



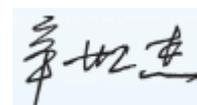
2017

Chongqing Environmental Statement

Chongqing Municipal
Environmental Protection
Bureau

In accordance with the relevant provisions of the *Environmental Protection Law of the People's Republic of China*, the *Chongqing Environmental Statement 2017* is hereby released.

Director of Chongqing Municipal Environmental Protection Bureau



June 1, 2018

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Overview

Under the strong leadership of the CPC Chongqing Municipal Committee and the Chongqing Municipal People's Government as well as the guidance and support of the Ministry of Ecology and Environment of PRC, Chongqing has implemented the work of environmental protection according to the spirits proposed respectively at the 19th National Congress of the Communist Party of China and its two sessions, thoroughly applied the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and carried out the spirits of speeches delivered by President Xi Jinping respectively at the Symposium on Promoting In-depth Development of Yangtze River Economic Belt and the National Conference on Ecological and Environmental Protection. With the purpose of building Chongqing into a strategic stronghold, a point of junction, an inland opening-up highland and a city with beautiful scenery, achieving the goal of "two highs" and implementing the requirements of "four solid works", Chongqing has established "four awareness", adhered to "four confidences", implemented the New Development Principles and taken the road of green development based on ecology to comprehensively realize the policy of "making all-out efforts to protect the Yangtze River and forbidding large-scale development of the river", so as to strengthen the "upstream consciousness", take up "upstream responsibility", and reflect the "upstream level". With the emphasis on prevention and control of air, water and soil pollution, Chongqing has attached great importance to the principle of "construction, control, supervision and improvement", taken five environment-friendly actions to achieve "clean water, blue sky, greenbelt, beautiful villages and quiet environment" and spared no effort to win the tough battle of pollution control, completing all annual tasks of environmental protection, improving major environmental protection indicators and effectively guaranteeing environmental safety. As a result, the eco-efficiency of Chongqing has been further enhanced, and the sense of happiness, gain and safety of Chongqing people has become richer, more secure and more sustainable.

Water Environment

Condition

Trunk Stream of the Yangtze River

The overall water quality of trunk stream of the Yangtze River in Chongqing was excellent. The proportion of monitored sections with water quality up to Grade III Standard in terms of 15 monitored sections was 100%.

Tributaries of the Yangtze River

The overall water quality of tributaries of the Yangtze River was good. The proportions of monitored sections with water quality up to Grade III Standard, Grade IV Standard, Grade V Standard and Inferior Grade V Standard were 82.6%, 9.7%, 3.6% and 4.1% (Figure 1) respectively in terms of 196 monitored sections in 114 tributaries. The proportion of monitored sections with water quality meeting the requirement of drainage function was 86.7%. The proportion of monitored sections with eutrophic water quality in terms of 72 monitored sections in 36 first-order tributaries was 27.8%.

As for 47 monitored sections in Jialing River Basin, the proportions of monitored sections with water quality up to Grade III Standard, Grade IV Standard, Grade V Standard and Inferior Grade V Standard were 68.1%, 10.6%, 8.5% and 12.8% respectively. As for 21 monitored sections in Wujiang River Basin, the proportions of monitored sections with water quality up to Grade III Standard and Grade IV Standard were 90.5% and 9.5% respectively.

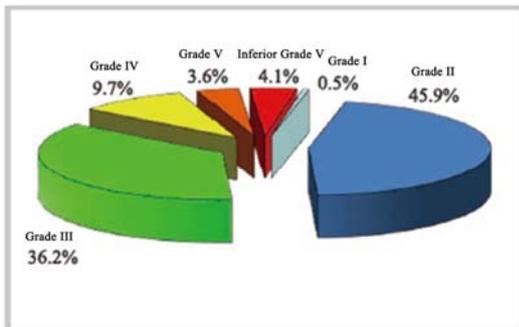


Figure 1 Water Quality Classification of

Tributaries of the Yangtze River in 2017

Source of Drinking Water

The water quality of Chongqing's centralized potable water source was good. The water qualification rate of 64 urban centralized potable water sources has reached 100%.

Measures and Actions

Chongqing has thoroughly implemented the Action Plan for Prevention and Control of Water Pollution, promoted the in-depth development of "Clean Water Action" and enhanced various measures for preventing and controlling water pollution in Chongqing, ensuring the safety of water environment of Three Gorges Reservoir Region. As a result, Chongqing was honored as Excellent in the annual assessment of the *Action Plan for Prevention and Control of Water Pollution*.

As for domestic sewage treatment, a total of 14 urban domestic sewage treatment plants have been reconstructed, expanded and put into operation in 2017, reaching water flow of 430,000m³ per day. A total of 27 urban sewage treatment plants have been reconstructed to upgrade their discharge standard from Grade I (B) to Grade I (A), reaching water flow of 1,175,000m³ per day. Chongqing has accumulatively built 64 urban sewage treatment plants with water flow of 3.85 million cubic meters per day, treating sewage of 1,156 million cubic meters annually. The annual concentrated treatment rate of urban domestic sewage has reached 93%, while the concentrated treatment rate of urban domestic sewage of main urban area has realized 97%. A number of 347 township sewage treatment facilities have been built in Chongqing. As a result, 1,584 sewage treatment facilities have been established in towns and merged towns, achieving water flow of 1.2 million cubic meters per day.

As for industrial pollution prevention and control, Chongqing has established 10 centralized sewage treatment facilities at the municipal level and above in industrial agglomeration areas and completed the work of networking online monitoring devices basically covering 60 centralized sewage treatment facilities at the municipal level and above in industrial agglomeration areas. The investigation on pollution of chemical enterprises along the Yangtze River Economic Belt has been carried out to obtain environmental basic data and

environmental management status of chemical industry of Chongqing, while efforts have also been made to determine the environmental conditions of enterprises in 11 key industries including paper-making industry and coking industry. A number of 871 gas stations have completed the anti-seepage reconstruction of their underground tanks, comprehensively finishing the annual reconstruction tasks.

As for water pollution control in key river basins, Chongqing has developed a management plan for 11 rivers including Yulin River and sent it to Chongqing Municipal People's Government for approval. The work of protecting water environment of Changshou Lake and Yutan Lake has been deepened, completing 134 environmental protection projects and ensuring the safety of production and domestic water used by about 2 million people. The regulation of substandard waterways like Longxi River and Linjiang River has been accelerated to ensure that the water quality of rivers reaches Grade III Standard, and the management of 56 reservoirs in the main urban area of Chongqing has been enhanced to constantly improve their water quality. All-out efforts have been made to implement over 80 projects in a bid to regulate black-odor water bodies, cleaning up 31 black-odor water bodies in the main urban area of Chongqing.

As for pollution prevention and control of villages and agriculture, Chongqing has completed integrated environmental management of 400 villages, achieving integrated environmental management in 3,100 villages in total. The *13th Five-Year Plan for Pollution*

Prevention and Control of Poultry & Livestock Breeding of Chongqing and the *Scheme for Pollution Prevention and Control of Poultry & Livestock Breeding of Chongqing* have been issued and implemented. A total of 37 districts and counties have prepared the *Plan for Adjusting the Assignment of Prohibited Area for Poultry & Livestock Breeding* and established an information management platform featuring unified management, rating system and direct sharing. A number of 1,064 poultry & livestock farms (farming households) in the prohibited area have been closed or relocated, and the supporting facilities for treating pollution created by 810,000 pigs have been reconstructed.

As for protection of centralized potable water source, Chongqing has completed investigation and assessment on the environmental status of 64 urban centralized potable water sources and the basic environmental status of centralized groundwater sources in 4 water supply areas with chemical pollution sources. The work of constructing standard centralized potable water sources in urban and rural areas has been accelerated, basically building standard centralized potable water sources at the county level and above. The rectification of vessel-induced and pier-induced pollution in potable water source protection area in the main urban area has been implemented. The last 4 hard tasks including the relocation of oil product pier near the Fengshouba Water Plant in Dadukou District have been completed, finishing 24 vessel & pier rectification projects and ensuring the safety of drinking water of Chongqing.

Atmospheric Environment

Condition

Air Quality

In 2017, the number of days with good or excellent air quality in Chongqing was 303, increasing 2 days compared with that in 2016. The number of days with excellent air quality was 98 and that with good air quality was 205. The number of days with excessive air pollution was 62, including 6 days with heavily polluted air quality. The variation trend of air quality in Chongqing from 2013 to 2017 is reflected in Figure 2.

The average annual density of fine particles (PM_{2.5}), inhalable particles (PM₁₀), SO₂ and NO₂ was 45μg/m³, 72μg/m³, 12μg/m³ and 46μg/m³ respectively. The densities of CO (the 95th percentile of daily average density) and O₃ (the 90th percentile of daily average density within maximum eight hours) were 1.4mg/m³ and 163μg/m³ respectively. The densities of SO₂ and CO have respectively reached the Grade II Standard of the national ambient air quality standard, while the densities of PM_{2.5}, PM₁₀, NO₂ and O₃ have been 0.29 time, 0.03 time, 0.15 time and 0.02 time as much as the standard density respectively.

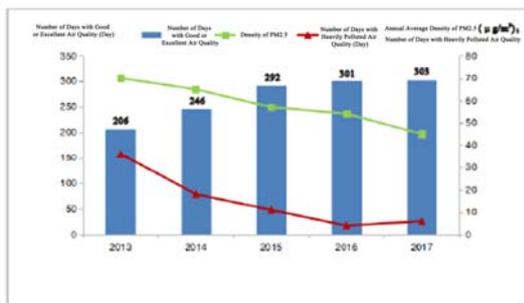


Figure 2 Variation Trend of Air Quality in Chongqing from 2013 to 2017

The ambient air quality of 38 districts and counties (autonomous counties), Liangjiang New Area and Wansheng Economic and Technological Development Zone is reflected in Table 1. The density of

six atmospheric pollutants in 5 districts and counties including Wulong District, Chengkou County, Younyang County, Youyang County and Pengshui County has reached the Grade II Standard of the national ambient air quality standard, achieving standard air quality in urban areas and accounting for 12.5% of the total number of districts and counties being assessed.

Acid Rain

The acid rain frequency of Chongqing was 15.3% with pH values ranging from 3.69 to 8.55, resulting in annual average pH value of 5.59.

Table 1 Ambient Air Quality of Districts and Counties in Chongqing (μg/m³)

Name of Districts or Counties	Comprehensive Air Quality Index	P	S	N	P	O	CO (mg/m ³)
Wanzhou District	4.40	67	10	33	46	12	1.5
Qianjiang District	3.50	47	4	20	36	12	1.3
Fuling District	4.67	71	8	38	44	12	1.4
Yuzhong District	5.30	72	1	59	44	15	1.6
Dadukou District	5.18	75	1	51	46	15	1.6
Jiangbei District	4.62	63	1	42	39	16	1.4
Shapingba District	4.97	72	2	42	45	16	1.4
Jiulongpo District	4.70	68	0	40	43	15	1.4
Nan'an District	4.73	70	1	40	44	15	1.3

Beibei District	4.63	64 ¹ / ₂	3642 ¹⁶ / ₄	1.6
Yubei District	4.75	62 ¹ / ₂	4542 ¹⁵ / ₉	1.4
Banan District	4.90	73 ¹ / ₃	4143 ¹⁶ / ₂	1.5
Changshou District	4.72	70 ² / ₁	2750 ¹⁵ / ₀	1.3
Jiangjin District	5.59	89 ¹ / ₉	4152 ¹⁷ / ₄	1.6
Hechuan District	5.17	76 ² / ₄	3057 ¹⁵ / ₂	1.4
Yongchuan District	4.70	72 ¹ / ₉	2653 ¹³ / ₅	1.4
Nanchuan District	4.85	69 ³ / ₄	3050 ¹² / ₂	1.4
Qijiang District	4.77	74 ² / ₁	2751 ¹⁴ / ₈	1.2
Dazu District	4.69	73 ¹ / ₉	1855 ¹⁵ / ₉	1.3
Bishan District	5.68	84 ³ / ₁	3760 ¹⁵ / ₆	1.4
Tongliang District	4.77	76 ² / ₁	2553 ¹³ / ₂	1.5
Tongnan District	4.44	66 ¹ / ₇	2250 ¹⁴ / ₂	1.4
Rongchang District	5.04	76 ¹ / ₇	2360 ¹⁵ / ₆	1.6
Kaizhou District	4.21	66 ¹ / ₀	3238 ¹³ / ₇	1.4
Liangping District	4.06	65 ¹ / ₁	2340 ¹² / ₉	1.7
Wulong District	4.11	63 ² / ₂	3135 ¹¹ / ₄	1.4
Chengkou County	3.22	48 ¹ / ₄	1530 ¹⁰ / ₅	1.6
Fengdu County	4.57	68 ¹ / ₂	3549 ¹¹ / ₆	1.6
Dianjiang County	4.41	61 ¹ / ₂	2751 ¹³ / ₁	1.5
Zhong	3.94	57 ⁸	2445 ¹²	1.4

County				2	
Yunyang County	3.61	51 ⁸ / ₂₅	35 ¹² / ₉	1.3	
Fengjie County	4.20	61 ¹ / ₀	3439 ¹³ / ₂	1.5	
Wushan County	4.07	59 ¹ / ₂	3141 ¹² / ₁	1.3	
Wuxi County	3.95	65 ¹ / ₁	1942 ¹⁰ / ₉	1.9	
Shizhu County	3.63	53 ¹ / ₁	2037 ¹² / ₀	1.5	
Xiushan County	3.54	54 ¹ / ₃	1539 ¹² / ₉	1.0	
Youyang County	3.32	48 ¹ / ₂	1834 ¹⁰ / ₅	1.4	
Pengshui County	3.29	41 ¹ / ₇	2131 ¹⁰ / ₅	1.4	
Wansheng Economic and Technological Development Zone	5.13	74 ³ / ₄	3353 ¹³ / ₂	1.4	
Liangjiang New Area	4.99	66 ¹ / ₀	4942 ¹⁶ / ₉	1.6	

Notes: Grade II Standard of the National Ambient Air Quality Standard (GB3095-2012): Annual daily average density of SO₂≤60μg/m³; Annual daily average density of NO₂≤40μg/m³; Annual daily average density of PM₁₀≤70μg/m³; Annual daily average density of PM_{2.5}≤35μg/m³; Daily average density of O₃ within maximum eight hours≤160μg/m³; Daily average density of CO within 24 hours≤4mg/m³.

Measures and Actions

Chongqing has taken the “Blue Sky Action” in a deep-going way, implemented “Four Controls and Two Increases” projects and completed tasks proposed in the *Air Pollution Prevention and Control Action Plan*, being honored as “Excellent” in the overall assessment on implementation of the *Air Pollution Prevention and Control Action Plan* from 2013 to 2017.

As for traffic pollution control, the vehicle amount in Chongqing was 5,654,300 (including 3,710,600 cars) in 2017, an increase of 11.3% (an increase of 13.1% in terms of cars) compared with that in 2016. The replacement of heavy-polluting vehicles and old cars has been accelerated. As a result, a total of 28,800 heavy-polluting vehicles and 35,500 old cars have been replaced. The environmental regulation on new vehicles has been enhanced and the inspection on disclosure of environmental protection information of new vehicles has been carried out. The inspection on vehicle emission has been enhanced on a regular basis. In 2017, Chongqing has implemented inspection on 1,309,000 vehicles, of which the initial acceptance rate was 86.8%. Over 30 inspection institutions have been spot-checked, and totally 4 illegal acts have been investigated and punished, totaling penalty amount of more than RMB 900,000. A number of 191,000 vehicles have received road inspection, 104,000 vehicles have been telemetered, more than 190,000 heavy-polluting vehicles and trucks running through the toll booth have been investigated and punished, and 27,000 vehicles discharging pollutants in levels that exceed the stipulated standard have been investigated and punished. More than 10,000 new energy vehicles have been promoted through the implementation of the subsidy policy for purchasing new energy vehicles. Totally 8 pier shore power reconstruction projects have been completed, and the heavy oil facilities of 330 vessels have been dismantled. The daily inspection on operation of gasoline vapor recovery units in oil storages and gas stations have been strengthened. The diesel and gasoline up to Euro V Standard have been comprehensively used, while the sales and use of disqualified diesel and gasoline products have been cracked down. The environmental regulation on non-road mobile machinery has been strengthened, and the area of restricted zones for high-pollution non-road mobile machinery has

reached nearly 4,000km².

As for industrial pollution control, air-polluting enterprises like Lafarge Nanshan Plant, East Sichuan Chemical Factory, Chongqing Nantong Power Plant and Fangsheng Power Plant have been shut down, and all sintered brick kilns within the Belt Expressway of Chongqing's main urban area have been closed. Totally 93 industrial enterprises have completed the treatment of volatile organic compounds, and 168 enterprises completing the treatment of volatile organic compounds in 2016 have been spot-checked and guided. A number of 57 sintered brick kilns have been shut down and a number of 217 sintered brick enterprises in key areas have been reformed. Chongqing has organized 31 cement companies and 541 sintered brick enterprises to conduct staggering peak production, and accelerated the development of ultra-low emissions of coal-fired units, achieving the reconstruction of 1.62 million kilowatts. In addition, 38 enterprises discharging waste gas that disturbs residents have been reformed, and 124.09 T/h of heat supply from coal-fired boilers has been upgraded.

As for dust pollution control, efforts have been made to supervise and urge construction units to implement the "Ten Mandatory Provisions for Dust Control at Construction Site". In the course of the inspection on 9,768 construction projects, 4,402 dust pollution problems have been proposed and urged to be solved, and 85 cases have been registered with punishment. Totally 410 demonstration construction sites for dust pollution control have been consolidated or established. The investment in and operating frequency of cleaning equipment have been strengthened, maintaining a cleaning rate of over 85% on roads cleaned up by cleaning equipment. Totally 410 demonstration roads for dust pollution control have been consolidated or established. Nearly 4,000 construction waste trucks in the main urban area have conducted enclosed transport according to

the regulation of “fixed construction site, fixed route and fixed slag disposal pit”.

As for domestic pollution control, fumes governance has been implemented in 400 restaurants and the dining halls of 100 government organs and public institutions. The law enforcement on illegal acts such as open-air burning of wastes and crop stalks and outdoor barbecue has been strengthened. Over 7,000 illegal acts have been investigated and corrected, eliminating burning points informed by the Ministry of Ecology and Environment of PRC through the detection of monitoring satellites. The *Notice of Strengthening the Consolidation and Construction of Restricted Areas for High-polluting Fuels* has been issued, guiding districts and counties to consolidate 2,765km² of restricted areas for high-polluting fuels and build 88.4km² of new restricted areas.

The regulatory capacity has been enhanced. Chongqing has conducted numerous special actions including the 100-day Battle for Air Pollution Control carried out in spring and winter, the Ozone

Pollution Control carried out in summer, the Air Pollution Control carried out in autumn and winter and the “Sharp Sword” Enforcement Action. Chongqing has signed the *Agreement on Deepening Joint Air Pollution Control in Sichuan and Chongqing*, prepared the *Planning for Air Quality up to Standard within Time Limit* and the *Action Plan for Achieving Blue Sky (2018-2022)*, and issued the *Emergency Plan for Days with Heavily Polluted Air Quality in Chongqing*. A platform featuring multi-model ensemble forecast and comprehensive analysis for air quality in Chongqing has been established to fight against heavy pollution days. As a result, 11 air pollution alerts have been issued, 26 tasks for rainmaking have been operated by planes and 62 tasks for surface rainmaking have been operated, effectively reducing air pollution.

The scientific research capability has been enhanced. The research on analyzing and controlling pollution sources including particulates, ozone, oxynitride and volatile organic compounds has been conducted constantly to provide technical support to atmospheric environment management.

Acoustic Environment

Condition

In 2017, the average equivalent sound level of urban ambient noise in Chongqing was 53.5 decibels, a year-on-year decrease of 0.3 decibel. The average equivalent sound level of traffic noise was 66.0 decibels, a year-on-year decrease of 0.1 decibel.

The average equivalent sound level of ambient noise in 26 districts, Liangjiang New Area and Wansheng Economic and Technological Development Zone was 53.5 decibels, while the average equivalent sound level of traffic noise was 66.3 decibels. The average equivalent sound level of ambient noise in 12 counties (autonomous counties) was 54.6 decibels, while the average equivalent sound level of traffic noise was 65.7 decibels. The monitoring results of ambient noise and traffic noise in districts and counties of Chongqing are reflected in Table 2.

Table 2 Monitoring Results of Ambient Noise and Traffic Noise in Districts and Counties of Chongqing (Decibel)

Districts and Counties	Ambient Noise	Traffic Noise	Districts and Counties	Ambient Noise	Traffic Noise
Wanzhou District	52.4	67.6	Tongliang District	55.1	65.6
Qianjiang District	55.4	65.0	Tongnan District	51.8	61.2
Fulin	56.0	68.	Rongch	52.2	62.

g District	0	ang District	7		
Yuzhong District	54.0	69.3	Kaizhou District	54.1	65.1
Dadukou District	53.7	66.9	Liangping District	54.8	65.7
Jiangbei District	53.5	66.4	Wulong District	53.8	67.9
Shapingba District	52.3	67.0	Chengkou County	53.8	68.2
Jiulongpo District	54.6	66.0	Fengdu County	55.7	66.1
Nan'an District	53.7	66.8	Dianjiang County	55.7	68.1
Beibei District	50.1	66.6	Zhong County	55.3	68.2
Yubei District	53.1	66.6	Yunyang County	52.3	65.6
Banan District	53.5	64.8	Fengjie County	58.4	69.8
Chan	52.4	67.	Wusha	55.8	66.

gshou Distri ct	4	n	5
Jiangj in Distri ct	53.4	65.1	Wuxi County 51.0 64.5
Hech uan Distri ct	53.9	66.5	Shizhu County 53.7 61.1
Yong chuan Distri ct	57.3	67.0	Xiusha n County 53.3 64.2
Nanc huan Distri ct	53.6	64.7	Youyan g County 58.7 64.6
Qijian g Distri ct	59.4	68.4	Pengsh ui County 54.0 66.3
Dazu Distri ct	53.8	65.2	Wanshe ng Econo mic and Techno logical Develo pment Zone 53.8 65.8
Bisha n	54.5	66.	Liangji ang 53.7 66.

Distri ct	3	New Area	0
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Measures and Actions

Chongqing has conducted the Quiet Action and enhanced the supervision and management of noise control. A road area of 73,000m² has been transformed for low noise, a length of 2,850m sound insulation screen has been built, and an area of 150,000m² noise reduction green belt has been constructed. The inspection on night work has been strengthened, and construction sites complained by the people have been inspected and restricted from night work. Special action for reducing ambient noise has been jointly conducted by 8 government departments including environmental protection department, public security department and urban management department. In 2017, the environmental protection department of Chongqing has handled 34,412 complaints in terms of noise pollution, a year-on-year increase of 34.1%.

In 2017, Chongqing has governed or relocated 14 industrial noise sources and 3 social noise sources, and completed the regulation of 43 fixed equipment noise sources. A number of 34 quiet residential areas at the municipal level have been established, achieving a number of 415 in total. The area of up-to-standard noise-control areas has reached 72.95km², achieving an area of 1,300.47km². As a result, the coverage rate of up-to-standard noise-control areas in the main urban area has reached 90.6%.

Solid and Hazardous Wastes

Condition

Up to 2017, there were a total of 57 running urban solid waste disposal dumps (plants) in Chongqing City, including 4

dumps located at the main urban area, 33 dumps located outside of the urban area and 20 small town solid waste landfills. 6.852 million tons of domestic garbage was safely disposed in 2017, with a daily

disposal capacity of 19,000 tons; among them, the main urban area disposed 2,718,500 tons of domestic garbage, with a daily disposal capacity of 7,448 tons. The urban garbage harmless disposal rate of Chongqing remained at 100%, and urban garbage harmless disposal rate of designated towns reached 95.2%.

In 2017, a total of 710,000 tons (80% water content) of sewage sludge were produced by the urban sewage treatment plants, including 410,000 tons in main urban areas with 100% of harmless disposal rate, and 300,000 tons in outer suburb districts and counties with 75% of harmless disposal rate.

Measures and Actions

Chongqing City deeply promoted the implementation of “Ten Measures on Soil Pollution Control” and its work plan. Three liability statements of the Ministry of Ecology and Environment and municipal government, municipal government and district government, district government and soil environment key regulatory enterprises were completed and signed; the work plan of “Ten Measures on Soil Pollution Control” was printed and implemented in all districts and counties. It also completed the annual target of heavy metal pollution control and reducing the heavy metals discharge by 2% so that the supervision and examination of hazardous wastes reached the national Class A requirement and the soil environmental quality in the whole city remained stable.

It strengthened the soil pollution prevention. The detailed survey of soil pollution status was comprehensively implemented, with the completion of sample preparation circulation center and

sample library and soil sample collection from agricultural lands being carried out. It also established the list of suspected contaminated sites, list of contaminated sites and negative list of development and utilization, published the list of first batch of 17 contaminated sites, finished the environmental risk assessment of 69 sites, repaired and treated 16 contaminated sites, thereby providing 2.13 million square meters of net land. Besides, the list of first batch of 38 municipal soil environment key regulatory enterprises was published, with completion of compiling the municipal soil prevention plan.

It enhanced the environmental supervision of solid wastes. 3 co-processing cement kilns facilities and 1 facility for centralized incineration and disposal of hazardous wastes were set up and put into use, with a newly increased disposal capacity of 92,000 tons. It advanced 8 pilots for centralized collection of hazardous wastes. The full coverage for centralized disposal of township medical wastes was realized. 24 enterprises in 10 districts and counties carried out the delicacy management pilots for hazardous wastes. For strengthening the supervision and examination for standardized management of hazardous wastes, it established a three-level joint inspection mechanism of “random inspection at city level, examination at district and county level and self-inspection by enterprises”. The institution of banning foreign garbage imports was completely implemented to carry out the cleaning up and regulation of recycling industry and specific law enforcement of import wastes.

It improved the risk prevention and control of hazardous chemicals. Chongqing enhanced the prevention and

inspection of environmental risks in enterprises producing and using hazardous chemicals. The supervision and audit in electronic dismantling enterprises of waste electric appliance was also strengthened according to the law by entrusting the fourth-party to implement the audit works, with 571,700 waste electrical and electronic products being dismantling in total.

It reinforced the infrastructure construction. The establishment of garbage collection, transportation and disposal system was perfected in townships through reinforcing the environmental management

to dispose landfill leachate, incineration fly ash and sewage sludge. The main urban area launched the pilots for classified disposal, collection, transportation and treatment of daily garbage. The Heishizi food waste treatment plant in Jiangbei District disposed 551,000 tons of perishable garbage that was approximately 20% of the total waste disposal in the main urban area in last year; it illustrated that the “classification of dry and wet garbage” had gained a good achievement. A total of 646,000 tons of stocking domestic wastes from villages were disposed while effectively disposing daily garbage of 7,275 administrative villages, and the effective treatment ratio reached 89.9%.

Radiation Environment

Condition

Chongqing City had a great quality in radiation environment in 2017. The average value of environmental terrestrial gamma-radiation dose rate converted by accumulated dose monitoring was 96.3nGy/h (the response value of cosmic rays was not deducted) within the range of natural background fluctuations in Chongqing; there was no abnormal radioactive levels of aerosols and fallout in 4 automatic monitoring stations of radiation environment; the horizontal mean value of electromagnetic environment of points measured in main city was lower than the controlling limits for electromagnetic environment of state regulations; the radiological parameters in the soil of Chongqing, the “Chongqing section” of Yangtze River, Jialing River, and Wujiang River, ground water and drinking water were all in normal levels.

By the end of 2017, there were 1807 nuclear technology utilization units in Chongqing with 2197 radiation sources and 3694 ray apparatuses in use; it also had 204 electromagnetic radiation source units, with 110,000 sets of active electromagnetic equipment (facilities), 108,052 sets of communications, radar and navigation equipment, and 1377 active electricity transmission lines above 110kV, as well as 500 transformer stations.

Measures and Actions

Chongqing reinforced the quality monitoring of radiation environment. The quality monitoring of radiation environment in 134 national and city

control points was completed, with a monitoring area and county coverage rate of 70%. It finished the investigation work of drinking water radioactive levels in 23 districts of southeast Chongqing, and comprehensively developed the investigation for the radioactive levels of water environment in Three Gorges Reservoir. It also had a great progress in the associated ore investigation of the second national survey on pollution sources.

It strengthened the risk management in the using stage of nuclear technology utilization. There were 501 radiation safety permits approved during the whole year, with a certificate holding rate of 100%; 56 radiation construction projects passed the environmental impact assessment and audit, with 72 projects of completion acceptance and 177 cases of approval and record for the transfer of radioactive sources.

It guaranteed the safety of nuclear and radiation environment. A special action was organized for the safety inspection of radioactive sources in Chongqing. More than 500 law enforcement personnel were dispatched and more than 180 vehicles were used to investigate 1906 radioactive sources in 93 radioactive sources using units in Chongqing. Supervision and inspection has been conducted for 5156 times for people in the units with certificates, with 24 environmental illegal behaviors being investigated and treated. It also collected and stored 48 worn-out radioactive sources and 1 radioactive waste, and managed 527 petition letters and complaints for radiation pollution. A protection and safety training was carried out for 2293 personnel in radiation work units.

Landscape Greening

Condition

In 2017, Chongqing City had 59,085 hectares of green area in built-up areas, with a green coverage area of 63,249 hectares and a park green area of 27,828 hectares. The ratio of green space in built-up area of Chongqing reached 37.56%, with a green coverage ratio of 40.21% and a per capita park area (including temporary residents) of 16.33 square meters. The ratio of green space in built-up areas reached 36.91%, with a green coverage ratio of 39.11% and a per capita park area (including temporary residents) of 17.77 square meters.

Measures and Actions

“Five Projects” of ecological restoration, green corridor, park green space, garden landscape and digital landscape management project were greatly implemented, thus it newly added 24.93 million square meters of urban green space throughout the year. The

transformation and upgrading of old parks was further increased to strengthen the standardized and detailed management of urban parks, and improve the exhibition levels of horticulture in gardens. Besides, a series of activity of “Finding the Most Beautiful Urban Park 2017” was launched, and it also successfully held the 9th Flower Arrangement Art Exhibition of Chongqing, the 3rd Potted Landscape Art Exhibition and other exhibitions to enrich citizens’ leisure and entertainment lives. In addition, a series of creation activities of a national garden city were carried out under the active guidance to successfully create 3 national garden counties of Liangping District, Wulong District and Pengshui County, and 4 national garden towns, including East Wenquan Town of Banan District, Nanxi Town of Yunyang County, Shibao Town of Zhongxian County and Jiaoshi Town of Fuling District. Finally, the city accelerated the credit system construction of landscaping enterprises to improve and perfect the management system of landscaping enterprises credit assessment.

Forests and Grasslands

Condition

By the end of 2016, the forestland area reached 67.18 million *mu* in Chongqing City, with a forest area of 57.47 million *mu*, a forest coverage rate of 46.5% and a timber stock volume of 213 million cubic meters.

The natural grassland area of Chongqing City was 2,126,900 hectares, accounting for 25.81% of the total area. Among these grasslands, 1,884,700 hectares were available with evolution of part of grassland forwarding to shrub grassland and sparse forest.

erosion was 28,707.71 square kilometers in Chongqing City, accounting for 34.84% of the city’s total area. Specifically, the main loss type is water erosion, including a light erosion area of 10,101.74 square kilometers, accounting for 35.19%; a moderate erosion area of 9242.02 square kilometers, accounting for 32.19%; a strong erosion area of 4881.34 square kilometers, accounting for 17.00%; an extremely strong erosion area of 3340.18 square kilometers, accounting for 11.64%; and a severe erosion area of 1142.43 square kilometers, accounting for 3.98%. Besides, the annual total soil loss was 90,971,700 tons, with an average soil erosion modulus of 3169t/ (km²·a).

The total area of water loss and soil

Measures and Actions

The forest resource management was strengthened by consolidating the management of forestland planning and controlling of forestland adaptability, and launching a special action to clean up and search the illegal occupation of forestland. Chongqing seriously managed the forest cutting quota and forest harvesting permit, and operated the online certification for forest harvesting with standardization. It also reinforced the monitoring of forest resource by strictly implementing the One Map Management, finishing the supplementary investigation of annual change of forestland, and renewing the data and results of forest resource on time. The natural forest was strictly managed while fully stopping the commercial clear cutting of natural forest, prohibiting transplanting the natural trees into the city, and serious transformation of low yield and low efficiency natural forest.

The accumulative reserve area of planting grass reached 77,900 hectares in Chongqing City, with 67,100 hectares of artificial grass planting and 10,800 hectares of improved grass planting. The newly increased planting area throughout the year was 39,300 hectares, including 34,900 hectares of annual forage and 4,400 hectares of perennial forage. The accumulative contracted area was 212,400 hectares, which included 55,100 hectares of grazing prohibition area, 65,900 hectares of rotational grazing area, 39,100 hectares of grazing land resting area, and 14,000 hectares of fenced area in the grassland. Youyang Tujia & Miao Autonomous County, Fengjie County, Liangping District and many other districts

and counties implemented a project to return the grain plots to grassland, thus 3,300 hectares of grassland were returned. The project of “advance action of animal husbandry in the south of modern grassland” was implemented in 12 districts and counties (autonomous counties), such as Qianjiang District and Wuxi County; the grassland monitoring was also carried out in 5 districts and counties (autonomous counties), such as Wanzhou District and Fengjie County.

Furthermore, the *Water and Soil Conservation Planning of Chongqing During 2016-2030* was jointly published by Chongqing Water Resources Bureau, Development and Reform Commission, Finance Bureau, Agriculture Commission, Land and Housing Bureau, Environmental Protection Bureau, Forestry Bureau and Migration Bureau for speeding up the treatment of soil and water loss; thus, the newly increased area of water and soil loss treatment was 1651.62 square kilometers throughout the year. The new stage of remote sensing survey and the establishment of the spatial distribution database of soil and water loss in Chongqing (1:10000) were completed, as well as the publication of *Implementation Plan of Soil and Water Conservation Monitoring in Chongqing (2018-2022)*.

Besides, 100 million yuan of investment within the budget of the central government was implemented with 10 million yuan of municipal funds being arranged to carry out the karst treatment task of 400 square kilometers in 10 key districts and counties with Karst rocky desertification in Chongqing.

Cultivated Land and Agricultural Ecology

Condition	agricultural chemicals were used.
<p>Up to the end of 2016, the total cultivated area was 2,382,500 hectares in Chongqing, including 959,800 hectares of paddy field, 1,421,900 hectares of dry farm, and 800 hectares of irrigable land.</p> <p>By the end of 2017, there were 231 Chongqing famous agricultural products during the period of validity, and 1489 newly certified agricultural products as pollution-free, green, organic and allowed to bear their unique geographical features during the whole year, thus the annual certification volume exceeded 1,000 for the first time. It also had 1083 pollution-free certificates of origin within their validity, and 3539 valid agricultural products are certified as pollution-free, green, organic and allowed to bear their unique geographical features. Besides, it greatly promoted to save water, fertilizer, agricultural chemicals and other green technologies for making fertilizer and agricultural chemicals use continue to be reduced, in result, cultivated land protection and quality improvement has been finished for 220,000 <i>mu</i> of land. 2 national animal husbandry green demonstration districts, including Rongchang District and Qianjiang District, were established.</p> <p>During the whole year, Chongqing produced 20,132,800 pigs, 3,295,400 sheep and 250 million fowls. The agricultural fertilizer input amounts (purity) was 954,600 tons, including 471,600 tons of nitrogen fertilizer, 169,300 tons of phosphate fertilizer, 55,400 tons of potash fertilizer and 258,400 tons of compound fertilizer. A total of 45,500 tons of agricultural film and 17,500 tons of</p>	<p>Measures and Actions</p> <p>Chongqing implemented the cultivated land requisition-compensation balance and jointly promoted the project of returning farmland to forests. A total of 7044 hectares of cultivated land were approved for conversion and expropriation, and 8380 hectares of newly cultivated land were added for completion and acceptance of land development, consolidation and reclamation of rural construction land in Chongqing.</p> <p>It developed the rural biogas. Specifically, 50 large-scale biogas projects, 10 comprehensive demonstration of rural energy in rural concentrated residential areas and 22 medium and small-sized biogas projects were completed the construction in 2017. A total of 4559 rural biogas projects were set up, including 324 large-sized, 692 medium-sized and 3543 small-sized projects.</p> <p>It carried out the prevention and control of non-point source pollution. The construction of 3 national demonstration areas for integrated prevention and control of agricultural non-point source pollution in key watershed were started in Jiangjin District, Fuling District and Fengjie County respectively, and it also started the construction of 4 municipal demonstration areas in Banan District, Tongliang District, Dianjiang County and Wushan County. In 2017, there were 5 national and 6 municipal demonstration areas under construction in Chongqing for comprehensive prevention and control of agricultural non-point source pollution in key watershed. Also, agricultural film recovery and utilization pilots were started in Yubei District, Nanchuan District and Wuxi County. A typical investigation for agricultural surface source pollution was carried out in Yubei District, Banan</p>

District, Wanzhou District and other districts and counties; as a result, a total of 700 typical plots and 240 livestock and poultry breeding units were investigated, with 29,000 data being obtained.

It also implemented the protection of agricultural biological resources by launching the investigation of agricultural wild plant resources that took fructus aristolochiae as the main, strengthening the monitoring and maintenance for 6 in-situ protective zones, such as agricultural wild plant, including wild soybean, wild buckwheat and wild water shield, and conducting an investigation for alternanthera philoxeroides, water hyacinth, ampullaria gigas and other invasive alien plants in result they were controlled and eliminated in serious areas.

Nature Reserve and Biological Diversity

Condition

In 2017, there were 58 nature reserves in Chongqing, with a total area of 806,000 hectares, accounting for 9.78% of the total land area. Among them, there were 7 natural, 18 municipal and 33 district and county-level nature reserves. It also had 89 forest parks above municipal levels and 1 newly added in Chongqing.

Chongqing had 36 scenic areas in total that were distributed in 31 districts and counties (including 6 scenic areas in main urban area), with a total area of 4558.42 square kilometers, accounting for 5.53% of the city area. Among them, there were 7 national scenic areas with a total area of 2147.30 square kilometers, accounting for 2.60% of the city area; 29 municipal scenic areas with a total area of 2411.12 square kilometers, accounting for 2.93% of the city area. In addition, the world natural heritage Wulong karst covered a core area of 60 square kilometers and a buffer area of 320 square kilometers; the other world natural heritage, Jinfo Mountain karst covered a core area of 67.44 square kilometers and a buffer area of 106.75 square kilometers.

There were more than 6000 wild vascular plant species in the whole city which included 498 Chinese endemic plant species, 85 rare, endangered and national key protected wild plant species, and 355 threatened plant species. The city also had 866 species of wild vertebrates and more than 4300 species of invertebrates that contained 206 species of Chinese endemic animals, 11 Class-I national key protected wild animals, 54 Class-II national key protected wild animals and 27 global endangered wild animals included in IUCN Red List of Threatened Species.

Measures and Actions

For the optimization and adjustment of part of nature reserves, the State Council

approved the adjustment for the scope and functional areas of Jinfo Mountain National Nature Reserve, and the municipal government approved the adjustment for the scopes and functional areas of Pengshui Maoyun Mountain County-level Nature Reserve and Qianjiang Xiaonanhai Municipal Nature Reserve. It strictly controlled project environment access that related to the construction projects of nature reserves, carried out the “Green Shield 2017” special action of nature reserve inspection and field verification of satellite remote sensing monitoring, and strictly investigated and treated with violations of laws and regulations that referred to nature reserves. Also, the municipal finance bureau arranged RMB 18.1 million to subsidize the daily management for strengthening the ability construction of nature reserves.

Chongqing steadily completed the protection, management and utilization works of scenic areas. It fully promoted the overall planning of scenic areas, improved and perfected the protection and monitoring system of heritage sites, standardized the construction and management of scenic areas, and strict protection and law enforcement of scenic spots. The overall planning of 6 national scenic spots was approved by the State Council and the plan for Three Gorges was waiting to be approved. The overall planning for 25 of the 29 municipal scenic spots was approved by the municipal government, as well as the system planning of city scenic spot. Besides, it finished the protection and management planning of the world natural heritage Wulong karst and Jinfo Mountain karst.

It strengthened the construction of forest park and forest tourism, carried out the second investigation for national key conservation of wild plant resources, implemented the rescue and protection project of national wild plants of critically

small population, and jointly organized and launched various publicity and educational activities such as “World Wildlife Day”

and “Bird-Loving Week” with relevant departments in districts and counties.

Climate and Natural Disaster

Condition	
<p>In 2017, Chongqing’s temperature and precipitation slightly deviated above normal, while sunshine duration was just normal; in general, the level of meteorological disaster was normal, slightly better than 2016.</p> <p>The annual average temperature was 17.7°C which was 0.2°C higher than the historical average; the temperature fluctuated a lot among months, the high temperature came later with more days of hot weather, the annual high temperature strength was more severe than 2016 and the historical average. The amount of precipitation was 1,260.6mm, about 10% more than the historical average, with uneven spatial and temporal distribution. In particular, rainfall in autumn was the highest in history. In most regions, rainstorm occurred earlier. In total, 13 regional rainstorm weather processes happened. More regional processes occurred but the strength weakened as a whole. Continuous rain was nearly 30% more frequent. 8 regional continuous rain processes took place. The strength of regional processes was the third highest since 2000, only after 2007 and 2014. The annual sunshine duration was 1,121.3 hours, near to the historical average. But the autumn sunshine duration was the least in history. Most regions entered spring and winter earlier, summer later, and autumn normally. The frequency of frost and steep descent of temperature was less than the normal.</p> <p>In 2017, Chongqing experienced 49 natural disasters which affected 2,526,000 people in 33 districts and counties</p>	<p>including Wanzhou District, Kaizhou District, Fengjie County, Wuxi County and Wansheng Economic and Technological Development Zone. 54 people were dead or missing, 26,000 people were relocated in emergency. A crop area of 110,500 hectares was affected, including 15,100 hectares which were made impossible for harvest. 10,000 houses collapsed and 34,000 houses were damaged. The direct economic loss was RMB 2.54 billion.</p>
Measures and Actions	
	<p>Emergency response and rescue was launched without delay, allocating a total fund of RMB 18.5 million and other materials including 3,600 tents, 5,300 folding beds, and 9,900 quilts. Solid progress was made in the reconstruction of collapsed houses, with a special fund of RMB 51 million and a 100% completion rate. The winter and spring relief was put into practice with an allocation of RMB 117 million, 32,800 quilts, and 12,500 coats.</p> <p>Preparations were also made for disasters. As of the end of 2017, the central government’s relief material warehouse had been largely completed, and the new municipal warehouse’s foundation reinforcement had been in process. The total value of municipal relief materials exceed RMB 30 million and can meet the emergency relocation needs of 300,000 people.</p> <p>With enhanced efforts, Chongqing has established 28 “National Model Communities of Comprehensive Disaster Mitigation”. Drills and publicity activities have been organized at communities, schools and villages.</p>

Columns

Progress in Ecological Civilization

The layout of land development is rationalized, ecological red line and permanent basic farmland are defined, and the boundary of urban development is optimized with an aim to promote intensive and efficient production, livable and comfortable living space, and scenic environment. As the supply-side structural reforms see solid progress, outdated industries are eliminated and overcapacity is reduced to facilitate industrial restructuring, green transformation and high-quality development. A negative list of industrial investment is strictly implemented, and great efforts are made to develop circular economy, ecological agriculture, eco-tourism and environmental industries and promote the change and optimization of economic development, industrial structures and growth momentum. The national ten measures on air/water/soil pollution control and the municipal plans are comprehensively implemented. The five environmental campaigns respectively for clean water, blue skies, green lands, idyll and tranquility are put into practice solidly, and major ecological projects are carried out including those on improving landscaping and forest quality, protecting wetlands, and controlling water and soil loss and stony desertification. As biodiversity is protected better, ecological and environmental quality has been improved continuously and ecological functions have been enhanced obviously. We have deepened the institutional reforms of ecological civilization, improved the licensing system of pollutant emission, and formulated criteria or indicators for county and district environmental institutions to promote or remove officials and evaluate ecological civilization. The river chief system is fully implemented, environmental monitoring reforms are deepened, and the methods of equity investment in environmental industries are innovated. Pilot projects are well organized such as forest certification, carbon trade, reformed compensation for environmental damage, and auditing on outgoing officials' accountability for natural resources. All the 13 annual reform tasks have been completed. The demonstration of ecological civilization is intensively promoted. Indicators and regulations are issued on model counties and districts of ecological civilization, forming a complete three-level system of counties, towns and villages. The Bishan District has become one of the country's first-batch model districts of ecological civilization. Publicity and education in ecological civilization is enhanced to advocate green lifestyles and consumption models and cultivate citizens' consciousness and behaviors in protecting ecology and environment.

The Five Campaigns of Environmental Protection

Since the government of Chongqing issued the action plan (2013-2017) for the five environmental campaigns, the city has been adhering to the people-oriented development philosophy, responding to citizens' concern for good environment, making overall arrangements of "construction, treatment, improvement and management", highlighting the key points and improving weakness, and deeply implementing engineering measures of 26 categories in 5 areas, namely clean water, blue skies, green lands, idyll and tranquility. In 5 years, more than 15,000 pollution control projects have been completed, many prominent environmental issues have been addressed, the city's ecology and environment has been improved continuously, and citizens have become increasingly happy and satisfied. These five campaigns have become Chongqing's name card of ecological civilization and environmental protection.

Environmental Protection Supervision

The central environmental inspection has brought forth remarkable improvement. On April 12, 2017, Chongqing received feedback from the Fifth Central Environmental Inspection Group. The *Plan of Chongqing Municipality on Rectifying Problems Found by the Central Environmental Protection Inspection Group* clearly defines tasks of 37 measures and 115 concrete problems. In detail, 2,735 measures were implemented. By the end of 2017, Chongqing had completed more than 93% of the

rectification tasks. Among 37 planned measures, 32 had been completed, higher than the annual goal of 30. And among 115 problems, 91 were solved, higher than the preset goal of 88. At Chongqing Television, Chongqing Daily, and the website of the municipal government, 790 pieces of information were made public. And totally, Chongqing had released over 5,000 rectification messages. In handling the 8 problems found by the Central Environmental Inspection Group, 79 officials were held accountable (including 28 department- or bureau-level officials and 28 “top leaders”). The rectification report was submitted on time to the central government.

At a municipal level, environmental inspection was also launched. In line with the decisions and deployments of the municipal committee and government, the environmental monitoring office strictly followed the philosophy of “equal responsibility for party and government” and “two duties for one post”, established and improved mechanisms of environmental supervision and monitoring, prepared a three-in-one system of centralized, special and route supervision, and practically enhanced the supervision over environmental protection. On the basis of the Central Environmental Inspection Group’s visit to 8 districts and counties, Chongqing intensively supervised 4 districts and counties, processed 280 complaints, investigated the responsibility of 41 people, punished 63 companies, imposed a total fine of 4,059,000 yuan, asked 177 companies for rectification, opened 5 cases for further investigation, handed over 174 environmental problems, and investigated the responsibility of 13 problems. Also, Chongqing launched 15 special supervisions in major environmental issues, 11 major problems were highlighted and solved, and special meeting were held for 2 districts and counties. Through divided supervision, on-site monitoring, stationed supervision and revisit, more than 50 municipal organizations and all the districts and counties were supervised routinely and widely. And targeted and enhanced supervision was implemented repeatedly for major places and departments so as to facilitate the solving of important and difficult problems.

Environment and Livelihood

Basically, domestic sewage treatment facilities have covered all the rural and urban areas. The governments at different levels have made active efforts to advance the construction of centralized sewage treatment facilities. With well-defined responsibilities, paid-in funds and enhanced measures, they spared no effort and tightly scheduled projects. In the year, 347 new sewage plants were built at towns (including removed or merged towns), adding a processing capacity of 148,000 tons per day. By the end of 2017, the number of sewage treatment facilities had reached 1,584.

Reform of Investment and Financing in Environmental Protection

The system of buying and trading emissions rights is improved continuously. For the first time, the terms of “(we should) establish a mechanism of buying and trading emissions rights and implement the paid acquisition and transfer of emissions rights” were included into the *Regulations of Chongqing on Environmental Protection*, and the *Rules for the Implementation of Paid Utilization and Trade of Emissions Rights Among Industrial Enterprises of Chongqing* was revised. Solid progress has been made in the market and information system of emissions trading, with diversified trading modes, improved efficiency and enhanced risk control abilities. In the year, 4,659 enterprises performed 11,415 transactions of emissions trading which involved a turnover of 169,950,600 yuan. In detail, the trade of chemical oxygen demand, sulfur dioxide, ammonia, nitrogen oxides and general industrial solid waste reached respectively 14,037.08 tons, 58,875.72 tons, 1,482.93 tons, 78,965.48 tons, and 13,809.78 tons. The number of enterprises included in the emissions trading system increased by 2,134 to 7,530. The supervisory system and mechanism throughout emissions trading has been established basically, and the awareness of “limited, priced and paid emissions rights” has been enhanced continually.

Environmental Impact Assessment and Construction Project

Management

In line with ecological priority and green development and on the premise of environmental improvement, Chongqing applies strict environmental criteria for investment, improves the rigidity of environmental assessment system, and enhances the inner impetus of environmental assessment, Chongqing protects the two red lines of 1km and 5km of the Yangtze River and its main tributaries, and matches environmental assessment with planning, current environmental management and regional environmental quality. Chongqing fully implements the national requirements on reforming environmental assessment, supervises environmental assessment in the city, and enhances the linkage between planning and project environmental assessment. Chongqing gives full support to major projects and infrastructure constructions in the city and launches the “Sharp Sword” campaign, which features heavy punishments and zero tolerance in environmental violations, to advance the cohesion between emissions permit and environmental assessment and further refine the routine supervision of relevant organizations and experts.

In 2017, Chongqing examined 3,433 project environmental assessments which involved a total investment of 743.9 billion yuan, including 94 municipal projects of an investment of 52.8 billion yuan. Due to nonconformity with policies or pollution control, 26 projects of more than 2 billion yuan were disapproved. The acceptance check of 2,652 environmental protection projects of a total investment of 538.3 billion yuan was completed, including 103 municipal projects which involved an investment of 42.6 billion yuan. Via the national platform, Chongqing issued 321 emission permits to 15 major industries. And via the municipal platform, 6,104 permits were issued.

Heavy Metal Pollution Control

To advance the emissions reduction of heavy metal, Chongqing basically completed 14 restructuring projects. And as planned, the annual goals of 28 heavy metal treatment and emissions reduction projects were realized. Within a fixed period of time, 11 heavy metal enterprises made corrective measures. Heavy metal tailing ponds and slug dumps have been successfully addressed. In Xiushan, Youyang and Banan District, 9 slug dumps have been improved. At chemical plants, smelting plants, paper-making plants and mine fields, the environmental risks of tailing ponds and slug dumps were checked and rectified. The control over heavy metal has been enhanced further. Heavy metal projects which fail to get a quota of heavy metal are disapproved. And strict requirements are applied to the emissions of approved heavy metal projects, new processes and technologies are used as required, and thus the level of cleaner production has led the country.

Environmental Risk Prevention and Emergency Management

With no pause, Chongqing enhances environmental risk prevention and emergency management and also improves the system of environmental emergency management. By the end of 2017, Chongqing had prepared or filed 4,294 environmental emergency plans and accumulated 3,372 environmental risk assessment reports. In total, environmental protection authorities performed 43 emergency drills which were participated in by more than 3,000 people, and also urged enterprises of major risk sources to hold 459 drills. In a special risk check, authorities in Chongqing examined 3,524 enterprises of major environmental risk and found out 705 problems. So far, 628 problems have been rectified at a rate of 89.1%. Despite a tendency to cause environmental pollution, 42 incidents were appropriately addressed. Among them, 30 caused no environmental emergency while 12 became common emergencies. No major, significant or catastrophic emergencies occurred. And no people died in those incidents.

Environmental Legal Construction

The *Regulations of Chongqing on Environmental Protection* and the *Regulation of Chongqing on Air Pollution Control* were passed at the 35th meeting of the 4th standing committee of the municipal people's congress on March 29, 2017 and later took effect on June 1, 2017. The revision of the *Regulations of Chongqing on Water Pollution Control of the Three Gorges Reservoir Region* was launched and the preliminary investigation and drafting of the *Methods of Chongqing on the Management of Ecological Red Line* and the *Methods of Chongqing on Radioactive Pollution Control* was also started. The legality and fairness of administrative documents and policies was examined. Administrative reconsideration and response to lawsuits were organized according to law. The *Rules for Administrative Reconsideration Concerning Environment* was revised and released, and the *Rules for Administrative Reconsideration Response and Lawsuits* was issued. In the year, 23 cases were reviewed. The principle of "enforcing and spreading the law" was implemented to help people cultivate the thinking and idea of rule of law. In enhanced and cohesive mechanism of administrative law enforcement and criminal justice, information was shared, cases were transferred, and two-way case consultation was put into practice. The pilot reforms on ecological and environmental damage compensation were exercised to explore solutions for dilemmas in which the government compensated people who were affected by pollutions caused by enterprises. To advance the environmental credit system, Chongqing issued the *List of Measures of Joint Incentives and Punishments* and the *Catalogue of Public Credit Information*. In administration, white and black lists were used to encourage people to keep credit and punish people for losing credit.

Environmental Protection Technology and Standards

The *Planning Outline (2018-2022) of Chongqing on Developing Environmental Protection Technology* was issued as a document containing 174 technical projects of 4 large categories including basic research for application. And the *Rules of Chongqing on Building and Managing the Platform of Innovation in Environmental Protection Technology* was also released to support scientific institutions and enterprises to establish technical centers and key laboratories and help them improve their innovation ability and level. The *Rules of Chongqing Environmental Protection Bureau for Formulating and Revising Local Environmental Protection Standards* was released, and the municipal *Air Pollutant Emissions Standard for the Furniture Manufacturing Industry* (DB 50/757-2017) and the *Air Pollutant Emissions Standard for the Packaging and Printing Industry* (DB 50/758-2017) were introduced, while the *Emissions Standard of Strontium Salts* (DB 50/247-2007) was annulled. The *Guide for Selecting Suitable Technology of Flue Gas Denitration*, the *Guide for Selecting Suitable Technology of Electroplating Wastewater Treatment*, and the *Guide for Selecting Suitable Technology of Restoring Lake and Reservoir Ecology* were compiled. The *Development Report on Chongqing's Environmental Protection Industry* (2017) was issued. In 2016, the operating revenue of the environmental protection industry in Chongqing was 60.07 billion yuan. 41 enterprises underwent mandatory clean production auditing. And the *Chongqing Three-Year Plan of Mandatory Clean Production Auditing* (2018-2020) was released.

Environmental Publicity and Education

In 2017, centering on the central tasks such as ecological civilization construction and Five Environmental Initiatives, we insisted the news spokesman system, published news for 52 times, organized more than 50 on-site interviews by journalists from news media, and received more than 50 media interviews. More than 880 news reports on the environmental protection work in Chongqing were published by the media at or above the municipal level, including over 210 reports published by the state media. We carried out the promotion of the "Ten Enters" initiative of ecological civilization and

strengthened the deployment and linkage of the “Ten Enters” initiative. We carried out a series of theme promotional activities, such as the 2nd “Searching Activity for Environmental Person of the Year in Chongqing”, “Click June 5th Environmental Protection @me -- Chongqing Environmental Protection Webcast Evening Party in 2017”, the 4th “Knowledge Contest of Ecological Civilization Environmental Protection”, and “The Most Beautiful Environmental Volunteers”, which were widely participated by the public. We continued to deepen the three education systems of national education, adult education and community citizen education. The coverage rate of environmental education in Chongqing primary and secondary schools reached over 98%. Environmental protection course was taught more than 120 times in the Party School with 25,000 (person-times) leading party and government officials having accepted the education of ecological civilization and environmental protection. We also carried out mass creating work in industries and sectors such as “Environmentally Friendly Community” and “Green and Blessing-Cherish Family”, through which, a total of 100 models were selected and awarded. We conscientiously implemented the *Measures for Public Participation in Respect of Environmental Protection*, promoted public participation in environmental protection in accordance with the law, as well as supported and guided environmental protection social organizations to participate in environmental protection activities.

Complaint Acceptance of Letters and Visits about Environmental Issues

Chongqing Municipal Environmental Protection Bureau handled 60,571 cases of environmental pollution complaints throughout the year, with a year-on-year increase of 28.3%, among which, there were 55,582 complaints from “12369 Environmental Protection Tip-off Hotline” with a year-on-year increase of 28.6%, and 4,989 complaints and visits from Letters and Visits Office with a year-on-year increase of 25.1%. The complaints and visits included 34,412 of noise pollution, 19,974 of air pollution, 2,302 of water pollution, 527 of radioactive radiation pollution, 82 of solid waste pollution, 162 construction project complaints, and 3,112 of other types of pollution. Complaints about noise pollution, air pollution, solid waste pollution and other types of pollution increased from last year, while complaints about water pollution, radioactive radiation and construction projects decreased from last year.

Information Construction of Environmental Protection

We continued to improve the service level of “Internet +” government affairs of environmental protection, effectively integrated the auxiliary system of environmental protection examination and approval and Chongqing online administrative approval platform, as well as deepened information sharing across departments in a vertical and horizontal manner. The public information website of Chongqing Municipal Environmental Protection Bureau ranked second both in the competitions of 2017 Government Website Performance Assessment on Provincial Environmental Protection Departments (Bureaus) conducted by the Ministry of Environmental Protection and the Evaluation on Information Publication and Public Service of Chongqing Government Websites; we took charge of the compilation of *Technical Specification for Environmental Spatial Data Processing* (HJ927-2017) in the national standard, constructed “Chongqing Environmental Remote Sensing Application Base of Satellite Environment Application Center of the Ministry of Environmental Protection” to provide information support for project approval and regional watershed protection, and formed an application model of ecological environment remote sensing from data processing, interpretation analysis to business management support; we promoted the construction of big data on the ecological environment in an orderly manner as well as formulated and organized the implementation of the Development Scheme of Chongqing Environmental Information Capacity; we upgraded the environmental management government information system, provided “information strategic map” for the prevention and control of air and water pollution in Chongqing, established and operated information systems such as environmental supervision and management system, social environmental monitoring institutions management system, and supervision and release system of key pollution sources, and realized the dynamic management of Chongqing environmental protection target

tasks; we strengthened the safety management of Chongqing environmental protection information network, resulting in no information network security incidents occurring throughout the year and being awarded as the Advanced Unit of Network Security Level Protection of Chongqing in 2017.

International Communication and Cooperation

We organized 26 people in 10 batches to go abroad such as in the USA and Japan for business visit and training as well as the training organized by other units. All visits were closely linked to the central work of environmental protection, contributing to the key and difficult tasks of Chongqing environmental protection. We received more than 20 foreign visiting groups including the Director of Department of Environment and Agriculture of Sachsen, Germany, the Consul General of Japan's Consulate General in Chongqing, Mayor's Adviser of Maribor, Slovenia, and the Environment Agency of the UK. We cooperated with the CPC Chongqing Municipal Committee and Chongqing Municipal People's Government to complete the organization and preparatory work of the Chongqing Mayor's International Economic Advisory Council. We carried out international cooperation projects, such as "Construction Project of Ozone Depleting Substances Eliminating and Implementation Capacity" and "Project of Ozone Depleting Substances Destruction", to vigorously promote the implementation work of environmental protection. We organized local enterprises to participate in Macao International Environmental Cooperation Forum & Exhibition and held activities such as China-Japan Technical Seminar on Intercity Collaborative Projects for the Improvement of Atmospheric Environment to promote external exchange of environmental protection industry and technologies.

Environmental Protection Investment

Chongqing invested RMB 46.263 billion in environmental protection, accounting for 2.37% of the GDP of Chongqing in 2017. Among them, RMB 22.656 billion was invested in the construction of urban environmental infrastructure including urban sewage treatment plants, refuse processing plants, landscaping and gas engineering, RMB 1.826 billion was invested in the industrial pollution control, RMB 523 million was invested in environmental management and technologies, and RMB 21.258 billion was invested in the new environmental project "Three Simultaneities".

Capacity Building of Environmental Protection Institutions

We made new breakthroughs in the reform of the environmental protection system. We generally completed the reform of the vertical management system for monitoring, supervising and law enforcement of environmental protection institutions in Chongqing, which was highly approved by the State Council. We completed the establishment of the municipal environmental supervision office, defined 6 responsibilities, and established more than 10 working mechanisms. Chongqing Environmental Supervision Team was renamed as Chongqing Environmental Administrative Law Enforcement Team, with the internal mechanism being further optimized. The right of environmental quality monitoring was reversed in an orderly way. Thus, the right of environmental quality monitoring at the municipal and district levels was further clarified. We formulated the *Measures for the Appointment and Removal of Leading Cadres in Environmental Protection Bureaus in Districts and Counties in Chongqing (Trial)*, and completed the handover of management authority and major leadership adjustment of the leadership team of environmental protection bureaus in 39 districts and counties. The principal persons in charge of environmental monitoring and law enforcement at the district and county levels entered the party group in accordance with relevant regulations.

We achieved new results in talents team construction. One person was added to enjoy the special allowances of the State Council. Among the staff of Chongqing environmental protection system, 3 people

were elected as the Party representatives of Municipal Party Committee for five sessions, 5 people were elected as the members of the municipal committee of CPPCC for five sessions, one person was elected as the member of the national committee of CPPCC, and 17 people were awarded the senior professional technical title qualification. We strengthened personnel exchanges in the Chongqing and Tibet environmental protection system, and exchanged 16 environmental protection cadres in 3 batches to put on field practice, achieving a year-on-year increase of 40% of the aid fund for the Department of Environmental Protection in Tibet Autonomous Region. We continuously expanded the cadre team of environmental protection with the total number increasing by 16% from 2016.

Work Style Construction of Environmental Protection Teams

We thoroughly learned, promoted and implemented the Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 19th National Congress of the Communist Party of China, solidly impelled the normalization and institutionalization of studying and educating the “Two Studies, One Action”. The leading Party group of our bureau conducted more than 20 symposiums on the study of the central group, elected the first Party committee and discipline inspection committee, promoted the standardization and normalization construction of 48 Party branches, reinforced ideal and belief education, and achieved the full-coverage training of Party branch secretaries. We emphasized on the responsibilities in fields of strict Party governing. Members of the our bureau took the lead to fulfill the “Two Duties for One Post”, seriously carried out the democratic activities meeting of the leading group, resolutely eliminated the evil influence of Sun Zhengcai and the pernicious influence of Bo Xilai and Wang Lijun, grasped the debriefing comments of the Secretary of primary party organization on focusing on the overall situation and strengthening Party self-discipline, clarified the entity responsibility of the environmental protection system to implement Party self-discipline, implemented a series of systems of the spirit of the Eight-point Regulation of CPC Central Committee, and established a series of systems for environmental supervision, key work supervision, meetings, work discipline, and going-out reports, achieving the full coverage of internal audit of directly affiliated units and 100% of the reporting rate of major personal matters of cadres at or above the department level. We continued to deepen the building of a clean and honest Party style, kept a close eye on key nodes such as festivals and holidays, key work related to environmental protection and selection and appointment of officials, strengthened the control and supervision of power operation, carried out thorough investigations on the implementation condition of the spirit of the Eight-point Regulation of CPC Central Committee by key units and key groups in 12 successive batches, carried out four specific rectification works in the environmental protection system in Chongqing targeting at the problems such as illegal eating and drinking, receiving "red envelope" gift money, illegal distributing of subsidies, as well as unhealthy practices and corruption among the masses, adhered to the principles of no exclusion zone, full coverage and zero tolerance, strict restraint, high pressure and lasting deterrent, as well as created a positive political environment and a working environment of upright atmosphere.

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Chongqing Agricultural Committee	Chongqing Municipal Commission of City Management
Chongqing Municipal Administration Bureau of Land and Resources and Housing	Chongqing Forestry Bureau
Chongqing Water Resources Bureau	Chongqing Meteorological Bureau
Chongqing Statistics Bureau	National Bureau of Statistics Survey Office in Chongqing



2018 “June 5th” the World Environment Day

Theme -- Quick Fix

2018 “June 5th” the Environment Day

Theme -- Beautiful China, I am an Doer

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