Environment

The Story So Far

China’s rapid economic rise has come at a heavy environmental cost, and its population is increasingly demanding an “ecological civilization” that addresses health-threatening air pollution, heavily polluted rivers and groundwater, and contaminated land. Studies estimate premature deaths from air pollution at 1 to 2 million per year, while the World Bank puts the overall cost of China’s water pollution crisis at 2.3% of GDP. Policymakers are aware of these threats: the 2013 Third Plenum set environmental reform and sustainable development as some of the government's main responsibilities. Aided by structural transition away from polluting heavy industries, initial reform efforts are making a difference. Yet much more is required to put a sustainable future within reach, let alone to raise China’s air and water quality to international standards.

- In 2013, officials released the first “Air Pollution In 2013, officials released the first “Air Pollution Prevention” plan, requiring major Chinese regions to meet air pollution reduction targets within four years. Beijing was required to reduce air pollution by 33%, prompting it to shutter coal-fired power stations and curtail coal-burning heaters. A 2018 “Blue Sky” action plan built on the original 2013 plan by setting out further reduction targets of at least 18% for large cities and regions that lagged 2013 goals.

- Premier Li Keqiang announced a “war on pollution” in 2014, outlining plans to reduce particulate air pollution, cut production in overcapacity industries like steel and aluminum, shift away from coal power, and develop renewable energy and resources. While previous policy efforts suffered from a lack of concrete action, a revised Environmental Pollution Law reinforced the war on pollution by increasing penalties for polluters and integrating environmental performance into local officials’ performance and promotion metrics.

- The winter of 2017–2018 featured an aggressive campaign against air pollution, including a strict coal-heating ban in northern cities. However, natural gas supply shortages and preemptive coal furnace removals prompted a heating crisis in some regions and forced officials to allow some flexibility at the local level. January 2018 revisions to the tax code also implemented sliding pollution tax rates; increased penalties; and initiated new rewards for firms that cut air, water, noise, and solid waste pollution.

- Importantly, the law put local governments at the forefront of enforcement, enticing them with 100% of pollution tax revenue.

- The State Council created a new Ministry of Ecology and Environment (MEE) in March 2018, consolidating scattered pollution enforcement and environmental powers from seven agencies. The previous Ministry of Environmental Protection had been sharply criticized even by domestic observers for feeble policy and perceived collusion with provincial interests. The MEE was meant to streamline governance and invigorate enforcement and local inspections.

Methodology

To gauge environmental reform progress, we track measures of air and water pollution. For air quality, we focus on small particulate matter of 2.5 microns (PM 2.5) or less, which is linked to adverse health effects and for which the World Health Organization (WHO) issues pollution guidelines. For water, we monitor the surface water quality of China’s freshwater system. Lower levels in our air and water indices indicate improved environmental conditions. We seasonally adjust these indicators to account for annual weather patterns and energy consumption changes. Variations in these factors may also reflect developments in non-environmental areas, such as a macroeconomic slowdown or industry consolidation. To supplement our analysis, we examine China’s alternative energy development, including sales of new energy vehicles (NEVs) and non-fossil-fuel electricity generation. We also track wind curtailment, the electricity lost when power operators restrict how much is transmitted from wind turbines to the power grid.
Quarterly Assessment and Outlook

Primary Indicator: Water and Air Quality Trends
Index, April 2013 = 100

- Our assessment is neutral, a modest downgrade from last quarter. Air pollution in China worsened, and authorities appear to be prioritizing stable economic growth above strict environmental protection enforcement in 2019.

- Water quality continued to improve, but air quality deteriorated as relaxed winter air quality targets and a cyclical rebound in emissions-intensive industries drove up pollution levels.

- The Communist Party of China has signaled it will prioritize economic growth over environmental protection in 2019. After years of stricter enforcement, relaxation may risk environmental backsliding, particularly in air pollution. Officials claim the fight against pollution is still on, although they have abandoned blanket restrictions on high-polluting industries for now.

This Quarter’s Numbers

Our primary indicator shows an increase in air pollution in 1Q2019, as rebounding industrial activity pushed up average airborne particulate matter (PM 2.5) levels (see Environmental Impacts). Pollution worsened in two regions—the Beijing-Tianjin-Hebei metropolitan area and the Fenwei Plain—targeted for winter pollution reduction. More than three-quarters of the 39 cities in those regions failed to reduce air pollution in line with targets, even though environmental ministry officials set less ambitious targets this winter compared with 2017-2018. Air pollution levels in Guangzhou and Shanghai also rebounded after both cities posted unusually low numbers in 4Q2018, while Chengdu saw a modest decline.

Although air pollution worsened, China sustained water quality improvements, marking three straight quarters of positive progress in our index (see Environmental Impacts). Improvement was not uniform across China’s river systems, however: the Huang and Songhua Rivers had the greatest improvement in average water quality, while the Pearl and Zhejiang-Fujian systems declined. Conditions in the Yangtze also declined slightly. The “River Chief” system implemented last year, which increases local officials’ accountability in protecting local waterways, and an ongoing focus on drinking water sources appear to be having a positive effect on overall water quality, especially in the south.

Our Wind Energy Curtailment indicator shows China using wind energy more efficiently. The amount of wind power that was wasted because it could not be transmitted to the electrical grid declined slightly. While power utilities are required under a 2006 law to provide renewable energy with 100% access to the grid, they typically prefer to buy less expensive coal power. A suit by environmental groups to enforce the law in Gansu province went to trial in January, highlighting China’s increasing movement to promote clean power.

Sales of New Energy Vehicles (NEVs) increased during the quarter even as overall automobile sales declined. NEV sales have benefited from generous government subsidies to NEV producers, as well as city-specific tax and regulatory incentives, although policy changes are underway, as discussed below.

The share of energy from non-fossil fuels declined, but our index—which removes seasonal effects—suggests that this change was not significant compared to last quarter (see Non-Fossil Generation). China’s use of non-fossil resources including hydropower, solar, and wind continues to grow. However, given growing power demand, overall coal consumption is still increasing even as its share of power generation decreases.
Policy Analysis

Beijing took a relaxed stance on environmental enforcement in 1Q2019 in the face of risks to China’s economic growth. Although policymakers have warned that poor economic conditions do not excuse noncompliance, new policies reflect weaker enforcement and lower pollution reduction targets. This is consistent with the ongoing shift away from rigid, blanket environmental campaigns and overzealous enforcement toward more local and industry-specific approaches. Relaxing policy too much, however, may threaten China’s ability to meet near- and medium-term environmental goals, especially in air quality.

Environmental issues were a major part of Premier Li Keqiang’s annual work report to the National People’s Congress (NPC), a key signal of government policy for the coming year. Premier Li’s comments suggest a more restrained approach to environmental protection enforcement in 2019, particularly in air pollution reduction. For one, he refrained from announcing a specific PM 2.5 pollution reduction target as he did in previous years, even as he declared targets for reducing other pollutants.

Second, Li pledged that the government would prioritize “employment-first” policies in environmental enforcement, including grace periods for environmental compliance and more flexible rule interpretations for small and medium enterprises (SMEs). Officials want to avoid exacerbating the economic slowdown by burdening SMEs with higher compliance costs. However, local officials still face punishment if they fail to meet pollution reduction targets already on the books, even as producers are less incentivized to comply.
Conflicting directives for local officials to deliver on both economic growth and pollution reduction goals likely limit environmental protection progress.

Replacing fossil fuel–powered cars with NEVs creates less air pollution. NEV manufacturers in China have benefited from government producer and consumer subsidies since 2013, keeping prices low and supporting NEV adoption. On March 26, the Ministry of Finance announced it would gradually phase out NEV manufacturer subsidies by 2020 and tighten regulations on how far NEVs can drive before recharging to improve the industry’s international competitiveness and drive out inefficient players. In the long term, this move will likely improve NEV quality and help restore market dynamics to a heavily subsidized industry. However, in the near term this policy will prompt industry consolidation, nudging out small and struggling NEV startups by limiting their ability to outsource manufacturing and thus may cause a temporary dip in NEV sales in China.

Lastly, officials responded to yet another disaster in the country’s chemical industry. On March 21, a major explosion and subsequent fire at a chemical plant in Xiangshui, Jiangsu, killed 78 people and destroyed several buildings. Although officials (including the State Council) ordered a national assessment of chemical storage and manufacturing facilities, media reports suggest officials acted to suppress data on contamination of nearby water sources and the extent of damage, as local regulators knew the plant was unsafe. Although officials made tentative moves to rein in China’s massive chemical and pesticide industries (see Spring 2019 edition), the incident shows how far there is to go.