with each changing of the guard.

4.2.1 Leadership Cycles

The continuity and rootedness of Xiaoyi's *lingdao banzi* sets it apart from most Chinese counties. Over the past two decades, the usual pattern in Xiaoyi has been for leaders to move up

⁷¹ Ticket prices have reportedly skyrocketed since 2008. The total cost of entry to Datong's four major attractions—Huayan and Shanhai temples, the Yungang Grottoes and Xuankong “hanging” temple—is US \$65 per person making it quite unaffordable to most locals, see Ian Johnson, “China's Glorious New Past” *NYR Blog*, 1 June 2011, available at: <http://www.nybooks.com/blogs/nyrblog/2011/jun/01/chinas-glorious-new-past/>.

⁷² Interview 34, Leading Government Official in Datong, 30 September 2011.

⁷³ Interview 15, Retired Government Officials in Xiaoyi, 21 September 2011.

⁷⁴ Xiaoyi City People's Government, “Chuangzao sheng ji huanbao mofan chengshi gongzuo baogao zhonggong xiaoyi shiwei, xiaoyi shi renmin zhengfu” (“Work report on creation of a provincial-level environmental protection model city 'CPC Xiaoyi City'”), p. 2.

from mayor to Party secretary, holding each position for a considerable length of time. The average tenure of Xiaoyi Party secretaries is 8.3 years while mayors stay an average of 6.2 years, much longer than most county leaders in China. According to one former deputy mayor, leadership continuity has given local development a stepwise quality:

Every new period the leaders are doing better. The mayor and Party secretary in the 1990s built roads to connect Xiaoyi with the outside. The next mayor and Party secretary started industrial restructuring. Secretary Zhang has placed greater emphasis on equitable growth and environment as well. Each period's achievements set a good example for the next period and serve as inspiration.⁷⁵

The city's open culture is credited with encouraging leaders from elsewhere to put down roots in Xiaoyi: "Most of the secretaries, mayors and CCP Organization Department heads are from outside. But they all settle down here."⁷⁶ Xiaoyi's leaders also stress the importance of different arms of government pulling on the same string and, to that end, the preceding Party secretary, Li Liangsen, built a modest office building in order to bring all major departments under the same roof. Interviews conducted with various government departments in Xiaoyi suggested to us the existence of a fairly cooperative culture between departments as officials often called each other for documents and figures and are well informed about activities of other departments. Anecdotes about the leaders' attention to detail also suggest that they have an uncommon regard for their locality. Current Party secretary Zhang Xuguang, who has been in Xiaoyi's *lingdao banzi* for ten years already, surprised the local EPB head when he asked him, out of the blue, what formula the EPB employs to calculate chemical oxygen demand (COD) reduction.⁷⁷

Low cadre turnover has also helped to cement a long-term, goal-oriented culture among leaders and key departments. In 2002, for example, the Xiaoyi leadership first fixed on the goal of attaining a central-level experimental city designation (*shidian chengshi* 试点城市) to aid their economic transformation. Local leaders were dispatched to learn from experimental cities in the Northeast in preparation for their application.⁷⁸ Finally, in 2009, Xiaoyi was named a *Resource-Exhausted Transformation Experimental City*, one of only 44 nationwide and the only Shanxi locality found on the list. The title is not just a bright spot on the list of local leaders' accomplishments, it has also brought the city 200 million RMB in central government funding as well as policy support from central NDRC.⁷⁹ In similar fashion, the Xiaoyi leadership decided in 2005 to become one of China's *100 Strongest Counties*, an award based on measures of economic competitiveness, wealth, environmental quality and resident satisfaction. In 2006, Xiaoyi first entered the list at No. 93 and steadily climbed to No. 66 in 2011; it is the only Shanxi locality to be listed. These awards also have value in terms of helping local leaders establish and strengthen links to upper levels of government. Leaders from central government departments including NDRC have made official visits to Xiaoyi and the Shanxi government holds up Xiaoyi as a model for others to follow. Indeed,

⁷⁵ Interview 15, Retired Government Officials in Xiaoyi, 21 September 2011.

⁷⁶ Interview 15, Retired Government Officials in Xiaoyi, 21 September 2011. While it falls outside the scope of this research, the attractiveness of Xiaoyi as a place to live does seem to have contributed to its success. Living environment is often cited as an important factor in luring investors, it may also be important in attracting and retaining able leaders.

⁷⁷ Interview 12, Head of Environmental Protection Bureau in Xiaoyi, 20 September 2011.

⁷⁸ Interview 11, Government Official in Development and Reform Commission in Xiaoyi, 26 September 2011.

⁷⁹ Interview 11, Government Official in Development and Reform Commission in Xiaoyi, 26 September 2011.

one of the province's aims for 12th FYP is to "create 10 or more such strong counties as Xiaoyi."⁸⁰

The good connections Xiaoyi leaders maintain with local industry have also proven to be an important resource in developing and funding greening growth initiatives. The local government has been particularly effective in drawing local coal-based enterprises into economic "transformation projects" (*zhuanxing xiangmu* 转型项目). Between 2006 and 2010, Xiaoyi launched 362 such transformation projects worth a total 99 billion RMB.⁸¹ The city's showcase transformation project is an LED light production facility which is projected to generate approximately 1.7 billion RMB in tax revenue, about one-third of the city's annual intake.⁸² While this is formally a private-sector initiative, Xiaoyi leaders were the initiators behind the scenes: "The government's role was to match the money with the technology. The two stakeholders of this project are Jinyan [a local, privately-owned coking enterprise] who provided the funding and Doctor Wu Yongan, a physicist from Stanford University, who provided the technology."⁸³ Local leaders' effort to induce the private sector to shoulder greening growth projects suggests a high degree of local state corporatism. Strikingly, in Xiaoyi's June 2011 *Government Work Report*, local coal enterprises, many of which are privately-owned, have actually been given soft targets for investment in transformation projects: "Coal production enterprises should each launch non-coal projects of between 1 and 2 billion RMB; each coking enterprise should launch projects of 1 billion RMB or more in non-coal or downstream processing projects."⁸⁴ In Xiaoyi, the leadership has also effectively "bundled" coal restructuring with the goal of developing non-coal industries by providing incentives for former coal bosses to open greener businesses in the second and third sectors.⁸⁵ For instance, with government backing, a former mine owner whose enterprise was closed brought a Walmart outlet to Xiaoyi and has a new business marketing agricultural products.⁸⁶

4.2.2 Greening Growth

Transformation of the local economy had been on the minds of Xiaoyi leaders since the early 2000s, but it was a stern warning from the province on pollution in 2006 which was the cata-

⁸⁰ "Zhonggong xiaoyi shiwei xiaoyi shi renmin zhengfu guanyu shenqing pizhun 'xiaoyi shi zonghe peitao gaige shiyan zongti fangan' de baogao", ("Report by Xiaoyi City Party Committee and Xiaoyi People's Government on approval of 'Xiaoyi City Comprehensive Reform Pilot Program' application"), p. 2.

⁸¹ "Zhengfu gongzuo baogao" ("Government Work Report"), 24 June 2011. Xiaoyi leaders pride themselves on their skills in attracting investment for economic "transformation projects" *zhuanxing xiangmu* 转型项目. Long-time head of Xiaoyi DRC, Ren Huachao, notes as one of his personal achievements having played a lead role in attracting nine billion RMB worth of *zhuanxing* investment from French, German and Chinese companies.

⁸² "Xiaoyi: bian 'wuran huangpai' wei 'huanbao jinpai'", ("Xiaoyi is changing 'pollution yellow card' to the 'green gold medal'"), 14 August 2011, available at: <http://news.sxrtv.com/shtml/0/572/content572402.shtml?pid=147&CatalogNumber=sxxwzhgb01&ProgramID=572402>

⁸³ Interview 16, Manager of Private Coal Coking Enterprise in Xiaoyi, 22 September 2011.

⁸⁴ "Zhengfu gongzuo baogao" ("Government Work Report"), 24 June 2011, p. 20.

⁸⁵ On policy and interest bundling see Kostka and Hobbs, "*Local Energy Efficiency Policy Implementation in China*", forthcoming.

⁸⁶ Interview 15, Retired Government Officials in Xiaoyi city (previously: Head of DRC and Director of People's Congress), 21 September 2011.

lyst for a major clean-up of the coal industry. In 2002, Xiaoyi began its first effort to reduce pollution generated by coking enterprises, many of which were operating illegally. The crackdown was successful in closing down scores of smaller coking enterprises but, in the years following, many illegal operations resurfaced.⁸⁷ A 2006 inspection by the provincial EPB office found that of Xiaoyi's 47 coking operations, only nine had an approved environmental impact report.⁸⁸ The newly-appointed provincial EPB head decided to make an example of Xiaoyi and in August 2006, Shanxi EPB temporarily revoked Xiaoyi EPB's rights to conduct environmental evaluations (*quyu xianpi* 区域限批), effectively a block on the city's ability to approve new industrial projects.⁸⁹ This was the first time Shanxi EPB had made use of this severe penalty and the ensuing media glare put Xiaoyi leaders under extreme pressure. The leaders responded with a broad and costly crackdown on local industry which focused on coking but extended to power, coal mining and chemicals. Upon lifting of the *quyu xianpi* order in June 2007, Party secretary Zhang said: "We eliminated old production facilities and lost more than 20 billion RMB of assets and 450 million RMB in government revenue. But in the long run, without this pain, Xiaoyi city would not have taken the next step towards better and fast development."⁹⁰ Afterwards, the local government forged ahead with coal restructuring. In 2008, Xiaoyi's 400 coal mines were reorganized as 13 large-scale coal mines. 12 large enterprises now dominate the coking industry and small, polluting operations have not returned, partly due to strict environmental regulations requiring every enterprise to have waste water treatment, flue gas desulphurization and smoke and dust removal facilities.⁹¹

The motto for Xiaoyi's approach to greening growth, "Taking coal as the base, diversifying development" (*yi mei wei zhu, duoyuan fazhan* 以煤为主，多元发展), reflects the leadership's measured approach to greening growth as compared to Datong. As one interviewee told us, the aim is to have "longer value chains for the first sector, less emissions from the second and more investment in the third."⁹² In agriculture, Xiaoyi government is supporting the farming and processing sides of the local walnut business, both to boost agricultural income and because walnut trees are especially good at carbon sequestration. In the second sector, the leadership's efforts to clean coal hinge on scaling up coal mining and coking operations and promoting the establishment of "circular economies" (*xunhuan jingji* 循环经济) in which industrial waste is used as inputs for other processes.⁹³ Xiaoyi is also actively promoting local manufacturing. The large-scale LED project described above has received strong backing from local government because LED lights use much less energy than conventional

⁸⁷ Xiaoyi City People's Government, "Chuangzao sheng ji huanbao mofan chengshi gongzuo baogao zhonggong xiaoyi shiwei, xiaoyi shi renmin zhengfu" ("Work report on creation of a provincial-level environmental protection model city 'CPC Xiaoyi City'"), p. 3.

⁸⁸ "Zanting Xiaoyi huanbao shenpi quan" ("Suspension of environmental approval rights in Xiaoyi"), *Shanxi xinwen wang*, (*Shanxi News Net*), 8 September 2006, available at: http://zqb.cyol.com/content/2006-09/09/content_1505526.htm.

⁸⁹ Interview 8, Shanxi Provincial Head of Environmental Protection Bureau in Taiyuan, 30 June 2010.

⁹⁰ "Xiaoyi: bian 'wuran huangpai' wei 'huanbao jinpai'", ("Xiaoyi is changing 'pollution yellow card' to the 'green gold medal'").

⁹¹ Interview 16, Manager of Private Coal Coking Enterprise in Xiaoyi, 22 September 2011.

⁹² Interview 10, Government Official in Xiaoyi, 19 September 2011.

⁹³ The 12th FYP envisions 280 million RMB worth of circular economy projects ("Report by Xiaoyi City Party Committee and Xiaoyi People's Government on approval of 'Xiaoyi City Comprehensive Reform Pilot Program' application", p. 6). Coal waste recycling projects (e.g. using fly ash to build bricks) are typically paid for by the enterprises themselves and government support comes in the form of tax exemptions.

bulbs.⁹⁴ Newly-established battery-powered scooter manufacturing enterprises also receive government support. Finally, expanding the proportion of the third sector from the current 36% to 45% in 2015 is an official target, though a soft one, in the 12th FYP and logistics, tourism and finance are the focus industries.⁹⁵ Some coal bosses whose operations were closed after 2006 have received government support for starting businesses in the third sector.

The media is fond of saying that Xiaoyi government took its “yellow card” on pollution and turned it into a “gold medal” on environmental protection.⁹⁶ At the end of 2010, Xiaoyi added to its list of distinctions when it was awarded the title of *National Green Model City* for the results of the government's 650 million RMB investment in “blue skies, clear water” (*lan tian bi shui* 蓝天碧水) projects. In the 11th FYP period, Xiaoyi dramatically raised its forest coverage rate from 19% to 35% and urban area green space from 31% to 43%.⁹⁷ Xiaoyi's greening rate ranks first in the province.⁹⁸ Elimination of highly polluting coking operations and the replacement of coal-fired boilers with district heating facilities has also reduced air pollution. The number of days with air quality of Level Two or higher increased from 97 in 2005 to 354 in 2010.⁹⁹ In the wake of Xiaoyi's “yellow card” from Shanxi EPB, local leaders also worked to strengthen local environmental agencies. Most importantly, the administrative rank of EPB's Environment Monitoring Team was upgraded to division (*ke* 科) level to increase their power vis-à-vis industry and thereby ease rule enforcement. Xiaoyi's Monitoring Team is the only one to have such a high rank in Shanxi province. The local EPB also secured additional support from the city in the provision of personnel and facilities.¹⁰⁰ Similarly, the Xiaoyi Gardening Bureau also receives an unusually high degree of support from Xiaoyi government. Their annual budget of 100 million RMB for greening work is equal to the combined total of all ten other counties in Lüliang municipality.¹⁰¹

Xiaoyi leaders are deservedly proud of their accomplishments in recent years but there are also factors inhibiting the city's green rise. First and foremost, to some degree, the local government seems to be paying lip-service to development of a robust service sector. In a manner consistent with the model of green growth policy prioritization presented above, local leaders seem to be putting off some initiatives with low *zhengji* value and a long time to maturity. As one informant put it:

For local government, the second sector is the most important because it contributes the most to government revenue, which is a key indicator in the evaluation of a county or municipality. Only when the percentage of non-coal industry becomes an indicator on these evaluations will local governments have sufficient incentive to really develop the third sector.¹⁰²

⁹⁴ Interview 16, Manager of Private Coal Coking Enterprise in Xiaoyi, 22 September 2011.

⁹⁵ Xiaoyi People's Government, “Xiaoyi shi renmin jingji he shehui fazhan di shi erg e wu nian guihua gangyao” (“Outline of Xiaoyi's Economic and Social Development 12th Five Year Plan”), June 2011, pp. 57-61.

⁹⁶ E.g. “Xiaoyi: bian ‘wuran huangpai’ wei ‘huanbao jinpai’”.

⁹⁷ “Outline of Xiaoyi's Economic and Social Development 12th Five Year Plan”, p.12.

⁹⁸ Interview 19, Deputy Director of the Forestry Bureau in Xiaoyi, 23 September 2011.

⁹⁹ “Zhengfu gongzuo baogao” (“Government Work Report”), p.6.

¹⁰⁰ Interview 12, Head of Environmental Protection Bureau in Xiaoyi, 20 September 2011.

¹⁰¹ Interview 18, Director of the Garden Bureau in Xiaoyi, 23 September 2011.

¹⁰² Interview 17, Government Official in Development and Reform Commission in Xiaoyi, 21 September 2011.

Similarly, for all their emphasis on building the foundations of “quality” growth, Xiaoyi leaders take a fairly conventional view of the desired speed of economic growth. Despite the fact that Xiaoyi residents’ average income is high by Shanxi standards, Xiaoyi’s GDP average annual growth targets for the 12th FYP are, at a minimum, 20%, and at a maximum, 25%, well above the 7% national target.¹⁰³

5 Discussion

In the discussion section, we return to our research question: Does high turnover of cadres in the *lingdao banzi* help or hinder China’s green rise? The case studies suggest that cadre turnover is something of a drag on Beijing’s green growth ambitions. From the perspective of the center, the function of institutionalized cadre turnover is to prevent leaders from falling captive to local interests and keep them responsive to decrees from Beijing by limiting the length of their stays in each post. Previous work suggests that high turnover can encourage compliance with readily measurable, on-off policies such as investment controls. But the complex, uncertain policies on the greening growth agenda may not be as well served by short-stayers. Since Beijing has provided only the first brushstrokes of its green vision leaving local leaders to fill in the image, localities with a high implementation burden under the new green plans will need effective and locally-rooted leaders with a long-term vision. The findings presented here suggest that the many difficult and costly aspects of greening growth in places like Datong and Xiaoyi—including reducing pollution, restructuring traditional industries and developing new ones—demands that leaders have an expert’s grasp of the local economy as well as the political and financial capital to administer bitter pills. Such qualities might only rarely describe the tenure of local leaders who cycle in and out of the leadership group at three or four-year intervals. On the basis of our casework we discuss the impact of high cadre turnover on three factors that seem crucial to successful greening growth initiatives: time, strong leadership and money.

First, greening growth is a gradual process that is not easily compressed into the term of a typical leading cadre at the municipality or county level. In Datong, the need to change lanes from a coal-dependent industrial structure to a diversified, greener economy had long been acknowledged, but a string of uninspiring leaders effectively passed the buck until Geng Yanbo’s arrival on the scene in 2008. Yet, even a maverick *gexing guanyuan* like Geng operates within the constraints of a system which expects him to move on after five years. The immense time pressure imposed by Mayor Geng’s expected exit in 2013 accounts for his headlong approach to the transformation of Datong, the risks of which are considerable. Xiaoyi’s approach to greening growth is a study in contrasts. In Xiaoyi, a high degree of continuity in the local leadership group has helped to make long-term planning a habit of local rule. Xiaoyi leaders began to focus on transforming the local economy as early as 2002 and have developed and implemented their plans in stepwise fashion over the last decade. Local leaders’ good working relationships with each other and with local industry also help to explain why Xiaoyi was able to respond quickly and decisively to the yellow card from the

¹⁰³ Xiaoyi’s GDP per capita was 45,538 RMB in 2009, twice as high as the provincial GDP per capita level averaging at 21,506 RMB in 2009 (2010 *Shanxi Tongji Nianjian*, “Shanxi 2010 Statistical Yearbook”, Tables 19.3, pp. 636-38).

Shanxi EPB in 2006 in sharp contrast to other localities under similar degrees of external pressure.¹⁰⁴ The leadership group has also made very effective use of the relationships it has built over time with upper levels of government and especially with local industry. These precious *guanxi* resources are effectively preserved over time since long-serving mayors typically become long-serving Party secretaries in Xiaoyi.

Second, strong, sustained leadership is needed to build the foundations of greener growth, not least since many associated changes impose high costs on local businesses and local employment. Leaders in both Xiaoyi and Datong led costly restructuring initiatives which succeeded in pushing the heaviest polluters out of business. By contrast, in many other Shanxi localities facing similar problems, such as Linfen (see footnote 104), weak leaders continue to employ delaying tactics. While Geng's strong man leadership has provided an answer to the problem of Datong's coal dependence, his risky tourism-focused strategy is based on his own somewhat idiosyncratic vision of the city's latent strengths. The plans in Xiaoyi are comparatively less bold and this likely reflects the collective input of the leadership group as well as local industry. Indeed, while both models of greening growth examined in this study can be seen as successful (or at least promising) cases, Xiaoyi's seems the more readily sustainable because it is not pinned to the ambitions of a single person but carried forward by a more collectivist leadership. In Datong, it remains to be seen whether the energy and vision Geng has brought to the city will survive his departure.

Third, changing lanes is expensive and here, too, our cases point to the benefits of low cadre turnover in paying for greener growth. Xiaoyi's far-sighted, collectivist leaders make very effective fundraisers. Their focus on winning national awards and experimental city designations has brought in major funding as well as planning support from upper levels. They have also used their *guanxi* ties to induce local businesses to share the financial burden of reducing Xiaoyi's coal dependence. Xiaoyi leaders effectively "bundled" coal restructuring with the goal of developing non-coal industries by providing incentives for bosses whose enterprises were eliminated in the 2006 industry clean-up to start greener businesses in the second and third sectors. Xiaoyi leaders have also taken the unusual step of giving surviving coal enterprises soft targets for investment in transformation projects. Leadership continuity has probably contributed to the leaders' success in securing investment because investors can be confident that plans will not shift radically with personnel changes in the leadership group. By contrast, Datong's greening growth projects have been paid for with whatever Mayor Geng could cobble together, principally bank loans and municipal land sales. While Geng has had some success in attracting central SOEs to invest in green projects, his approach relies much less on local business burden-sharing, partly because, as a new arrival in 2008, he did not have connections to local industry on which to draw.

¹⁰⁴ Another Shanxi municipality, Linfen, offers a striking contrast. It ranked as one of the most polluted cities among China's 113 key cities inspected by the national Ministry of Environmental Protection in 2005. Yet, despite extreme pressure from provincial and national governments, Linfen did not fulfill most of the greening growth targets in the 11th FYP. For instance, by summer 2010 Linfen had only achieved 60% of its total 11th FYP energy efficiency targets and provincial leaders complained about the lack of cooperation from Linfen's leaders. Part of the problem was that the municipality had no Party secretary for more than eight years, mainly because the frequent occurrence of mine accidents and work safety scandals customarily led to leaders' resignation.

How might China's policymakers rectify the adverse effects of high cadre turnover suggested by these case studies? While this is a difficult question deserving its own paper, our analysis suggests the following preliminary policy implications. First, rapid cadre turnover encourages cadres to sideline longer-term green growth initiatives and gather only the low-hanging fruits most helpful for their career advancement. A step forward in the effort to lengthen cadres' time horizon is the central government's 2006 "Interim Provisions on the Tenure of Leading Party and Government Cadres" which stipulates that, except in special cases, leading cadres should serve out their five year terms in full. Second, China's leaders could consider modifying the planning and cadre evaluation systems. While many see the hardening of environmental targets in the 11th and 12th FYPs as a promising step in terms of incentivizing leading cadres to prioritize environmental protection and greening industry, these new incentives are probably not, on their own, adequate to induce local leaders to initiate the kinds of broad-based transformations described in this paper. Although the new plans are intended to promote greening growth, local leaders have myriad ways of satisfying the short-term goals contained in these plans while staving off needed costly and difficult change. To curtail this short-termism and encourage leaders to take the long view, one solution might be to move away from the current focus on quantitative, discrete measures in the planning and cadre evaluation systems to some form of comprehensive, qualitative evaluations of greening growth. Efforts to increase the after-tenure accountability of cadres might also serve to mitigate the problems associated with "tenure rush."

6 Conclusion

This study explored the consequences of high cadre turnover on environmental policy implementation in China. Leading cadres cycle in and out of positions every three to four years with two thirds of local officials not serving out their five year terms in full. On the one hand, this high turnover of Party secretaries and government heads promotes dissemination of new ideas and frequent policy stimulus through new leadership. On the other hand, a short tenure timeframe can result in damaging discontinuity as new leaders sometimes rashly overturn predecessors' initiatives and prioritize short-term, visible results for their personal achievement records. For these reasons we see high cadre turnover as an important factor contributing to the green implementation gap in China. A three to four year "implementation window" is particularly unfavorable for realizing costly, complex and lengthy projects, such as economic restructuring and greening growth of local economies.

Of course, cadre turnover is just one aspect of a complex picture. Our case studies of greening growth initiatives in the two coal-dependent localities touched on a number of factors emphasized in previous work including: the availability of funding from the central government, central-local interest divergence, inherited industrial structures, bureaucratic coherence and implementation capacity, leaders' personalities, shared values among cadres in the *lingdao banzi*, cadre succession modes, and the cadre evaluation system. Alongside these influences, our cases suggest that the frequent turnover of local leaders helps to explain why comprehensive green growth projects are often sidelined. In Datong, with the exception of the current mayor, local leaders cycled flitted through their terms without initiating comprehensive industrial transformation efforts. This changed with the arrival of Geng Yanbo who initiated a large-scale tourist-based development strategy. While there is reason to be cautiously

hopeful about this approach, Geng's personal time horizon has added risk and expense to Datong's bid to change lanes. By contrast, in Xiaoyi, a string of long-serving leaders in the *lingdao banzi* contributed stability to local strategic projects and drew funding from upper government and local businesses. Serving longer terms also helped Xiaoyi's leaders to develop and maintain *guanxi* resources built over time and ensured that developed strategies were realistic and fit Xiaoyi's untapped potential.

The analysis is exploratory in nature, relying on two in-depth case studies framed by a set of loose conjectures about how cadre turnover might affect local implementation of Beijing's green growth mandate. As such, we have identified dynamics with potentially broader significance but additional research is needed to assess the generalizability of these findings. Quantitative analysis could contribute to a better understanding of the pros and cons of frequent post-shuffling among local government cadres and assess how much of the variance in green growth implementation is accounted for by cadre turnover. While reliable data are available for cadre turnover at municipal and provincial levels, quantitative measures of "green growth" initiatives would need to be collected through survey analysis or through the development of a comprehensive environmental implementation index.

7 Appendices

Table A1: Major Economic and Environmental Targets in the 11th FYP and 12th FYP

Targets	11 th FYP (2010 Target)		2010 Actual	12 th FYP (2015 Target)	
Economic Targets					
Average GDP Growth	7.5%	E	11.2%	7%	E
Average GDP Growth Per Person	6.5%	E	10.6%	N/A	
Service Sector as % of GDP	43.3%	E	43% (not met)	47%	E
Service Sector as % of Total Employment	35.3%	E	34.8% (not met)	N/A	
Urbanization (%)	47%	E	47.5%	51.5%	E
R&D as % of GDP	2%	E	1.75% (not met)	2.2%	E
Patents per 10,000 People	N/A		1.7	3.3	E
Strategic Industry as a % of GDP	N/A		N/A	+8.0%	
Environmental Targets					
Reduction in energy intensity per unit of GDP	20%	R	-19.1% (not met)	-16%	R
Reduction in carbon intensity per unit of GDP	N/A			-17%	R
Non-fossil fuel in primary energy mix	N/A		N/A	11.4%	R
Major pollutants	COD: -10% SO ₂ : -10% Ammonia: N/A Nit. oxide: N/A	R R	COD: - 12.45% Co2: - 14.29%	COD: -8% SO ₂ : -8% Ammonia: -10% Nit. Oxide: -10%	R R R R
Forest coverage	20%	R	20.36%	21.66% or 14.3 trillion cubic meters	R
Reduction of water consumption per unit of value-added of industrial output	-30%	R	-36.7%	-30%	R
Increase of water efficiency coefficient in agricultural irrigation	0.5	E	0.5	0.53	E
Farmland reserves	120 million hectares	R	121.2 million hectares	121.2 million hectares (or 1.8 billion mu)	R
Comprehensive utilization rate of industrial solid waste	60%	R	69%	N/A	

Note: Population targets are excluded. (R) refers to a restricted, hard target; (E) refers to an expected, soft target. N/A indicates that no target was stated in the respective FYP.

Source: Adapted from Appendix 2 from Casey and Koleski, 2011, page 15-16; own research.

Table A2: National Laws and Regulations on Cadre Rotation

Year	Issuing body	Title of Document	Description
1990	CPC Central Committee Organization Department	Decision on the Implementation of Exchange System of Party and Government Leading Cadres, Document No.9 《关于实行党和国家机关领导干部交流制度的决定》	<u>Applies to</u> : Leading cadres (<i>lingdao ganbu</i> 领导干部) in central party and state organs and ministries, provinces, autonomous regions, directly-administered municipalities, governments, courts and procuratorates <u>Aims</u> : develop and train cadres; improve cadre quality (<i>suzhi</i> 素质) <u>Main Content</u> : Emphasis on cadre rotation from central to local regions; across regions; across central government departments; from economically developed to undeveloped areas
1993	State Council	Provisional Regulations on State Civil Servants, Document No.125 《国家公务员暂行条例》	<u>Main Content</u> : Chapter 11: Civil Servant Exchange -“Every year state administrative organs should rotate a certain proportion of civil servants” (proportions remain undefined) -stipulates that state administrative institutions should have vacant positions available to accommodate civil servant exchanges -Articles 57-60: define civil servant rotation as including: (1) appointments from beyond state administrative institutions (<i>tiaoren</i> 调任); (2) cross-department or cross-regional lateral transfers within state administrative institutions (<i>zhuanren</i> 转任); (3) job rotation of leaders plus some non-leading civil servants in special positions in state administrative institutions (<i>lunhuan</i> 轮换), and; (4) temporary postings for training purposes(<i>guazhi duanlian</i> 挂职锻炼)
1996	Ministry of Human Resources	Interim Measures for National Civil Service Position Rotation 《国家公务员职位轮换(轮岗)暂行办法》	<u>Applies to</u> : civil servants in leading positions plus some non-leading civil servants in special positions in state administrative institutions <u>Aims</u> : develop a high-quality national civil service; enhance the vitality of government agencies; improve efficiency and promote honest and clean government <u>Main Content</u> : Article 4: (1) “Civil servants in a leadership position for longer than five years, will, in principle, implement rotation. According to actual needs, rotation periods can be either extended or shortened”; (2) to be promoted to a leadership position one level up, civil servants should have held at least two positions at lower levels

1999	CPC Central Committee Organization Department	Interim Measures for Rotation of Party and Government Leading Cadres, Document No. 16 《党政领导干部交流工作暂行规定》	<p>Applies to: cadres at the county level or above working in party committees, government leading positions and leaders of certain government departments (e.g. inspection and supervision departments, juridical and procuratorial organs, personnel department, public security, finance and auditing departments)</p> <p><u>Aims</u>: strengthen the cadre ranks by following the “four transformations” policy and the principle of ability and integrity (<i>decai jianbei</i> 德才兼备); focus on cadres’ development and training; optimize the leadership structure; strengthen the Party’s clean and unified leadership; promote linkages between regions and government departments</p> <p><u>Main Content</u>:</p> <ul style="list-style-type: none"> -provides guidelines on various exchange programs to enhance leadership experience of leading cadres -set absolute term limits for incumbent leaders: (1) party committee members and government leaders working in the same position for longer than ten years <i>must</i> rotate; (2) leading cadres working in the same location in positions of equal rank <i>should</i> implement rotation -defines Rule of Avoidance (<i>hui bi zhi du</i> 回避制度): (1) leading cadres ordinarily must not work in their ancestral homes, places of birth or in the place they grew up; (2) within government institutions, leading cadres must not be married nor have direct blood relations to other cadres -defines which leading cadres are exempt from cadre rotation, e.g. those who are older than the standard, those with health problems and those under investigation
2000	CPC Central Committee Organization Department	Outline for Deepening Cadre Management Reform, Document No. 15 《深化干部人事制度	<p><u>Main Content</u>: Chapter 6: Promoting the Rotation of Party and Government Leaders</p> <ul style="list-style-type: none"> -emphasis on using policy to encourage cadre rotation to difficult regions and difficult posts. Calls for intensification of east-west cadre rotation schemes as part of Western Development Strategy (<i>xibu da kaifa zhanlve</i> 西部大开发战略) -calls for sending cadres from Western regions for short-term training (<i>guazhi duanlian</i> 挂职锻炼) to the central government, government departments and economically developed Eastern regions
2002	CPC Central Committee Organization Department	Regulation on the Selection and Appointment of Party-Government Cadres 《党政领导干部选拔任用工作条例》	<p>Main Content: Article 52: Implementation of Rotation System for Party and Government Leaders</p> <ul style="list-style-type: none"> -stipulates that, in general, local leaders of the Party and government should not be rotated to other locations at the same time -besides cross-region and cross-department rotation schemes, cadres may also rotate to state-owned enterprises and other social organizations -stipulates that local party committee and government leaders should serve for a full term

2006	National People's Congress	PRC Civil Servant Law 《中华人民共和国公务员法》 Adopted at the Tenth National People's Congress in 2005 and effective as of January 1, 2006	Main Content: <i>Chapter 11: On Cadre Rotation and the Rule of Avoidance</i> -Article 65: states that leaders at and below provincial rank should implement cross-regional, cross-department lateral transfers (<i>zhuanren</i> 转任). Within administrative institutions, civil servants in leadership positions and special non-leadership positions should arrange within-institution transfers -Article 66: stipulates that civil servants can be sent to lower or upper-level authorities, SOEs or service organizations for short-term training (<i>guazhi duanlian</i> 挂职锻炼)
2006	CPC Central Committee Organization Department	Regulation on Rotation of Party-government Cadres 《党政领导干部交流工作规定》	<u>Applies to:</u> leading members (<i>lingdao chengyuan</i> 领导成员) at the county level and above in party committees, government, the CDIC, the People's Court and the People's Procuratorate. Main Content: -Article 14: Exchange of cadres between regions should emphasize the nation's economic development and talent strategies; the layout of local development, and; the building of pillar industries and major projects -Article 15: Central-level institutions as well as provincial Party and government institutions should work to select excellent young local-level cadres to fill posts; as needed, these bodies should also send cadres to the localities to fill posts

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