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Party Watch Annual Report 2019
Scrambling to Achieve a Moderately Prosperous
Society

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Green Mountains are Gold Mountains: Xi Jinping's Quest to Build a "Beautiful China"

Isabel Hilton

2020 will be a year of judgement for many of China's environment and climate policies: at home, air pollution and other targets are due to be met; abroad, China's intentions will be closely examined as the deadline approaches for raised ambition under the Paris Agreement; and as China prepares to host a critical international meeting on biodiversity in Kunming, its own record on and commitment to conservation will be under enhanced scrutiny.

There will also be a reckoning of the environmental and efficiency targets of the 13th Five Year Plan (2016-2020), which was designed with the goal of achieving a moderately prosperous society by 2020 in mind. The plan set targets for carbon emissions, a reduction of energy density by 15% from 2015 levels, increased efficiency of industries, the elimination of overcapacity, a cap on China's total energy consumption at 5 billion metric tons of standard coal equivalent, a greater share for renewable energy and the development of green infrastructure.¹⁸¹ That course remains set, but recent signs of slackening in progress towards these targets have raised concerns about the speed of implementation.

Improvements in the domestic environment remain a national priority. The impacts of several decades of breakneck growth with no regard to environmental costs now force the state both to address the toxic legacy of those years and to reshape future industrial policies and economic priorities in order to measure and account for the stock of natural capital and negative economic impacts of pollution.

Building a "Beautiful China" From Hu Jintao to Xi Jinping

As China's economy slows, sustainability is the new watchword: breakneck growth is out, circular economy is in; the philosophy of "pollute first, clean up later" is passé; and bureaucratic rewards and punishments are being recalibrated to give force to what is envisaged as a radical change in the economic model. Xi Jinping has pinned his credibility to the promise of a "beautiful China" to be achieved through the construction of "ecological civilization."¹⁸²

The roots of the phrase go back to 2007, when Xi's predecessor, Hu Jintao, acknowledged that rising pollution threatened both China's economic sustainability and the Party's credibility. In his

¹⁸¹ *The 13th Five-Year Plan for Economic and Social Development of the People's Republic of China (2016-2020)*, National Development and Reform Commission, December 7, 2016, <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>.

¹⁸² "China's President Xi Jinping Calls for Increased Efforts to Tackle Pollution," Reuters via the *South China Morning Post*, May 20, 2018, <https://www.scmp.com/news/china/policies-politics/article/2146945/chinas-president-xi-jinping-calls-increased-efforts>.

report to the 17th Party Congress, Hu announced that reaching the Party's goal of a moderately prosperous society would require the country to build an ecological civilization.¹⁸³ It was, in retrospect, a liberal moment in China, and the theory of ecological civilization had emerged from a loose consortium of civil society actors and progressive officials who also encouraged China's environmental movement and promoted the public's right to know, greater public participation, transparency, and accountability.

When Xi Jinping came to power in 2012 at the 18th Party Congress, he enshrined the slogan in the party constitution and initiated an important shift in policies, procedures, and lifestyles. At the 19th Party Congress, Xi mentioned "ecological civilization" 22 times in his speech and referred to the environment 89 times. The economy only rated 70 mentions.

Xi Jinping's enthusiasm for ecology no doubt reflects in part a concern for public opinion: the promise of a clean environment resonates with a population that has frequently demonstrated its resentment of the pollution that has accompanied China's growth. Many urban young people who take for granted the increased personal prosperity that economic growth has given their generation have hardly known a China with clean air and water, where crops contaminated by polluted soils do not find their way onto supermarket shelves, and where growth is not bought at the cost of environmental degradation or species extinctions.

But Xi Jinping's policies reflect more than a rhetorical commitment to environmental protection or the need for credibility with a pollution-weary populace. He argues that rebalancing to high-quality development is essential to deliver the "China Dream" as the old economic model reaches its limits. Nevertheless, despite the increasing centrality of ecological civilization in Chinese policy discourse, making it happen in the face of conflicting demands and competing interests remains, as retired Politburo member Jiang Chunyun put it, "a complex social undertaking of huge proportions."¹⁸⁴

Xi Jinping attacked the challenge on a number of fronts. The first step was to assign value to natural capital and other factors that traditional economics treats as externalities. Xi appears to have appreciated the importance of this early; in 2005, when he was party secretary in Zhejiang Province, he coined the phrase "green mountains are gold mountains," (绿水青山就是金山银山) and he has repeated it many times since. On a visit to Kazakhstan in 2013, he explained in a speech, "We want not only mountains of gold, but also mountains of green. If we must choose between the two, we would rather have the green than the gold. And in any case, green maintains are themselves gold mountains."¹⁸⁵ Embedded in the phrase is a warning that growth disregarding the environment would no longer be tolerated.

¹⁸³ Hu Jintao, "Hold High the Great Banner of Socialism with Chinese Characteristics and Strive for New Victories in Building a Moderately Prosperous Society in All Respects," Speech before the 17th National Congress of the Communist Party of China, October 15, 2007, http://www.gov.cn/english/2007-10/24/content_785505.htm.

¹⁸⁴ Jiang Chunyun, "Creating an Ecological Civilization," *Qiushi Journal* 5.1, January 2013, via Climate & Capitalism, <https://climateandcapitalism.com/2013/03/31/chinese-leader-calls-for-ecological-civilization/>.

¹⁸⁵ "Key Terms to Understand Reform and Opening Up," *Beijing Review*, January 10, 2019, http://www.bjreview.com/Nation/201901/t20190107_800153482.html.

Conserving the environment is now one of the “five pillars of the struggle for the new era,”¹⁸⁶ but this is not the liberalizing vision of the earlier advocates of ecological civilization: today’s interpretation carries the hallmarks of Xi’s more authoritarian style. Xi frames environmental capital as a national asset and its protection as an economic and political imperative, and some of the methods of the drive to eliminate pollution are reminiscent of the anti-corruption campaign.

Progress should be set against the legacy of the high-carbon, high-pollution model of the reform era. China largely met its primary energy needs then by expanding its coal use, increasing coal consumption from 1.05 billion tons to 3.97 billion tons between 1990 and 2015 until, by 2016, coal made up 62 percent of its energy use.¹⁸⁷ Noxious air was one result, soaring greenhouse gas emissions another, phenomena that both created unease in the populations affected and threatened to damage China’s reputation as a responsible rising power.

According to the World Bank, in 2015, more than one million Chinese died as a result of air pollution.¹⁸⁸ In 2005, China became the world’s biggest carbon polluter,¹⁸⁹ and from 2007 onwards, there were frequent and large public protests against environmental threats. China’s own experts were beginning to warn that unless the government took a different approach, China could experience an environmental collapse. Today, Xi Jinping’s administration has bet heavily on low carbon industries and technologies as the way of the future, but dealing with the legacy of the earlier model remains a challenge.

The War on Pollution

Premier Li Keqiang declared war on pollution in 2014. In the months before, China released a national air quality action plan that set targets for urban areas to reduce concentrations of PM2.5, the fine particulate matter most hazardous to health, by at least 10 percent.¹⁹⁰ Beijing was required to reduce its concentrations by 25 percent, and 120 billion USD was set aside for the program.¹⁹¹

¹⁸⁶ Huang Qin, “The Special Role of Building an Ecological Civilization within the Five-Sphere Integrated Plan” [生态文明建设在“五位一体”中的特殊功能], February 1, 2014, <http://theory.people.com.cn/n/2014/0201/c40531-24272856.html>.

¹⁸⁷ “How is China’s Energy Footprint Changing?” Center for Strategic and International Studies China Power Project, February 15, 2016, <https://chinapower.csis.org/energy-footprint/>.

¹⁸⁸ Narain et al., *The Cost of Air Pollution: Strengthening the Economic Case for Action*, World Bank and The University of Washington Institute for Health Metrics and Evaluation, 2016, <http://documents.worldbank.org/curated/en/781521473177013155/pdf/108141-REVISED-Cost-of-PollutionWebCORRECTEDfile.pdf>

¹⁸⁹ John Vidal and David Adam, “China Overtakes US as World’s Biggest CO2 Emitter” *The Guardian*, June 19, 2007, <https://www.theguardian.com/environment/2007/jun/19/china.us>.

¹⁹⁰ Barbara Finamore, “China Pledges to Tackle Air Pollution with New Plan,” Natural Resources Defense Council, September 13, 2013.

¹⁹¹ Jennifer Duggan, “Beijing to Spend £76bn to Improve City’s Air Quality,” *The Guardian*, January 23, 2014, <https://www.theguardian.com/environment/chinas-choice/2014/jan/23/china-beijing-authorities-measures-tackle-air->

In the last decade, China has moved to upgrade its coal fired power stations to more efficient, less polluting models, new coal-fired power plants in the most afflicted regions have been banned, and existing plants told to reduce emissions or be replaced with gas. At the same time, investment in renewable energy and in natural gas has grown dramatically. In 2017, China invested 125.9 billion USD in renewables, equivalent to almost half of the global total and more than double the figure for 2013 (53.3 billion USD).

Despite these numbers, vested interests in the coal and coal-related industries, and anxieties over the potential for lost jobs seem to be acting as a brake on ambition. In the last two years there has been a small but persistent rise in coal use¹⁹² and despite China's claim to climate leadership, its coal and energy companies continue to build coal-fired power stations abroad, locking in several decades of high emissions for partner countries.¹⁹³

The 2020 domestic targets are ambitious since, at the same time as promising measurable air quality improvements by 2020, the government has also pledged to double China's 2010 GDP, double rural and urban per capita incomes and eliminate poverty, among other goals. Previously, ambitious economic goals would invariably entail further environmental degradation. Under the new dispensation, cadres are expected both to grow the economy and protect the environment. To enforce such a reordering of priorities required far-reaching administrative and legal reforms.

Administrative and Regulatory Reform

When the leadership began to turn seriously to the environmental crisis, it was confronted with some endemic structural problems: ministries and agencies charged with environmental protection were weak, responsibilities were fragmented, incentives were distorted and the industrial machine was geared towards linear growth. In both industry and government, jobs and revenues that depended on the old growth model could not easily be changed or disregarded. Failing to achieve the transition Xi Jinping envisaged would condemn more citizens to early death from pollution-related diseases and threaten the sustainability of China's new prosperity, but achieving it would demand radical reform.

Xi began with rewards and punishments. The behavior of local officials is conditioned by an assessment system that assigns points to performance against a set of criteria. Environmental protection was one of those criteria under previous administrations, but economic targets carried more weight. That meant that when there was a clash between environmental and economic interests, a cadre with an eye on promotion would be inclined to favor the economic. That choice was reinforced by the fact that promotion often brought a transfer to another district, leaving the environmental consequences of earlier decisions behind.

pollution.

¹⁹² Feng Hao and Tom Baxter, "China's Coal Consumption on the Rise," *China Dialogue*, January 3, 2019, <https://www.chinadialogue.net/article/show/single/en/11107-China-s-coal-consumption-on-the-rise>.

¹⁹³ Steven Inskeep and Ashley Westerman, "Why Is China Placing a Global Bet on Coal?" *NPR*, April 29, 2019, <https://www.npr.org/2019/04/29/716347646/why-is-china-placing-a-global-bet-on-coal>.

In 2014, only eight of 74 Chinese cities had met national standards for clean air and 60% of ground water had been judged “bad” or “very bad.”¹⁹⁴ New measures of economic and social progress and a radical revision of the mix of bureaucratic rewards and punishments would be needed to make ecological policies effective. Equally challenging was making the system honest: in January 2015, a revision to environmental law set out punishments for reporting false environmental data, a sign that fraudulent reporting remained an obstacle to effective governance.¹⁹⁵

In March 2015, Premier Li Keqiang promised “a firm and unrelenting approach to ensure blue skies, clear waters, and sustainable development,”¹⁹⁶ and in May the criteria for bureaucratic promotions were tied to performance against new regulations on air, water and soil pollution.¹⁹⁷ Further reform was in the pipeline.

Xi Jinping reinforced the need for administrative reform in his report to the 19th Party Congress in October 2017 and made clear that henceforth nature was to assume the status of national asset. “We will strengthen overall planning, organization, and leadership for building an ecological civilization,” he said. “We will establish regulatory agencies to manage state-owned natural resource assets and monitor natural ecosystems, and improve environmental management systems.”

The new agencies, he promised, “would perform the duties of the owner of public-owned natural resource assets...of regulating the use of all territorial space and protecting and restoring ecosystems, and of monitoring the discharge of all pollutants in urban and rural areas and conducting administrative law enforcement.”

“We will establish systems,” he continued, “for developing and protecting territorial space, [to] improve supporting policies on functional zones, and develop a nature reserve system composed mainly of national parks. We will take tough steps to stop and punish all activities that damage the environment.”¹⁹⁸

Hitherto, natural capital had barely figured in calculations of China’s growth, and earlier attempts

¹⁹⁴ “2014 State of Environment Report Review,” China Water Risk, July 14, 2015, <http://www.chinawaterrisk.org/resources/analysis-reviews/2014-state-of-environment-report-review/>.

¹⁹⁵ David Stanway and Kathy Chen, “False Emissions Reporting Undermines China's Pollution Fight,” *Reuters*, January 17, 2016, <https://www.reuters.com/article/us-china-power-emissions/false-emissions-reporting-undermines-chinas-pollution-fight-idUSKCN0UV0XS>.

¹⁹⁶ Li Keqiang, “Report on the Work of the Government (2015),” Speech to the 3rd Session of the 12th National People’s Congress, March 5 2015, http://english.www.gov.cn/archive/publications/2015/03/05/content_281475066179954.htm.

¹⁹⁷ Hannah Beech, “China Ties Officials' Promotions to Saving the Environment,” *Time Magazine*, May 6, 2015, <https://time.com/3848171/china-environment-promotions/>.

¹⁹⁸ Xi Jinping, “Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era,” Speech to 19th National Congress of the Communist Party of China, Xinhua, October 18, 2017, http://www.xinhuanet.com/english/download/Xi_Jinping's_report_at_19th_CPC_National_Congress.pdf.

to introduce Green GDP to account for ecological damage had not prospered.¹⁹⁹ In invoking “state-owned natural resource assets,” Xi signaled a shift in how the value of nature would be calculated.

In March 2018, a sweeping reform of the ministries responsible for various aspects of the environment came into effect.²⁰⁰ It was long overdue: officials charged with environmental protection had often complained that their institutions were weak and their responsibilities too fragmented across heavily siloed bureaucracies. In 2013, for example, the environment minister, Zhou Shengxian, had complained that while his ministry took care of carbon monoxide, carbon dioxide was the responsibility of the National Development and Reform Commission.²⁰¹ Other officials complained of fragmentation of responsibility for water resources, traditionally described as ruled by “nine dragons.” The confusion that resulted led to complaints that the frog in the water is regulated by one authority, while the frog on the bank is supervised by another.

The reforms gave an important upgrade to China’s Ministry of Environmental Protection (MEP) which became the more powerful Ministry of Ecology and Environment (MEE).²⁰² It marked the fourth—and most significant—promotion in 30 years, as the environment moved to the center of the government’s concerns. The new arrangements closely followed the recommendation of a 2015 report by the Chinese Academy of Sciences, which had proposed the formation of a “natural resources owner,” a “natural resources manager,” and a “pollution controller.”²⁰³ The new ministry emerged from the reorganization as the top regulator of pollution from all sources, charged with safeguarding the nation’s environmental capital.

State Councilor Wang Yong explained the responsibilities of the upgraded ministry at the First Plenum of the 13th National People’s Congress on March 13th, 2018. Its main responsibility, he said, was to formulate and implement eco-environmental policies, plans and standards, to monitor law enforcement, to supervise and manage pollution prevention, nuclear and radiation safety, and to organize environmental inspections.²⁰⁴ This new ministry quickly began to flex its muscles.

¹⁹⁹ Ma Zhong, “Turning Green GDP on its Head,” *China Dialogue*, July 26, 2006, <https://www.chinadialogue.net/article/show/single/en/220-Turning-green-GDP-on-its-head>.

²⁰⁰ Ma Tianjie and Liu Qin, “China Reshapes Ministries to Better Protect Environment,” *China Dialogue*, March 19, 2018, <https://dialogochino.net/10837-china-reshapes-ministries-to-better-protect-environment/>.

²⁰¹ “Environmental Protection Minister: I’ve Heard the MEP is One of the World’s Four Most Embarrassing Departments” [环保部长:听说世界有四大尴尬部门 包括环保部], *Xinhua via Sina News*, <http://news.sina.com.cn/c/2013-07-09/122827617987.shtml>.

²⁰² Wang Yong (王勇), “State Councilor Wang Yong’s Explanation of the Plan to Reform Structure of the State Council” [国务委员王勇作国务院机构改革方案说明], Speech to the 4th Plenum of the 1st Sess. of the 13th National People’s Congress, March 13, 2018, <http://news.sina.com.cn/c/nd/2018-03-13/doc-ifyscsmv0505118.shtml>.

²⁰³ *China Sustainable Development Report 2015—Reconstructing Ecological and Environmental Governance Systems* [2015 中国可持续发展报告——重塑生态环境治理体系], Chinese Academy of Sciences (Beijing: China Science Publishing (科学出版社), 2015).

²⁰⁴ Wang, “Explanation of the Plan to Reform Structure of the State Council.”

The Three-Year Action Plan

In June 2018, the State Council issued a directive, dramatically entitled "Three-Year Action Plan to Win the Blue Sky Defense War," that set out the targets the new ministry aimed for. The targets for 2020 included a reduction of sulfur dioxide and nitrogen oxides by more than 15% on a 2015 baseline; reduction in concentrations of PM2.5, the smallest particle, to 18% lower than 2015; and a target of 80% of days with superior air quality and a decrease by 25% in heavy and high pollution days compared with 2015. Provinces that reached their targets were to try to improve further.

The plan demanded that all levels of government set red lines for ecological protection and close or relocate polluting industries. New chemical parks were to be banned in key areas, as were new steel, coking, aluminum, cement and glass works, and efforts to clean up existing plants intensified. Factories that failed the stricter standards were to close. A comprehensive system of permits would cover all fixed pollution sources, with licenses to be issued before the end of 2020.

The plan covered a huge range of industrial production as well as non-fixed sources of pollution such as transport, storage, transfer, and processing of materials and waste. Rail freight was encouraged; by 2020, the national railway freight volume was to increase by 30% compared with 2017, with a target in the Beijing-Tianjin-Hebei and surrounding areas of 40%. Road transport was to be discouraged and older diesel vehicles retired—one million were to be eliminated in the Beijing-Tianjin-Hebei region alone by 2020 and two million new energy vehicles were to be deployed by the same date. Stricter emissions standards were to be rolled out from July 2019 in the Pearl River Delta and the Chengdu-Chongqing region.

Other measures included continuing anti-desertification work in north China, building an ecological safety barrier for sand control, promoting afforestation and urban greening, and reducing chemical fertilizer and pesticide use.

The plan also called for the development of a comprehensive system of environmental regulation, including pollution permit management, air pollution prevention and monitoring to international standards, controlling industrial pollutants, and more stringent transport fuel standards.²⁰⁵

Inspections

The new MEE was also charged with enforcement, a notorious weak spot in Chinese policy. Again, the language was tough, especially when considered against the backdrop of the anti-corruption campaign that had run since Xi Jinping took power, which Chinese officials had learned to fear. The new environmental policies were to be administered with an "iron fist" and a range of punitive measures, from plant closure to heavy fines and legal sanctions.²⁰⁶

²⁰⁵ "Three-Year Action Plan to Win the Blue Sky Defence War" [打赢蓝天保卫战三年行动计划], State Council of the PRC, June 27, 2018, http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm; Feng Hao, "China Releases 2020 Action Plan for Air Pollution," China Dialogue, July 6, 2018,

²⁰⁶ Li Jing, "China will Use 'Iron Fist' against Pollution, Premier Li Keqiang Vows," South China Morning Post, March 13, 2014, <https://www.scmp.com/news/china/article/1447728/china-will-use-iron-fist-against-pollution->

A key difference from past enforcement mechanisms was the tougher inspection regime inaugurated in 2016, integrating ecological and environmental law enforcement and criminal justice. This meant that environmental violations would have more serious consequences than the administrative admonitions common in the past. The MEE was to lead on inspections and enforcement, but the Ministry of Public Security and the Party's discipline and inspection machinery were also involved.

Previously, the Environmental Protection Agency and its immediate successor, the MEP had both been too low down the bureaucratic pecking order to prevail against the powerful economic and party interests that they were meant to inspect and regulate. The range of punishments had been limited, and MEP enforcement officers were often met with defiance and resistance, barred from entering the factories and even illegally detained.

In 2015, the Central Leading Group for Comprehensively Deepening Reform approved a trial inspection program, which had been proposed by the Central Committee and the State Council, to raise the power of inspections and extend them to cover both industrial enterprises and, importantly, the government officials who were nominally responsible for them.²⁰⁷ The inspections would be led by ministerial level officials who were too senior to be defied, denied or abused. Their reports would go to the central government and feed into the official evaluation and appointment system.²⁰⁸

Between July and November 2016, the first major inspection campaign under the new rules demonstrated that inspections had changed. The inspections were explicitly aimed at "local protectionism" and the results lifted the lid on an entrenched culture of violations and bureaucratic impunity.²⁰⁹ In the eight provinces inspected, disciplinary action was taken against more than 3,000 local government officials, 310 people were detained, and heavy fines were levied. By the time the fourth round of inspections was completed in 2017, 12,000 officials had been disciplined and some eye-watering scandals uncovered.

Among the more striking discoveries was the fact that in the important city of Tianjin officials had

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²⁰⁷ Chen Xiangli (陈相利), "Provincial Cadres Take Lead on Current Round of Environmental Protection Investigations: Some Areas' Leadership Teams Criticized as Neglecting Specific Study" [省部级干部挂帅本轮中央环保督察：部分地市班子被批疏于专研], *The Paper* (澎湃), November 24, 2016, https://www.thepaper.cn/newsDetail_forward_1567198

²⁰⁸ Ruxin Wu and Piao Hu, "Does the "Miracle Drug" of Environmental Governance Really Improve Air Quality? Evidence from China's System of Central Environmental Protection Inspections," *Int. Journal of Environmental Research and Public Health* 16.5 (March 2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6427574/>.

²⁰⁹ Chen Xiangli (陈相利), "Provincial Cadres Take Lead on Current Round of Environmental Protection Investigations: Some Areas' Leadership Teams Criticized as Neglecting Specific Study" [省部级干部挂帅本轮中央环保督察：部分地市班子被批疏于专研], *The Paper* (澎湃), November 24, 2016, https://www.thepaper.cn/newsDetail_forward_1567198.

routinely falsified environmental data, invented records of meetings that had never taken place and created a paper trail of compliance with environmental regulation that was substantially fictitious.²¹⁰ Officials manipulated air quality monitoring data, temporarily blocked sewage outfalls to falsify water quality data, and fabricated meeting minutes. According to the inspection report, Tianjin officials had held plenty of meetings to study government documents and “chanted a lot of slogans,” but had done little to curb pollution.²¹¹

In the first quarter of 2017, levels of fine particulates (PM 2.5) had risen by 27.5%, but Tianjin’s planners still planned to build more thermal power plants. City inspectors allowed sellers of sub-standard coal to continue to do business in the city, and in one chemical plant, inspectors found that emissions from two devices were up to 561 times higher than the national standard. Sixty-one million tons of untreated sewage were being dumped directly into Tianjin’s rivers each year and only 15 percent of the city’s water was clean. Just five of Tianjin’s purported solid waste processing plants were operational and some parts of the city had no garbage processing capacity at all. In addition, the Ministry noted that Tianjin officials had tried to mislead inspectors, distorting air quality readings by controlling traffic flows and spraying water around the monitoring sites to damp down the pollution. One water bureau in the district of Jinghai, it noted, produced fraudulent meeting minutes and work logs.

The scandal of Tianjin was more eye-catching because this was not a remote municipality in a backward province. Tianjin is one of the wealthiest and most advanced cities in the country and only a short train ride from the capital. A year later, Tianjin reported that 83 officials had been punished for 11 environmental violations.²¹² None of the officials had been jailed or even dismissed, although 17 of those punished had been found to have failed to build planned garbage treatment facilities in five districts, which had resulted in the illegal disposal of landfill materials. Two higher-level officials involved in the scandal were given warnings and shifted to non-waste management fields of work.

Other policy initiatives showed some of the characteristics of an overly hasty, top-down approach. For example, to eliminate domestic coal use in North China in favor of gas, officials ordered a blanket ban on coal heating in the winter of 2017, but a lack of preparation and a shortage of gas left northern households shivering in the severe winter weather and forced a reversal of the policy.²¹³ Less well publicized was the associated and abrupt diversion of gas from industrial enterprises in west of China to the Beijing area, forcing them to cease operations for several

²¹⁰ Zhao Yusha, “Tianjin Slammed for Air, Water Pollution Coverup,” *Global Times*, July 30, 2017, <http://www.globaltimes.cn/content/1058698.shtml>.

²¹¹ Zhuang Pinghui, “China’s Environment Watchdog Reads Riot Act to Megacity over Litany of Pollution Failures,” *South China Morning Post*, July 31, 2017, <https://www.scmp.com/news/china/economy/article/2104793/chinas-environment-watchdog-reads-riot-act-megacity-over-litany>.

²¹² Hou Liqiang, “Environmental Inspections Catch Hundreds of Officials,” *China Daily*, December 28, 2018, <http://www.chinadaily.com.cn/a/201812/28/WS5c257146a310d9121405160a.html>.

²¹³ Li Jing, “What Caused China’s Squeeze on Natural Gas?” *China Dialogue*, December 22, 2017, <https://www.chinadialogue.net/article/show/single/en/10322-What-caused-China-s-squeeze-on-natural-gas->.

months.

Results

The government unquestionably achieved an improvement in air quality, most notably in a marked reduction in fine particulate matter in many cities in China. Further progress may be more challenging, however. As an article in *Nature Geoscience* explained, PM2.5 is a resonant term in China, but it refers only to the size of particulates, not the chemical composition of the pollutants. On June 5th 2019, when the UN's World Environment Day highlighted worldwide air pollution, China's MEE was able to report reductions in PM2.5 concentration levels of 42% between 2013 and 2018 across 74 major cities, but scientists meeting in Beijing the following day concluded that further progress would be more difficult.²¹⁴

China was still far from WHO-recommended levels of fine particulate matter and unlikely to achieve them because of the very high levels of industrial and coal emissions. The government succeeded in reducing SO₂, NO_x and black carbon by 59%, 21% and 28%, respectively, between 2013 and 2017, but levels of other pollutants continued to grow.²¹⁵ Despite attempts to regulate the powerful greenhouse gas methane, for example, emissions continued to rise, largely because of coal mining. And one unintended consequence of reductions in PM2.5 was an intensification of ground-level ozone due to a change in the chemical composition of the haze. To avoid a worsening ozone problem, a more scientifically sophisticated approach would be needed.

Technical difficulties aside, other problems with the new policies have emerged. Complaints began to surface that in order to protect themselves, officials had preemptively closed enterprises in advance of inspections, afraid they might be blamed for any violations uncovered and that widespread closures had led to hardship. Yet the MEE saw its enhanced inspection campaigns as a success. Between 2016 and 2017 the Ministry had collected 1.43 billion RMB (213 million USD) in fines from 29,000 enterprises, disciplined some 17,000 people from industry and local governments, and arrested 1,527.²¹⁶ In 2018, the inspection teams revisited 20 provinces in follow-up checks, collecting 920 million RMB (137 million USD) in fines and disciplining over 8,000 people.²¹⁷ But this unprecedented action had unintended consequences. In Hebei province,

²¹⁴ “Ministry of Ecology and Environment Publishes ‘China Air Quality Improvement Report (2013-2018)’” [生态环境部发布《中国空气质量改善报告（2013-2018年）》], Ministry of Ecology and Environment of the PRC, June 6, 2019, <https://go.nature.com/2xaWNEI>.

²¹⁵ Ke Li, Daniel J. Jacob, Hong Liao, Lu Shen, Qiang Zhang, and Kelvin H. Bates, “Anthropogenic Drivers of 2013–2017 Trends in Summer Surface Ozone in China,” *Proceedings of the National Academy of Sciences of the USA* 116.2, January 8, 2019, <https://doi.org/10.1073/pnas.1812168116>.

²¹⁶ “Decoding Environmental Supervision: Shifting from Focus on Enterprise Inspection to Government Supervision” [解码中央环保督察：由查企为主转变为督政为主], *China News*, March 15, 2018, <http://www.chinanews.com/gn/2018/03-15/8468302.shtml>.

²¹⁷ Gao Jing, “Ministry of Environmental Protection Supervision Group Conducts ‘Re-examinations’ of 20 Provinces This Year” [中央环保督察组今年共对 20 个省份实施“回头看”], *Xinhua*, December 26, 2018, http://www.gov.cn/xinwen/2018-12/26/content_5352407.htm.

for example, officials estimate that the campaign cut steel capacity by about 25 percent and forced an estimated 170,000 small factories to close over two years. A pushback had begun.

In Li Keqiang's 2019 work report to the NPC, he no longer talked of using an "iron fist" to crack down on polluters, talking instead of stimulating employment. Whilst pledging to continue the policies, he hinted that the approach had been too crude: an enterprise must fulfil its legal responsibilities to environmental protection, but officials should also entertain reasonable appeals and offer assistance and guidance, giving companies a "reasonable transition period" to reach the necessary standards. While he still spoke of strengthening pollution prevention and control, he also advocated that the government hear their "reasonable demands" and "offer support."²¹⁸

Li's speech followed news of a deterioration in environmental indicators and a small but sustained rise in coal consumption, which reinforced suspicion that the government was using a "smokestack stimulus" to offset negative economic developments. From the second half of 2018, the central government had boosted spending on infrastructure and heavy industrial production that had pushed up coal consumption and greenhouse gas emissions.^{219;220} In the Beijing area, Hebei, Shandong, Shanxi and Henan provinces, production of cement, metals, pig iron, steel and thermal power rose in the first quarter of 2019. Crude steel production in northern China for example, rose 21.2% in the winter of 2018-19 against a fall of 4.9% the previous winter.

There had been measurable progress in air quality, the most sensitive of China's pollution problems: between 2013 and 2017, PM2.5 levels had dropped 40% in the Beijing-Tianjin-Hebei area. Now, Premier Li was promising to reduce sulfur dioxide and nitrogen oxide by 3% and further reduce levels of PM2.5. Sixty billion RMB (9 billion USD) from central funds and technical assistance from the ministry was pledged for the effort. But the signs that policy is slackening continue. A Reuters analysis of official monitoring data reported that between October 2018 and February 2019, only six of 39 cities in the Beijing-Tianjin-Hebei area and the north China plain had reduced PM2.5 levels, while average levels of air pollutants had risen by 13%.²²¹

Li Ganjie, the Minister of Environment and Ecology, also promised to crack down on the "one-size-fits-all" approach that some local authorities had adopted when they imposed blanket production bans on businesses regardless of their environmental performance. In July 2019, as the

²¹⁸ "Li Keqiang's Government Work Report (Extracts)" [李克强作的政府工作报告 (摘登)], People's Daily, March 6, 2019, <http://lianghui.people.com.cn/2019npc/n1/2019/0306/c425476-30959513.html>; Li Jing, "China's 'Iron Fist' Against Pollution is Softening," China Dialogue, March 14, 2019, <https://www.chinadialogue.net/article/show/single/en/11139-China-s-iron-fist-against-pollution-is-softening>.

²¹⁹ "China to Expand Infrastructure Investment in 2019," *Xinhua* via Yicai Global, March 5, 2019, <https://www.yicai.com/news/china-to-expand-infrastructure-investment-in-2019>; Hao and Baxter, "China's Coal Consumption on the Rise."

²²⁰ Wallis Wang, "Inkstone Index: China's Emissions Peak," Inkstone News, January 2017, <https://www.inkstonenews.com/science/inkstone-index-chinas-emissions-peak/article/3000508>.

²²¹ Richard Stanway, "China to Extend Winter Anti-Smog Measures for Another Year," Reuters, March 5, 2019, <https://www.reuters.com/article/us-china-pollution/china-to-extend-winter-anti-smog-measures-for-another-year-idUSKCN1QN09E>.

new MEE prepared to launch a new round of inspections in six provincial level regions and two national level state owned enterprises, the Ministry voiced its support for a ban on the temporary production halts, and advised local governments to give officials time to rectify problems, and to establish long-term mechanisms to resolve different environmental problems.

Internationally, too, China appeared to relax its efforts. President Donald Trump's announcement that the US would withdraw from the Paris Agreement, his sustained attack on US environmental regulation along with a deepening conflict with China over trade have all had impacts on policy in China. The reinforcing effect of the close US-China collaboration on climate and environment established under previous administrations has gone, which reduces pressure on China to move faster and further on climate mitigation. When Wang Yi, China's foreign minister, spoke to the UN Climate Summit in New York in September 2019, his speech notably lacked new commitments and did not repeat the claim to climate leadership that China had made before. The word "torch bearer," deployed previously to describe China's approach to climate policy, was conspicuously absent.²²²

Wang Yi gave a preview of China's 2020 claim to sustainable development, repeating the commitment to "building (of) a moderately prosperous society in all respects next year," through "high-quality development that is innovative, coordinated and green." He set limits to what the wider world can expect from China when he said, "...a better life for the 1.4 billion Chinese will be, in itself, China's biggest contribution to global development." He did not offer a commitment to enhanced ambition on climate change that the UN Secretary General had called for.

There are unmistakable signs that China's policy on climate mitigation is slackening amid concerns about slowing economic growth.²²³ Looking to the immediate future, the clash between building to stimulate economic growth and the imperative of pollution and emissions control seems set to deepen. China continues to build new airports, for example, and still aims for a radical expansion of air travel, while opposing international efforts to contain aviation emissions.²²⁴ Support for renewable energy is being cut back and subsidies given to shale gas;²²⁵ coal use continues to rise, as do China's carbon emissions, from their low in 2016.²²⁶ In September 2019

²²² Lili Pike, "China Dashes Hopes of Raising its Climate Ambition at UN Climate Summit," China Dialogue, September 24, 2019, <https://www.chinadialogue.net/article/show/single/en/11535-China-dashes-hopes-of-raising-its-climate-ambition-at-UN-climate-summit>.

²²³ David Stanway, "China Plans 226 GW of New Coal Power Projects: Environmental Groups," Reuters, September 19, 2019, <https://www.reuters.com/article/us-climate-change-china-coal/china-plans-226-gw-of-new-coal-power-projects-environmental-groups-idUSKBN1W40HS>.

²²⁴ Emma Charlton, "China is Building 8 new Airports Every Year," World Economic Forum, August 24, 2018, <https://www.weforum.org/agenda/2018/08/these-five-charts-show-how-rapidly-china-s-aviation-industry-is-expanding/>.

²²⁵ Yao Jinnan (姚金楠) and Dong Zitong (董梓童), "Did Someone Mess Up? Why were Renewable Energy Project Funds Given to Non-Renewables?!" [有没有搞错？可再生能源发展专项资金为啥给了非可再生能源？！], China Energy News via WeChat article, July 2, 2019, <https://mp.weixin.qq.com/s/q9ayiKQoN9JjD-Uo1XxUQA>.

²²⁶ Michael Standaert, "Why China's Renewable Energy Transition is Losing Momentum," Yale Environment 360,

it was reported that China had a further 226.2 gigawatts (GW) of new coal-fired power plants in the pipeline, and although the proportion of coal in the primary energy mix had fallen, the volume of coal use overall continued to rise.²²⁷

China's economic prospects have darkened as the effects of the US-China trade conflict deepened and the Party finds itself in the grip of conflicting pressures to maintain a level of growth that will ensure social stability, fulfil Xi Jinping's promise of a "beautiful China," and uphold China's international promise of commitment to climate mitigation. In October, the Li Keqiang warned of economic difficulties, urging local officials to do whatever they could, including making good use of "special purpose bonds" to fund infrastructure and other designated projects as a way to "expand effective investment."²²⁸ For the time being, at least, it would appear that the Party has chosen stimulus over environment. A "beautiful China" may have to wait.

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September 26, 2019, <https://e360.yale.edu/features/why-chinas-renewable-energy-transition-is-losing-momentum>.

²²⁷ David Stanway, "China Plans 226 GW of New Coal Power Projects: Environmental Groups," Reuters, September 19, 2019, <https://www.reuters.com/article/us-climate-change-china-coal/china-plans-226-gw-of-new-coal-power-projects-environmental-groups-idUSKBN1W40HS>.

²²⁸ Zhou Xin, "China's Economy Cause of Growing Concern in Beijing as US-China Trade War Takes Toll on Growth," *South China Morning Post*, October 15, 2019, <https://www.scmp.com/economy/china-economy/article/3032940/chinas-economy-cause-growing-concern-beijing-us-china-trade>.