

Supplementary Materials for the article:

Coupling of Problems, Political Attention, Policies and Institutional Conditions: Explaining the Performance of Environmental Targets in the National Five-Year Plans in China

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Table S1: Events in the period of central planning economy (1972-1995)

Part A: Institutional events

Event time (year-month-date)			Event description
1955	1	6	Central Committee of the Communist Party of China published the Job Title List of Cadres Depending on the location and the nature of the SoEs, their leaders were directly appointed by the central government and the central party committee and were classified in the Job Title List of Cadres at various levels and managed in accordance with the principle of party control of cadres.
1956	5	5	The fortieth meeting of the first NPC Standing Committee determined to establish the National Economic Commission The National Economic Commission was responsible for making national economic development plans and transferring the national plans to subnational governments.
1989	12	30	State Council established Production Committee The Production Committee of the State Council was responsible for making central plans for social and industrial productions across the country. The plans cover every single sector in China, including industrial production missions (e.g. extraction of petroleum and natural gas, mining, production of iron, steel, concrete, and electric and heat power) and public service tasks (e.g. banking and financial services, telecommunications, civil aviation, railroad and other infrastructure and general utilities).
1991	7	17	State Council changed the Production Committee into Production Office The new Production Office was responsible for making central plans and overseeing the implementation of the central plans at provincial and urban government levels.
1995	1	1	Performance Evaluation Criteria for Party and Government Leading Cadres (Trial)

Part B: problem events

Event time (year-month-date)			Event description
1972	5	1	Guanting reservoir water pollution crisis In early spring of 1972, in Guanting Reservoir, as the water source of Beijing City, many dead fishes suddenly appeared in its large area, and in the same time, some residents in surrounding regions were suffering from unexplained strange symptoms. It was just in the time of the so called Great Cultural Revolution so that although it was not publicly reported, it also attracted discussions and conjectures and even the leaders of the central authority were greatly shocked due to this serious matter. The official organizations organized a large scope of deep investigation at the authorization of Zhou Enlai, and in the investigation, it is discovered that the water of Guanting Reservoir had been deadly contaminated and the source of the contamination were the factories in the upstream regions. This accident caused a large-scale pollution control movement. The industrial pollution taken place in Guanting Reservoir was an epitome of the environment condition of the 1970s' China. The responsibility could be claimed to the prior development strategy of heavy industries that was executing by Chinese government. This accident brought far reaching influence over China's modern environment protection cause and it directly caused the occurrence of the system of "Three Synchronization", the start-up of the environment science research and the establishment of environment supervision and control system.
1994	2	3	Huai River water pollution crisis
1995	6	5	Industrial wastewater discharge 22.2 billion tons Sulfur dioxide emissions 18.91 million tons

Part C: political events

Event time (year-month-date)			Event description
1972	6	5	Chinese Delegation Participated the first UN Human Environment Conference Under the impetus of Zhou Enlai, China sent a delegation to participate the first UN Human Environment Conference and thus made it to be a turning point for China's environment protection. The reason that Zhou Enlai promoted China to participate the first UN Human Environment Conference is: at the beginning of the founding of new China, most of the environment issues were of local problems and there were almost no environment appeals nationwide. During the period of the first five-year plan, some industrial enterprises which discharged pollutants adopted some measures to treat polluted water and to control smoke and dust. These measures have reduced pollution to some extent, but in general the environment pollution and ecological damage in the period of the first five-year plan tended to be worse gradually. Especially during the period of great leap forward, people all over the country were put into a movement to produce iron and steel, and the industrial wastes – waste water, gas and slags were discharged arbitrarily which led local pollution to be worse rapidly. The large-scale construction of heavy industrial enterprises discharged a great number of harmful matters which were not well

			diffused and diluted but formed serious water pollution and air pollution. In the city construction field, the ideology of “production comes first and living comes later” also played negative influence to the environment protection.
1973	8	5	The 1st National Environment Protection Conference The conference reviewed and endorsed the environment protection policy of “overall planning, rational distribution, comprehensive utilization, turning disadvantage into advantage, depending on the masses, everybody participating, protecting environment, bringing benefit to the people” and the first environment protection document, Some Regulations to Protect and Improve the Environment. The conference promoted the work of environment protection and took a key step for the course of China’s environment protection. After the first environment protection conference, environment protection organizations were established all over the country, from the central government to local authorities at different levels and different regulations and systems were formulated to enhance the environment protection. Some industrial enterprises, cities and rivers were treated primarily and the environment science research and environment education were greatly developed. Regulations and policies which were established after the first environment protection conference not only promoted the development of the then environment protection cause of China, but also gave a guideline for the later environment protection.
1974	5	1	Establishment of Environmental Protection Leading Group Environmental Protection Leading Group was a taskforce established by the state council of the People’s Republic of China which was responsible for the environment protection. Its main responsibilities were as follows: to enforce laws and regulations on environment protection; to organize the formulation of environment protection standards, and technological policies; to organize the formulation of the long term and annual plan of environment protection, and to supervise and monitor the implementation of the plan.
1982	5	1	The Environment Protection Leading Group was upgraded to Environmental Protection Administration (EPA) under the Ministry of Housing and Urban Rural Development The environmental agency was bureaucratically upgraded from a taskforce to a formal national institution. But, without the big hat of the state council, the administration worked awkwardly to call for cooperation between different commissions and ministries.
1983	12	31	The 2nd National Environment Protection Conference A "three synchronizations" policy is discussed and proposed during the conference. Environmental goals should be synchronized with production at each stage of enterprise activity (planning, construction and operation).
1984	5	1	EPA was bureaucratically upgraded to State Environmental Protection Administration (SEPA).
1989	4	28	The 3rd National Environment Protection Conference This evaluated the environmental condition in China, summarized experience in environment protection, proposed five new approaches, to enhance the systematic construction and to bring environment protection to a new stage. The conference proposed to strengthen the systematic construction, to deepen the environment supervision, to fight against environment pollution and to stimulate an associated development between economy and environment.

Part D: policy events

Event time (year-month-date)			Event description
1977	3	5	The Constitution of the People's Republic of China (revised) Adopted at the first meeting of the fifth session of the National People's Congress of the People's Republic of China. In order to promote the environment protection in our country, the rule of “the nation sticks to protect the environment and natural resource, prevent and control pollution and other public hazards” was written into the constitution of the People's Republic of China in 1978 national people's congress. So that the work of environment protection was determined to be a national responsibility and thus laid a foundation for the legislative construction of environment protection.
1979	9	13	Environment Protection Law of the People's Republic of China (trial) The law made the rules and regulations of environment protection of China clear from the point of view of law. Later, on the basis of the act China formulated or revised many laws and regulations on environment protection in succession. The system of “Three in the same time” and the system of collection discharge license were confirmed in law. Article 6 pointed out: in time of carrying out newly constructed, reconstructed, or expanded projects, a report on their environment impact must be formulated which should be reviewed and approved by the environment protection authority and other concerned administrative organizations before their design. Among them the facilities against pollution and other public hazardous should be designed, implemented and put into production together with the main body of the projects in the same time. Discharge of hazardous matters must be in conformity with national standards.
1981	5	11	Method of Management of Environment Protection for the Capital Construction Projects The system of “Three Synchronizations” and the system of environment impact assessment were embodied by the method and it was included into the program of the capital construction. So that in 1984 the execution rate of the system of “three in the same time” was raised up to 79%.
1982	2	5	Temporary Method for the Collection Discharge License It was a remark that China officially set up the system of collection discharge license.
1982	8	23	Marine Environmental Protection Law of the People's Republic of China
1983	10	1	Criteria of Disposal on Ships Pollutants (environment standards)
1984	5	11	Water Pollution Prevention and Control Law of the People's Republic of China
1984	9	20	Forest Law of the People's Republic of China
1985	3	1	Standard for the control of pollutants in agricultural mud (environment standard)
1985	3	1	Standard for the discharge of pollutants in ship building industry (environment standard)
1985	8	1	Discharge standard for oil-contained polluted water in marine petroleum development industry (environment standard)
1985	8	16	Hygienic standard for drinking water (environment standard)
1986	3	9	Law of the Mineral Resources of the People's Republic of China

1987	9	5	Air Pollution Prevention and Control Law of the People's Republic of China
1988	2	1	Control standard for pollutant in agricultural fly ash (environment standard)
1988	2	1	Control standard for rural used urban refuse (environment standard)
1988	3	20	Interim measure for water pollutants discharge permit management (discharge permit) Discharge application registration system and discharge permit system
1988	9	1	Interim measure for the paid use of the pollution source treatment special fund (fee collection on pollution discharge) It was an important measure to turn the appropriation to loan for the pollution discharge fee. From that time on along with the continuous development of China's economy and the appearance of new environment issues, a series of policy were proposed and implemented on the use and management of pollution discharge fee.
1989	12	26	Law of Environmental Protection of the People's Republic of China was officially issued and implemented.
1990	3	1	Water quality standard for fisheries (environment protection standard)
1990	6	29	Law of Water and Soil Conservation of the People's Republic of China
1990	7	1	Standard for Safe Use of Agricultural Chemicals (environment protection standard)
1992	3	1	Control Standard for Polychlorinated biphenyls (PCBS) Waste Pollution (environment protection standard)
1992	7	1	Meat Processing Industrial Water Pollutant Discharge Standards (environment protection standard)
1992	7	1	Energy Reduction Effluent Standard for Iron and Steel Industry (environment protection standard)
1992	7	1	Textile Dyeing and Finishing Industrial Water Pollutant Discharge Standards (environment protection standard)
1992	9	14	A notice on the carrying out pilot work for the collection of fee of industrial coal sulfur dioxide discharge (fee collection for pollutant discharge) The notice aimed at the increasingly serious harm of acid rain and it marked an important spreading and expansion of the implementation scope of fee collection for pollutant discharge.
1992	10	1	Standards for Irrigation Water Quality (environment protection standard)
1993	8	15	A notice on the collection of the water pollutant discharge fee (charge on pollutant discharge) In consideration of some pollutant discharge units are discharging a large quantity of pollutant – although the concentration of their discharged pollution water is in or lower than the national discharge standard, but the harm on the environment is even serious than that of some over standard discharge due to their very large total quantity of discharged pollutant. In order to stimulate these units to make further efforts to control their pollution, it is decided to collect fee against their discharge of polluted water which does not exceed the limit set by the standard. This is the first time to declare the idea of control the total discharge quantity in the discharge fee collection.
1993	12	1	Standard for space propellant water pollutant discharge and analytical method (environment protection standard)
1994	10	1	Underground water quality criteria (environment standard)
1995	6	15	Temporary measure for environment statistics management
1995	8	8	Temporary regulation for water pollution prevention and control in Huaihe River basin
1995	10	30	Prevention and control law against solid waste pollution of the people's Republic of China

Table S2: Events in the period of economic reform (1996-2005)

Part A: institutional events

Event time (year-month-date)			Event description
1996	1	1	The comprehensive implementation of the Decisions of the Tax-Sharing Fiscal Management System The tax reform redefined the shared responsibility between central and local governments. Local governments' extra-budgetary revenues from penalty and confiscation had to submit to the national treasury that was used by the central government to coordination regional development across the whole country.
1996	3	17	The fourth meeting of the eighth National People's Congress approved China's National Economic and Social Development the 9th NFYP and the 2010 Vision Program The program clearly stated that China should implement the economic reforms in full swing.
1997	9	19	The first plenary session of the fifteenth central committee of the Communist Party of China determined to deepening the reforms of state-owned enterprises (SoEs). Policy changes include the conversion of bank debts into stocks, staff reductions, and the selling off of relatively low-profit state-owned small and medium-sized enterprises by local governments.
1999	9	22	Decisions of the CPC Central Committee on major issues concerning the reform and development of state-owned enterprises. The decisions promoted the construction of SoEs into modern enterprises with advanced management and operation strategies. The decisions also promoted the establishment of private enterprises and encouraged the co-existence of public and private enterprises.

Part B: problem events

Event time (year-month-date)			Event description
1996	6	5	Industrial wastewater discharge 20.6 billion tons Sulfur dioxide emissions 13.97 million tons
1997	6	5	Industrial wastewater discharge 22.7 billion tons Sulfur dioxide emissions 18.52 million tons
1998	6	5	Industrial wastewater discharge 20.1 billion tons Sulfur dioxide emissions 15.93 million tons
1999	6	5	Industrial wastewater discharge 19.7 billion tons Sulfur dioxide emissions 18.58 million tons

2000	6	5	Domestic sewage 22.1 billion tons Industrial wastewater discharge 19.4 billion tons Sulfur dioxide emissions 19.48 million tons
2001	6	5	Domestic sewage 22.8 billion tons Industrial wastewater discharge 20.1 billion tons Sulfur dioxide emissions 19.48 million tons
2002	6	5	Domestic sewage 23.2 billion tons Industrial wastewater discharge 20.7 billion tons Sulfur dioxide emissions 19.27 million tons
2002	9	11	Duyun slag pollution incident in Guizhou province Lead-zinc mine tailings dam collapse, pouring into Fan River
2002	10	8	Nanpanjiang water pollution crisis in Yunnan province
2003	1	1	Sanmenxia reservoir water pollution crisis
2003	6	5	Domestic sewage 24.8 billion tons Industrial wastewater discharge 21.2 billion tons Sulfur dioxide emissions 17.91 million tons
2004	1	31	Solid waste pollution in Songjiazhuang, Beijing
2004	2	28	Tuojiang water pollution crisis in Sichuan province
2004	5	6	Water pollution crisis in Chuxiong section of Longchuan river in Yunnan province
2004	6	5	Domestic sewage 26.1 billion tons Industrial wastewater discharge 22.1 billion tons Sulfur dioxide emissions 22.54 million tons
2004	8	7	Several villages along the Hong river in Henan province have high incidence of intestinal cancer.
2004	10	20	Drinking water crisis in Puyang, Henan province
2004	10	20	Qingyi Jiang water pollution crisis in Sichuan province
2005	1	3	Qijiang water pollution crisis in Chongqing
2005	2	1	Tuojiang water pollution with phosphorus in Sichuan province
2005	3	1	Drinking water crisis in Jiaxing, Zhejiang province
2005	5	4	Water pollution in the Yellow River becomes the harm of agriculture
2005	6	5	Domestic sewage 28.1 billion tons Industrial wastewater discharge 24.3 billion tons Sulfur dioxide emissions 25.49 million tons
2005	11	15	Songhua river water pollution crisis PetroChina Jilin Petrochemical Company Biphenyl plant aniline workshop explosion occurred
2005	12	20	Beijiang water pollution crisis with cadmium

Part C: political events

Event time (year-month-date)			Event description
1996	7	15	The 4th National Environment Protection Conference The conference proposed that environment protection is the key for the implementation of sustainable development strategy. To protect environment is to protect productivity. The state council decided concerning some issues in strengthening environment protection. General secretary Jiang Zemin pointed out in his important speech that protection environment is to protect productivity. The conference generated the policy which paid equal attention to prevention and control of pollution and ecology protection and proposed two major measures including total pollution control plan and green project plan. The whole country began to carry out large scale pollution prevention and control, ecological construction and protection projects in key cities, basins, regions and sea area. The work of environment protection thus came into a thoroughly new stage.
1998	5	1	SEPA was bureaucratically upgraded to State General Environmental Protection Administration (SGEPA).
2002	1	8	The 5th National Environmental Protection Conference The topical subject of this conference was to implement the 10th five-year plan of the national environmental protection which was approved by the state council.
2002	7	9	Regulations on Selection and Appointment of Party Government Leading Cadres The economic performance was considered as the basis for appointing and promoting cadres in the party and government departments.
2003	10	11	The 3rd Plenary Session of the 16th CPC Central Committee Although this Plenary Session put forward the ideology of human-oriented and sustainable development, economic growth still played a central role in driving social and economic decisions at local government levels.
2004	3	10	National Population, Resources and Environment Conference General Secretary Hu Jintao put forward the need to study green national economic accounting methods and to prepare for incorporating resource consumption and environmental losses into the economic evaluation system.

Part D: policy events

Event time (year-month-date)			Event description
1996	3	1	Quality criteria for soil environment (environment standard)
1996	7	1	Caustic soda and polyvinyl chloride (PVC) industrial water pollutant discharge standard (environment standard)
1996	10	29	Environmental Noise Pollution Prevention and Control Law of the People's Republic of China
1997	6	10	An implementation draft for the total amount control of main pollutants discharge in the whole country during the period of the 9th five-year plan (total amount control)

1997	11	1	The energy conservation law of the People's Republic of China
1998	1	1	Integrated waste water discharge standard (environment standard)
1998	7	1	Sea water quality standard (environment standard)
1998	11	18	Environment protection management regulations for construction project (environment impact assessment) The legislation qualification of the system of environment impact assessment was further raised up and, in the meantime, many improvements and revilements were made upon the range of application, assessment opportunity, procedure of examination and approval and lawful responsibility of environment impact assessment.
2000	4	29	Air Pollution Prevention and Control Law of the People's Republic of China (revised)
2001	8	31	Law on the prevention and control of desertification of the People's Republic of China
2001	12	30	The 10th five-year plan of national environmental protection and its appendix – a discomposed plan for the total amount control of the main pollutants discharge of the country during the period of the 10th five year plan (total amount control) The indexes of total amount control were discomposed and be distributed to grassroots, time schedule and concrete measures were made clear and in this way the total amount of the pollutants discharge of the whole country could be guaranteed to be reduced year after year. Key basins, regions, cities and sea areas should implement the index of the total amount control in accordance with the requirements set in their special planning (plan). And thus, the checking and ratifying of the practical total amount of the pollution discharge, the prediction to the newly added total amount of pollutant discharge, and the distribution of the allowed total amount of pollutant discharge were becoming the important content of the environment assessment and the systematic analysis.
2002	1	1	Hazardous waste incineration pollution control standards (environment standard)
2002	1	1	Emission standard of cooking fume (trial) (environment standard)
2002	1	1	Boiler air pollutants discharge standard (environment standard)
2002	1	1	Ammonia industrial water pollutant discharge standards (environment standard)
2002	1	30	Regulations on the management of collection and use of pollutant discharge fee (charge on pollutant discharge)
2002	6	29	The cleaner production promotion law of the People's Republic of China
2002	7	1	Pollution control standard for general industrial solid waste storage and disposal site (environment standard)
2002	7	1	Pollution control standard for the storage of hazardous waste (environment standard)
2002	7	1	Hazardous waste landfill pollution control standards (environment standard)
2002	10	1	Water Law of the People's Republic of China
2002	10	28	The environmental impact assessment law of the People's Republic of China (environment impact assessment) This law is formulated for the implementation of the sustainable development strategy, to prevent the harmful influence upon the environment produced from the implementation of planning and construction project, and to promote an associated development of the economy, society and the environment.
2003	1	1	Livestock and poultry breeding industry pollutant discharge standards (environment standard)
2003	3	1	Indoor air quality standard (environment standard)
2003	5	23	A notice on carrying out the activity of establishing national environment friendly enterprise (environment friendly enterprise)
2003	6	28	Prevention and control law against radioactive pollution of the People's Republic of China

2003	7	1	Pollutant discharge standard for urban sewage treatment plant (environment standard)
2003	8	1	Technical guideline for the regional environment impact assessment in development zone (environment impact assessment)
2003	8	1	Principled technical guideline for the environment impact assessment of planning (trial use) (environment impact assessment)
2003	10	8	Method of examination for the environment impact report of special planning (environment impact assessment)
2004	1	1	Fossil-fuel power plant atmospheric pollutant emission standard (environment standard)
2004	4	1	Monosodium glutamate industry pollutant emission standard (environment standard)
2004	4	1	Citric acid industry pollutant emission standard (environment standard)
2004	10	21	Method of management on central financial compensation fund for forest ecology (ecology compensation)
2004	11	25	Mid and long term special planning of energy saving (energy saving voluntary compliance agreement)
2004	12	29	Prevention and control law against solid waste pollution of the People's Republic of China (revised)
2005	1	1	Air pollutant emission standard for cement industry (environment)
2005	2	28	Renewable energy law of the People's Republic of China
2005	3	7	A notice on doing further work for the establishment of national environment friendly enterprise (environment friendly enterprise)
2005	6	6	China's terminal project of energy-consumption (voluntary compliance agreement on energy saving)
2005	6	7	Several recommendations by the state council to promote a healthy development of coal industry
2005	11	21	Recommendations to accelerate the work of evaluating the environment actions of enterprise (green credit)
2005	12	3	Decision by the state council on implementing the scientific outlook of development to strengthen environment protection

Table S3: Events in the period of deepening economic reform (2006-2015)

Part A: institutional events

Event time (year-month-date)			Event description
2013	11	15	Decision on Deepening the Reform of Several Major Issues in China The decision is to incorporate the resources consumption, environmental damage, ecological benefits and other indicators of ecological civilization construction indicators into the comprehensive evaluation of economic and social development system. The weights of these indicators will be substantially increased in cadre evaluation.
2013	12	30	The Establishment of Comprehensive Deepening Reform Leading Group. The leading group is responsible for enhancing coordination between multiple sectors and agencies to conduct economic reform tasks.
2013	12	6	Ordinance on Leading Cadre Selection The ordinance aims to improve the local party and government leading bodies and leading cadre's performance appraisal work, from the system level to correct the economic growth rate of purely to assess the performance bias.

2014	10	20	The 4th Plenary Session of the 18th CPC Central Committee The Plenary Session put forward to strengthen the construction of social integrity, improve the citizens and organizations to keep law and credit records, improve the law-abiding integrity of the praise mechanism and the act of disciplinary action against the law. Specifically, it proposed to use market-based approaches to induce enterprises voluntary environmental protection activities.
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Part B: problem events

Event time (year-month-date)			Event description
2006	2	28	Baiyangdian water pollution crisis in Hebei province
			Domestic sewage 29.7 billion tons Industrial wastewater discharge 24.0 billion tons Sulfur dioxide emissions 25.89 million tons
2006	6	5	
2006	8	2	Niu River water pollution crisis in Jilin province
2006	9	2	Yueyang water pollution crisis with arsenic in Hunan province
			Sichuan Luzhou Power Plant major environmental pollution accident Diesel leak into the Yangtze River
2006	11	15	
2007	5	29	Taihu lake water pollution crisis in Jiangsu province
			Domestic sewage 31.0 billion tons Industrial wastewater discharge 24.7 billion tons Sulfur dioxide emissions 24.68 million tons
2007	6	5	
2007	6	30	Cyanobacteria outbreak in Chaohu and Dianchi lakes in Jiangsu province
2007	7	2	Shuyang water pollution crisis in Jiangsu province
2008	3	2	Baishui village water pollution crisis in Guangzhou
2008	6	1	Yangzong water pollution crisis with arsenic in Yunnan province
			Domestic sewage 33.0 billion tons Industrial wastewater discharge 24.2 billion tons Sulfur dioxide emissions 23.21 million tons
2008	6	5	
2009	2	20	Yancheng water pollution crisis in Jiangsu province
2009	4	1	Yinan water pollution crisis with arsenic in Shandong province
			Domestic sewage 35.5 billion tons Industrial wastewater discharge 23.5 billion tons Sulfur dioxide emissions 22.14 million tons
2009	6	5	
2009	8	29	Collapse of Hanzhong Tailings Reservoir in Shaanxi Province

2009	7	29	Liuyang water pollution crisis with cadmium in Hunan province
2009	8	30	Child blood lead exceeded event due to drinking water pollution crisis in Shaanxi province
2009	9	20	Drinking water emergence due to water pollution crisis in nonferrous metal village in Hunan province
			Domestic sewage 38.0 billion tons Industrial wastewater discharge 23.8 billion tons Sulfur dioxide emissions 21.85 million tons
2010	6	5	
2010	7	3	Zijin Mining copper acid water leakage accident in Fujian province
2010	7	16	Crude oil leakage incident in Dalian Newport
2010	7	28	Chemical barrel event in Songhua River in Heilongjiang province
2010	10	25	Chromium waste pollution in Henan province
2011	6	4	Oil leakage incident in Penglai oil field of Bohai Sea
			Domestic sewage 42.8 billion tons Industrial wastewater discharge 23.1 billion tons Sulfur dioxide emissions 22.18 million tons Industrial nitrogen oxides 17.3 million tons Dust emissions 12.78 million tons
2011	6	5	
2011	6	5	Drinking water pollution crisis in Hangzhou, zhejiang province
2011	7	28	Solid waste pollution in Yizheng, Jiangsu province
2011	8	26	Qujing chromium slag pollution incident in Yunan province
2011	10	23	Huixian people blood cadmium exceeded event in Gansu province
2011	12	25	Jiangxi water pollution crisis with copper discharge
2012	1	1	Haze covered the North China Plain, making traffic difficult. According to press reports, Beijing Airport canceled 43 flights in the morning, delayed 80 times, visibility down to 200 meters. Low visibility is reported throughout the plain provinces.
2012	1	15	Longjiang water pollution crisis with cadmium in Jiangxi province
2012	2	3	Zhenjiang water pollution crisis in Jiangsu province
			Ministry of Environmental Protection issued 2012 China Environmental Status Bulletin. The bulletin shows that air quality is not up to standard (the most stringent environmental standards are activated, and if the old air standards are still used, the prevailing cities are up to standard.) Domestic sewage 46.3 billion tons Industrial wastewater discharge 22.2 billion tons Sulfur dioxide emissions 21.17 million tons Industrial nitrogen oxides 23.37 million tons Dust emissions 12.34 million tons
2012	6	5	
2013	3	12	Songjiang water pollution crisis in Shanghai
2013	3	18	Wastewater irrigated wheat field in Henan province

2013	6	5	<p>Ministry of Environmental Protection issued 2013 China Environmental Bulletin.</p> <p>The communique shows that in 2013, only 74 cities in Haikou, Zhoushan and Lhasa three cities air quality standards, accounting for 4.1%; exceeded the proportion of 95.9% city.</p> <p>Domestic sewage 48.5 billion tons</p> <p>Industrial wastewater discharge 21.0 billion tons</p> <p>Sulfur dioxide emissions 20.44 million tons</p> <p>Industrial nitrogen oxides 22.27 million tons</p> <p>Dust emissions 12.78 million tons</p>
2013	6	20	Water pollution crisis in Changqing oilfield of PetroChina
2013	11	22	Water pollution crisis due to Qingdao oil pipeline explosion
2013	12	26	<p>Beijing haze weather</p> <p>In December 2013, China suffered a serious air pollution. The heavy haze belt extends from Beijing to Shanghai, about 1200 km away, and the polluted air is gray. Although China's northeast region often faces extreme haze outbreak, but spread to the south is not common.</p>
2014	4	15	Drinking water pollution crisis in Lanzhou
2014	4	26	The concentration of ammonia nitrogen in the section of Wuhan section of Hanjiang River in Hubei Province exceeded the standard
2014	6	5	<p>Ministry of Environmental Protection issued 2014 China's environmental status bulletin.</p> <p>The survey shows that in 2014, 161 cities in a total of 16 cities air quality standards (better than the national secondary standards), accounting for 9.9%; 145 city air quality exceeded, accounting for 90.1%.</p> <p>Domestic sewage 51.0 billion tons</p> <p>Industrial wastewater discharge 20.5 billion tons</p> <p>Sulfur dioxide emissions 19.74 million tons</p> <p>Industrial nitrogen oxides 20.78 million tons</p> <p>Dust emissions 17.40 million tons</p>
2014	12	26	Thick haze covered the North China Plain, haze almost cover up the region's visible objects, including China's largest city of Beijing.
2015	4	27	Water pollution crisis due to manganese discharge in Yichang, Hubei province
2015	6	5	<p>Ministry of Environmental Protection issued 2015 China's environmental status bulletin.</p> <p>The communique shows that in 2015, the national 338 prefecture level cities carry out the new standard of air quality monitoring. The results show that there are 73 cities in the ambient air quality standards, accounting for 21.6%; 265 urban environmental air quality exceeded, accounting for 78.4%.</p> <p>Domestic sewage 53.5 billion tons</p> <p>Industrial wastewater discharge 20.0 billion tons</p> <p>Sulfur dioxide emissions 18.59 million tons</p>

			Industrial nitrogen oxides 18.51 million tons Dust emissions 15.38 million tons
2015	6	15	Liangjianf water pollution crisis in Guangdong province
2015	6	17	Large blue algae gathering in Chaohu lake, Anhui province
2015	6	30	Guangyuan reservoir water pollution crisis in Sichuan province
2015	11	24	Antimony leakage event in Gansu province
2015	12	26	North China is covered by thick haze. Haze from Beijing to the southwest extension of hundreds of kilometers, to the vicinity of Shaanxi Guanzhong plain low-lying areas. Beijing issued the first "red warning" for air pollution, the school closed, the car limit, and some factories stopped operating.

Part C: political events

Event time (year-month-date)			Event description
2006	1	10	Interim Provisions on the Punishment of Illegal Behavior in Environmental Protection. If there was illegal behavior of the cadres and civil servants to act as "umbrella" and to protect enterprises' environmental illegal activities, they will be strictly subjected to administrative punishment.
2006	4	17	The 6th National Environment Protection Conference The conference discussed the following issues: 1. In time of formulating development target, do not focus only on economic growth but also focus on energy saving and environment protection. So that in this 11th five-year plan, it proposed two targets: in later five years the energy consumption per unit GDP should be reduced by about 20%, the pollutant discharge should be reduced by 10%. 2. The industrial policy, especially the access system for the infrastructure project and enterprise should be strictly implemented. Those infrastructure project and enterprise that contaminate environment and waste resource are all prohibited. 3. The special treatment and control upon environment pollution will be enhanced. It is required to carry out a planned and procedure treatment and control for the non-point pollution to waters, air and land. 4. Enforce laws strictly and protect environment in accordance with laws. This is the most critical and most difficult thing. Shut down those energy in Beijing-Tianjin-Hebei agglomeration and highly polluting enterprise by law and investigate those enterprises and individuals who made pollution and brought great losses upon people and society by law.
2006	7	7	A Guide to the Comprehensive Evaluation and Evaluation of Local Party and Government Leadership and Leading Cadres Reflecting the Scientific Development View
2007	11	27	The State Council forwarded energy conservation and emission reduction statistics, monitoring and assessment programs and methods. The energy-saving and emission reduction targets should be incorporated into the comprehensive economic and social development plan. The performance results should be used in the assessment of cadres.

2008	3	10	SGEPA was bureaucratically upgraded to the Ministry of Environmental Protection The purpose of upgrading is to strengthen the power and enforcement ability of the environmental agency.
2011	10	17	The 7th National Environment Protection Conference This conference discussed the means of using environment protection to optimize the economic growth, to promote the transformation of development mode and to improve living standard.
2013	11	9	The 3rd Plenary Session of the 18th CPC Central Committee The Plenary Session proposed to strengthen the construction of ecological civilization, to explore the preparation of natural resources, the balance sheet, the implementation of natural resources, leading cadres audit, the establishment of ecological and environmental damage responsibility for life-long system.

Part D: policy events

Event time (year-month-date)			Event description
2006	6	1	Water pollutants discharge standard for medical institution (environment standard)
2006	6	1	Beer industry pollutants discharge standard (environment standard)
2006	8	5	Plan on controlling total amount of main pollutant discharge of the country (total amount control)
2006	10	1	Coal industry pollutant discharge standard (environment standard)
2006	11	6	A notice on enhancing the overall planning of coal mine region and the work of environment impact assessment for coal mine construction project (environment impact assessment)
2007	1	1	Saponin industry water pollutant discharge standard (environment standard)
2007	1	30	Method of management over the information disclosure of the listed companies (green credit) The securities regulatory commission formulated this method to match up the even higher requirement by the new company act and the security act for the information disclosure of the listed companies, and to implement the requirement of improving the operation transparency of the listed companies proposed by the notice of the state council on transferring the recommendation of the securities regulatory commission to improve the quality of listed company, and to accommodate the requirement put upon the supervision on listed companies by the new situation after the equity division reform.
2007	3	23	Some recommendations of the general office of the state council on the establishment of social credit system (green credit)
2007	5	23	A comprehensive work plan for energy conservation and emission reduction
2007	7	25	Management method of environment monitoring
2007	8	1	Gas station air pollution emission standard (environment standard)
2007	8	1	Air pollutant emission standard for gasoline transportation (environment standard)
2007	8	1	Air pollutant emission standard for oil storage (environment standard)
2007	8	24	A guideline recommendation on carrying ecology compensation work (ecology compensation)

2007	10	30	Energy conservation law of the People's Republic of China (revised)
2007	12	10	Management method for national eco-industry demonstration park (eco-industry demonstration park)
2008	2	22	Guideline recommendations on enhancing the supervision and control over the listed company environment protection (green security) Guide the listed companies to actively perform their social responsibility of environment protection and stimulate the listed companies to continuously improve their environment presentation and try their best to be examples of resource conserving and environment friendly one.
2008	2	29	Water pollution prevention and control law of the People's Republic of China (revised)
2008	7	1	Living garbage landfill pollution control standards (environment standard)
2008	7	1	Coalbed methane (coal mine gas) emission standard (interim) (environment standard)
2008	7	1	Heterocyclic pesticides industry water pollutant discharge standard (environment standard)
2008	7	31	National Plan for Eco-Functional Areas
2008	8	1	Sugar industry water pollutant discharge standard (environment standard)
2008	8	1	Mixed preparation pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Extract pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Biological engineering pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Traditional Chinese medicine pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Fermentation pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Electroplating pollutant discharge standard (environment standard)
2008	8	1	Chemical synthetic pharmacy industry water pollutant discharge standard (environment standard)
2008	8	1	Synthetic leather and artificial leather industry water pollutant discharge standard (environment standard)
2008	8	1	Down feather industry water pollutant discharge standard (environment standard)
2008	8	1	Pulping and papermaking industry water pollutant discharge standard (environment standard)
2008	9	1	Circular economy promotion law of the People's Republic of China Article 44 of the law regulates clearly that the state gives tax preference to those industrial activities which promote the circular economy development. The state makes use of tax and other measures to encourage the import of advanced technology, equipment, and product which feature in energy saving, water saving and material saving, but limit the export of product which consumes more energy and produce pollution during manufacture.
2008	10	1	A notice on the policy of renewable resource tax (green tax)
2008	10	5	A notice on tax preferential contents for energy-saving and water-saving enterprises (green tax)
2008	10	16	A notice on adjusting the resource tax for diatomaceous earth, perlite, phosphate rock and jade (green tax)
2008	12	9	A notice on the policy of value-added tax for comprehensive utilization and other product (green tax)
2009	3	23	A notice on issues of enterprise income tax policy for China's clean development mechanism (CDM) funds and enterprises which executed the clean development mechanism (CDM)project (green tax)

2009	4	10	A notice on issues of management on enterprise income tax preference for the enterprise which makes comprehensive utilization of resource (green tax)
2009	7	8	Method of management of time-limit treatment and control (trial use), it aims mainly on the time-limit treatment of water pollution (time-limit control)
2009	8	12	Regulations of environment impact assessment for planning (environment impact assessment)
2009	12	7	A notice on the value-added tax policy for the comprehensive utilization product that makes use of agricultural and forest residues as raw material (green tax)
2009	12	22	A notice on reducing passenger vehicle purchase tax for vehicles with a displacement of below 1.6 liter (green tax)
2009	12	31	A notice on publishing the enterprise income tax preference content (trial use) for environment protection energy and water conserving project (green tax)
2010	5	6	A notice on carrying out further work which makes use of tax to stimulate energy conservation and emission reduction (green tax)
2010	5	11	A notice on the adjusting the tax rate standard of the resource tax for refractory clay and fluorite (green tax)
2010	6	2	A notice on concerned issues in offsetting enterprise income tax by means of investment in special equipment for environment protection energy and water conservation safety production (green tax)
2010	10	1	Ceramic industry pollutant discharge standard (environment standard)
2010	10	1	Magnesium, titanium industry pollutant discharge standard (environment standard)
2010	10	1	Copper, nickel, cobalt industry pollutant discharge standard (environment standard)
2010	10	1	Lead, zinc industry pollutant discharge standard (environment standard)
2010	10	1	Aluminum industry pollutant discharge standard (environment standard)
2010	10	1	Printing ink industry water pollutant discharge standard (environment standard)
2010	10	1	Yeast industry water pollutant discharge standard (environment standard)
2010	10	1	Starch industry water pollutant discharge standard (environment standard)
2010	11	18	A notice on adjusting part of the policy of the imported oil consumption tax (green tax)
2010	12	22	A notice on the consumption tax exemption from conscription to produce pure biodiesel from wasted animal and vegetable oil (green tax)
2011	1	6	Plan of national total amount control of main pollutant discharge in the period of the 12th five-year plan (total amount control)
2011	6	30	Measures of management for pilot of the protection of lake ecological environment protection
2011	7	19	Payment methods for the transfer of state key ecological function zones (environment regionalization)
2011	10	1	Aluminum industry pollutant discharge standard (environment standard)
2011	10	1	Magnesium, titanium industry pollutant discharge standard (environment standard)
2011	10	1	Copper, nickel, cobalt industry pollutant discharge standard (environment standard)
2011	10	1	Lead, zinc industry pollutant discharge standard (environment standard)
2011	10	1	Sheet glass industry pollutant discharge standard (environment standard)
2011	10	1	Vanadium industry pollutant discharge standard (environment standard)

2011	10	1	Vanadium industry pollutant discharge standard (environment standard)
2011	10	1	Ceramic industry pollutant discharge standard (environment standard)
2011	10	1	Phosphorous fertilizer industry water pollutant discharge standard (environment standard)
2011	10	1	Rare earth industry pollutant discharge standard (environment standard)
2011	10	28	Provisional regulations, implementing rules of the resource tax of the People's Republic of China
2011	10	30	A notice on enhancing the adjustment and control over power generation coal price (green price)
2011	11	29	Interim measures for the collection and use of renewable energy development funds.
2011	11	30	A notice on the adjustment and control for the power generation coal price (green price).
2011	11	30	Some recommendations on establishing and perfecting ecological compensation mechanism (ecology compensation).
2012	1	1	Rubber product industry pollutant discharge standard (environment standard)
2012	1	1	Alcohol and liquor fermentation industry pollutant discharge standard (environment standard)
2012	1	1	Vehicle repair industry water pollutant discharge standard (environment standard)
2012	1	1	Ammunition charge industry pollutant discharge standard (environment standard)
2012	1	6	A notice on the business tax policy for transferring natural resource permit (green tax)
2012	3	6	A notice on the policy of vehicle and vessel tax for energy conservation by making use of new energy vehicle and vessel (green tax)
2012	6	26	A notice on some issues of exemption from vehicle purchase tax for urban public transportation enterprise's purchase of vehicle (green tax)
2012	10	1	Iron alloy industry pollutant discharge standard (environment standard)
2012	10	1	Steel industry pollutant discharge standard (environment standard)
2012	10	1	Iron alloy industry pollutant discharge standard (environment standard)
2012	10	1	Rubber product industry pollutant discharge standard (environment standard)
2012	10	1	Iron industry pollutant discharge standard (environment standard)
2012	10	1	Coke industry pollutant discharge standard (environment standard)
2012	10	1	Iron and steel sintering, pellet industry pollutant discharge standard (environment standard)
2012	10	1	Steel rolling industry pollutant discharge standard (environment standard)
2012	10	1	Iron ores mining & dressing industry pollutant discharge standard (environment standard)
2013	2	1	A notice on perfecting the tax refund policy on consumption tax of ethylene, Aromatic hydrocarbon chemical products produced from naphtha, fuel oil (green tax)
2013	7	1	Electronic glass industry air pollutant emission standard (environment standard)
2013	7	4	A notice on further standardizing the collection management of mining resource compensation fee
2013	7	30	Pollution source supervision monitoring and information publication method for enterprises under the supervision of the state (trial use) (green credit)
2013	9	10	An action plan for the prevention and control of air pollution
2013	9	23	A notice on value-added tax policy for photovoltaic power generation (green tax)
2013	12	12	A notice on the exemption of consumption tax for regenerated oil from wasted fossil oil (green tax)

2013	12	12	A notice on taking the railway transportation industry and post industry into the pilot work of replacing business tax with value-added tax (green tax)
2013	12	18	Evaluation method for enterprise's environment credit (trial use) (green credit)
2014	1	1	Brick-tile industry air pollutant emission standard (environment standard)
2014	3	1	Standard for cement kiln to collaboratively treating pollution from solid waste (environment standard)
2014	3	1	Leather and fur processing industry water pollutant discharge standard (environment standard)
2014	3	1	Cement industry air pollutant emission standard (environment standard)
2014	3	1	Battery industry pollutant discharge standard (environment standard)
2014	3	26	A notice on further enhancing the work of environment impact assessment in water conservancy planning (environment impact assessment)
2014	4	24	Environment protection act of the people's Republic of China (revised)
2014	5	15	Action plan of 2014 – 2015 energy conservation and emission reduction low-carbon development (total amount control)
2014	7	1	Tin, antimony, mercury industry pollutant discharge standard (environment standard)
2014	7	1	Boiler air pollutant emission standard (environment standard)
2014	8	1	An announcement on exemption of purchase tax for new energy vehicle (green tax)
2014	9	12	Action plan (2014 – 2020) for the upgrading and reform of energy conserving and emission reduction in coal fired power generation (total amount control)
2014	9	22	Guideline recommendations of the ministry of commerce on making great efforts in development of green circulation, to construct green supply chain. (green purchase)
2014	10	9	A notice on the implementation of coal resource tax reform (green tax)
2014	10	9	A notice on concerned policy of the adjustment of crude oil and natural gas resource tax (green tax)
2014	11	19	A notice on the reform and adjustment over the environment protection verification system for listed companies (green securities) Change the system of environment verification for listed companies to daily and non-periodic inspection.
2014	11	28	A notice on increasing consumption tax for refined oil product (green tax)
2014	12	12	A notice on further increasing consumption tax for refined oil product (green tax)
2014	12	22	A guideline of green purchase for enterprise (trial use) (green purchase)
2015	4	25	Recommendations of the state council on speeding up the promotion of ecological civilization construction
2015	7	1	Petroleum refinery industry pollutant discharge standard (environment standard)
2015	7	1	Secondary copper, aluminum, lead, zinc industry pollutant discharge standard (environment standard)
2015	7	1	Synthetic resin industry pollutant discharge standard (environment standard)
2015	7	1	Inorganic chemical industry pollutant discharge standard (environment standard)
2015	7	1	Petrochemical industry pollutant discharge standard (environment standard)
2015	7	1	Crematorium atmospheric pollutant emission standard (environment standard)
2015	7	1	Petroleum refinery industry pollutant discharge standard (environment standard)

2015	7	1	Petrochemical industry pollutant discharge standard (environment standard)
2015	7	23	Interim method for management for income from pollution discharge right transfer (emission trading)
2015	8	29	Air pollution control law of People's Republic of China (revised)
2015	9	21	Overall plan of ecological civilization system reform
2015	12	10	<p>Guideline recommendations on enhancing enterprise's environmental credit system construction (green credit)</p> <p>Party central committee and the state council pay great importance on social credit system construction. The 18th national congress of CPC proposed “strengthen construction of government credit, business credit, social credit and judicial public faith” The third plenary session of the 18th CPC central committee proposed “establish and perfect social credit system, praise good faith, punish break letter”. The fourth plenary session of the 18th CPC central committee proposed “strengthen social credit construction, perfect the law-abiding credit record of citizen and organization, improve the praise mechanism for law-abiding credit and the punish mechanism for law-breach and faith breaking”</p> <p>The credit construction in field of environment protection is an important part of the social credit system construction. The newly revised environment protection law specifies that the information of environmental law breach of enterprise and institution, and other production operator should be recorded into the social credit archive and the name of the law breaker should be published to the society. The 2014 – 2020 social credit system construction outline issued by the state council proposed clear requirement upon the credit construction in field of environment protection. The notice on enhancing environment supervision law enforcement issued by the general office of the state council proposed: “establish environment credit evaluation system, list the environment law-broken enterprise into a ‘blacklist’ and make it publicly to the society, record their environment pollution behavior into social credit system.</p>
2015	12	17	National eco-industry demonstration park management measure (revised) (eco-industry demonstration park)
2015	12	24	National eco-industry demonstration park management measure (revised) (eco-industry demonstration park)