

The Dilemma and Countermeasures of Legal Control of Atmospheric Haze and Smoke Dust Pollution

Zhang Chunling, Lecturer
Xu Yumei, Assistant Professor

Zhang Chunling, Lecture in Economic Law, School of Public Administration and Law, Northeast Agricultural University, Harbin, Heilongjiang, China. Xu Yumei, Lecture in Economic Law, School of Public Administration and Law, Northeast Agricultural University, Harbin, Heilongjiang, China. Correspondence author: Xu Yumei; neauxym@neau.edu.cn

Abstract: Smoke dust is an important factor leading to haze pollution. There is no doubt about the serious impact of smoke dust pollution on public health, life and economic development. A consensus has been reached on the use of legal means to control smoke dust pollution. However, the existing laws still have too many problems to deal with the increasingly complex smoke dust pollution. It is a must to change the regulatory objects of the current "Air Pollution Prevention and Control Law (APPC Law)", speed up the establishment of a regional joint prevention and control legal system, and establish local characteristic legislation in accordance with local conditions. We need establish a "three-in-one" legal system for the prevention and control of atmospheric haze and smoke dust pollution with "APPC Law" at the top, local legislations at the bottom and regional joint prevention and control law in the middle.

Keywords: haze; smoke dust; regulatory objects; regional joint prevention and treatment

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Haze is an atmospheric pollution phenomenon that causes excessively low atmospheric visibility due to excessively high levels of suspended particulate matter in the atmosphere. According to current research on the prevention and treatment of haze pollution, airborne particulate matter with a diameter equal to or less than 2.5 microns is recognized as the main cause of haze weather. The small PM_{2.5} particles in haze include smoke dust. Smoke dust is solid particulate matter emitted from coal burning and industrial processes. Its main components are silicon dioxide, alumina, iron oxide, calcium oxide and unburned carbon particles. Smoke dust are the main particulate pollutants in haze weather. In recent years, with the rapid develop

ment of our economy and society, smoke dust pollution turns more and more serious. The wide range and long duration of its impact have attracted great attention from the state to the public.

THE HARM OF HAZE AND SMOKE DUST POLLUTION AND LEGAL REGULATIONS IN CHINA

Harm

Since 2012, haze pollution has gradually entered the public eye. Every winter, haze visits all parts of the country, its pollution brings many serious impacts on the health, life and economic development of residents, which is also not

conducive to the smooth implementation of the current sustainable development strategy.

According to relevant research conducted by the Chinese Academy of Social Sciences, smoke dust can cause people to suffer from chronic diseases, thereby destroying the human respiratory system and heart system, as well as causing deterioration of lung function, weakening reproductive capacity, and changing the body's immune structure.¹ The "London Smog Incident" that broke out in the United Kingdom in 1952 caused about 4,000 deaths due to respiratory diseases and 100,000 illnesses, making it the most serious air pollution incident in British history. At the same time, haze leads to reduced visibility in the air, which brings great safety hazards to people's travel. Finally, haze can also cause abnormal climate, adversely affect the growth and development of animals and plants, and bring heavy losses to people's economy and life.

After the occurrence of haze pollution, various localities have taken emergency measures for active response. Take Harbin as an example. It successively issued haze warning information, initiated haze pollution plans, restricted traffic based on even and odd numbered license plates, suspended production of heavy polluting enterprises, accelerated the transformation of coal-fired boilers, prohibited the burning of straw, etc. However, the effect is minimal, and it is a countermeasure and expedient in the final analysis, not a permanent cure. The haze problem is no longer a purely manifestation of environmental problems. It is a comprehensive manifestation of social problems at a deeper level. It is a result of the interweaving of meteorological causes and human factors. Fundamentally speaking, haze is an inevitable product in the process of urbanization and industrialization, which is the result of the imbalance between rapid economic development and environmental protection governance. Haze weather is just a manifestation of air pollution. To solve the haze problem fundamentally, we must start with the prevention and treatment of air pollution and comprehensively implement the rule of law to solve the problem.

Current Status of Legislation

At present, China has not made specific legislation on haze control. The laws related to the prevention and treatment of haze pollution are mainly the "APPC Law" and the "Environmental Protection Law (EP Law)". In addition, local governments have also issued corresponding local laws and rules for the increasingly serious haze pollution.

1. "APPC Law". The "APPC Law" is the most direct special law for the prevention and treatment of air pollution. After being promulgated in 1987, it has undergone amendment in 1995, the first revision in 2000, and the second revision in 2015. The revised "APPC Law" was officially implemented on January 1, 2016. In order to cope with the institutional reform of the State Council in 2018, the law was revised again in 2018. In this revision, the basic content was not substantially changed, only the names of the relevant competent authority were revised. The "APPC Law", known as "the most stringent in history," has eight chapters and 129 articles. Systematic stipulations are made on standards for air pollution prevention and treatment and plans for meeting the standards within a specified time limit, supervision and management of air pollution prevention and control, measures for prevention and treatment of air pollution, joint prevention and treatment of air pollution in key areas, response to heavy pollution weather and legal liability. In particular, the second paragraph of Article 2 of the law stipulates that: "in air pollution prevention and control, we should strengthen comprehensive prevention and treatment of air pollution from coal burning, industry, motor vehicles and vessels, dust, and agriculture, implement regional air pollution joint prevention and control, implement coordinated control of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, ammonia and other atmospheric pollutants and greenhouse gases." This includes the prevention and control of Pm2.5. Therefore, the "APPC Law" is the direct legal source for the prevention and control of haze pollution.

2. "Environmental Protection Law (EP Law)". Article 2 of the "EP Law" newly revised in 2014 stipulates: "The environment mentioned in this law refers to the totality of various natural and artificially modified natural factors that affect the survival and development of human beings, including the atmosphere, water, ocean, land, mineral deposits, forests, grasslands, wetlands, wildlife, natural relics, cultural relics, nature reserves, scenic spots, cities and villages, etc." It can be seen that the "EP Law" has a very wide range of adjustments, covering the totality of all natural factors that can affect the survival and development of human beings, including the atmosphere. Where, Chapter 4 "Preventing Pollution and Other Public Hazards" sets up corresponding regulations on prevention and treatment of air pollution, including promoting clean production of enterprises and increasing resource recycling rate, implementing total control over regional key pollutant emissions, and requiring people's governments at or above the county level to establish a public monitoring and early warning mechanism for environmental pollution.

3. Other laws. In addition to the "APPC Law" and the "EP Law", the "Energy Conservation Law" and the "Clean Production Promotion Law" also have provisions on the content of haze prevention and control. In order to promote the whole society to save energy, improve energy utilization efficiency, and protect and improve the environment, China promulgated the "Energy Conservation Law" on January 1, 1998, and revised it in July 2016. Section 2 "Energy Conservation in Industry" and Section 4 "Energy Conservation in Transportation" in Chapter 3 "Reasonable Use and Conservation of Energy" propose that we should fully develop public transportation, develop energy-saving and environmentally friendly vehicles, promote energy conservation in energy-consuming technology industries. In order to promote cleaner production, improve energy efficiency, reduce and avoid the generation of pollutants, we need protect and improve the environment, protect human health, and promote sustainable economic and social development. The "Clean Producti

on Promotion Law" promulgated in 2002 (amended in 2012) fully advocates the concepts of reducing pollutant emissions and is a powerful legal source for haze management.²

4. Local regulations. Haze pollution has seriously affected local economic and social development. Local governments at all levels have successively carried out legislative work against haze pollution. For instance, the "Beijing Air Pollution Prevention and Control Regulations" (Amended in 2018), "Hebei Province Air Pollution Regulations" (2016), "Tianjin City Air Pollution Prevention and Treatment Regulations" (revised in 2017), etc. have been promulgated one after another. It is worth mentioning that, the "Beijing Air Pollution Prevention and Treatment Regulations" adopted in 2014 is the first local regulation on Pm2.5 in China. As a subordinate law of the "APPC Law", these local regulations also play a direct legal role in regulation of haze pollution control.

PROBLEMS IN THE LEGAL GOVERNANCE OF HAZE AND SMOKE DUST POLLUTION IN CHINA

Existing Laws are Difficult to Effectively Regulate Haze and Smoke Pollution

Article 2 in Paragraph 1 of the "APPC Law" revised in 2018 stipulates: "To prevent and control air pollution, we should aim to improve the quality of the air environment, adhere to source governance, plan first, transform economic development patterns, optimize industrial structure and layout, and adjust the energy structure." It can be seen that the regulatory goal of this law is to "improve the air environment quality." In order to achieve this goal, the "APPC Law" mainly regulates polluters by measures including conducting environmental impact assessment in advance, discharging air pollutants according to emission standards, and accepting government or relevant departments' supervision. Regulatory behaviors include complete banning of pollution, reduction of pollution without setting pollution standards, and reduction of pollution while setting pollution standards. Therefore, the "APPC Law" regulates the main body of pollutants by "prohibiting, reducing and

discharging air pollutants in accordance with standards", which means "discharging air pollutants in accordance with laws and rules", that is, "discharge pollutants according to regulations."³ However, in fact, the regulatory means of "discharge pollutants according to regulations" cannot effectively achieve the regulatory goal of "improving the air environment quality". In fact, the amount of pollutants discharged by polluters within a certain range is reduced and is controlled within the standards prescribed by the law, but the number of polluters within a certain range is changed. If the number of polluters increases, the total amount of pollutants will not be reduced due to the reduction in the amount of pollutants discharged by the polluters, and the total amount of pollutants will still exceed the range of the atmospheric environmental carrying capacity. As the "APPC Law" ignores the variable of polluters, the regulatory means gradually divert from the regulatory goals. For example, Paragraph 1 in Article 41 of the "APPC Law" stipulates: "Coal-fired power plants and other coal-burning units shall adopt clean production techniques, and build supporting facilities for dust removal, desulfurization, and denitrification, or adopt other technological transformations to control the atmosphere pollutant discharge." According to the provisions of this article, every coal-fired plant and other coal-burning unit shall adopt clean production processes and corresponding supporting equipment to discharge air pollutants in accordance with the prescribed standards. When every coal-fired power plant or other coal-burning unit have discharged pollutants according to standards, if the number of coal-fired power plants or other coal-burning enterprises increases, the total amount of pollutants discharged will also increase, and the goal of improving the atmospheric environment quality will eventually fail.

In addition, Chapter 4 of the "APPC Law" separately regulates coal and other energy pollution, industrial pollution sources, pollution sources such as motor vehicles and ships, dust pollution sources, agriculture and other pollution sources. If the emission of each single source of pollutio

n in a certain area meets the standard, due to the accumulation and superimposition effect of different types of air pollutants in the entire ecosystem, the total emission standard may still exceed the carrying capacity of the atmospheric environment, leading to decline in the quality of the atmospheric environment. In the final analysis, there is a lack of synergistic regulation on the cumulative effects of various air pollutants. In this sense, the current "APPC Law" cannot achieve the goal of improving the air environment quality, and thus cannot effectively prevent haze pollution.

Lack of Regional Joint Prevention and Treatment and Coordinated Governance Laws

For a long time, China has implemented the division of administrative regions in the jurisdiction of atmospheric environmental governance, that is, the principle of territoriality. However, the flow of the atmosphere neither follows administrative divisions nor clear boundaries. In the fragmented governance model in which the divisions and management departments are incompatible with each other, the concept of regional joint prevention, control and coordinated governance has emerged as the times require.⁴ The provisions of Article 20 of the 2014 "EP Law" indicate that the "coordination mechanism for joint prevention and treatment of cross-administrative environmental governance" has begun to be implemented at the legal level. Chapter 5 of the 2015 "APPC Law" stipulates the joint prevention and treatment of air pollution in key areas, confirms the joint meeting mode in regional air pollution prevention and control, further refines the statutory responsibilities of the environmental department of the State Council, and stipulates that the environmental protection department of the State Council should organize and establish air environment-related information sharing mechanism in the key areas of national air pollution prevention and control. This is currently the main legal provision concerning regional coordinated governance and joint prevention and control. From this, we can see that the legal provisions are too principled, and the operability is not strong. There are no specific regulations on

the management subject, responsibilities and powers of regional joint prevention and control, the interest balance mechanism between local governments, and the legal responsibility mechanism. Even for Beijing-Tianjin-Hebei region which has signed the Beijing-Tianjin-Hebei cooperation framework agreement and issued the "Implementation rules of the Action Plan for Air Pollution Prevention and Treatment in Beijing-Tianjin-Hebei Region and Surrounding Areas",⁵ although a fruitful regional air quality monitoring system has been preliminarily established and a feasible emergency plan for heavy air pollution has been formulated, there are still many problems to be solved by legislation in the construction of long-term legal mechanism for regional joint prevention and control.

Absence of Local Characteristic Legislation

The Legislative Affairs Committee of the Standing Committee of the National People's Congress issued the "Opinions on Strengthening Local Legislation for Air Pollution Prevention and Ecological Environmental Protection" to the Standing Committees of the People's Congresses of all provinces, autonomous regions, and municipalities in August 2018. According to the opinions, provinces, autonomous regions, and municipalities that have not formulated local regulations on air pollution prevention and control, or made corresponding changes to the original local regulations in accordance with the "APPC Law" revised in 2015, should complete the formulation or revision of local regulations related to air pollution prevention and treatment by the end of 2018. Based on this, China has achieved full coverage of local laws and rules for the prevention and treatment of air pollution. Examples include "Heilongjiang Province Air Pollution Prevention and Control Regulations" (adopted on January 20, 2017, amended on December 27, 2018), "Guangxi Zhuang Autonomous Region Air Pollution Prevention and Control Regulations" (adopted on November 28, 2018). Through detailed examination of contents, it is not difficult to see that most of the local legislations are similar in terms of legislative objectives, chapter settings, and regulatory

objects. Many legal contents are copies of the "APPC Law", while most of the recent local legislations have added relevant contents of atmospheric environment governance policy, such as the interview system for addressing circumstances where the atmospheric environment quality has deteriorated, the atmospheric environment quality has not reached the improvement target, a major or extraordinary environmental accident occurs involving major impact, and the environmental protection target responsibility assessment has not been carried out or completed. In general, the current local legislation is not very targeted and has poor operability. Due to different economic development, geographical environment and other conditions in each province and city, the pollutants that cause haze weather will inevitably be different. The legislation must have focus rather than being similar.

COUNTERMEASURES FOR THE LEGAL GOVERNANCE OF HAZE AND SMOKE DUST POLLUTION IN CHINA

Revise the Regulatory Objects of the "APPC Law" and Promulgate the "Clean Air Act" in Due Course

The "APPC Law", which was implemented on January 10, 2016, marked that our air pollution prevention and treatment has entered a comprehensive prevention and treatment stage, which is reflected in the comprehensive treatment of all pollution sources including all pollutants that cause haze weather. However, what is disappointing is that from the beginning of implementation in 2016 to the present, China's haze pollution occurs from time to time, which has not gradually faded out of people's sight. The academic circles are still sceptical about the "APPC Law". Only by controlling the total amount of pollutant discharge within the range of the carrying capacity of the atmospheric environment can it be possible to ensure the achievement of the regulatory goals of atmospheric environmental quality. In view of this, what the "APPC Law" truly need regulate should be the total amount of pollutants discharged. Although some provisions of the

"APPC Law" also involve the total amount control system, they are only aimed at "key pollutant emissions" and "regions that have not completed the air environmental quality improvement targets set by the state". Judging from the perspective of improving air environmental quality, the total amount control should be extended to all air pollutants and all regions. Only by regulating the total pollutant discharge behavior of all pollutants and ensuring that the total pollutant discharge is controlled within the carrying capacity of the atmospheric environment can it be possible to reduce the pollution concentration in the atmospheric environment to the expected standard.⁶

Seen from the legislative models of air pollution prevention and air environmental governance in various countries in the world, there are mainly two models: the "APPC Law" and the "Clean Air Act". By comparing these two legislative models, it is not difficult to find that "Clean Air Act" is superior or "APPC Law" in terms of legislative purpose, legislative framework and content, as well as comprehensive understanding of the "atmosphere" attribute and its ecosystem relationship.⁷ Therefore, in order to fundamentally alleviate haze pollution, it is necessary to learn from the legislative experience of the United Kingdom and the United States and introduce the "Clean Air Act" when the time is right.

Establish a Legal System for Joint Prevention and Treatment of Atmospheric Haze Pollution

Legal control of atmospheric haze pollution has the "APPC Law" at the national level, and local laws and rules promulgated by provinces, municipalities and autonomous regions at the local level. It is not difficult to find that the regional joint legislation involving provincial-level areas is blank. Given the integrity of the ecological environment, the mobility of pollutants, and the consistency of environmental benefits, coordinated protection of the regional environment is of great significance and is extremely urgent, so legislation on joint prevention and treatment of atmospheric haze pollution is also ready to come. Air pollution laws

on regional joint prevention and treatment mean that local legislatures of neighboring regions jointly formulate APPC Laws and normative documents in their respective regions on the basis of respective air pollution prevention and treatment practices.⁸ The legislation purpose of regional joint prevention and treatment of air pollution is to treat adjacent areas as an indivisible whole, and by formulating a common code of conduct, unify the air pollution prevention and treatment legislative objectives of adjacent areas and achieve the coordination and consistency of local legislation. At present, China has initially formed 13 key areas including Beijing-Tianjin-Hebei, Yangtze River Delta, Pearl River Delta, and central Liaoning. In order to control atmospheric haze as a whole, these key areas must timely promulgate joint prevention and treatment laws, and laws on joint prevention and control of atmospheric haze areas should provide detailed and specific provisions on the governance system model, the interest balancing mechanism and legal responsibility mechanism among local governments, as well as the judicial relief mechanism. There is need to achieve the overall coordination of joint prevention and treatment in the region, balance the differences of internal regions, "focus on key points in prevention and control, make classified guidance, adopt multi-pronged approach, scientifically implement policies, combine adjustment and optimization of structure, strengthening of innovation drive, and protection of the ecological environment", thereby achieving the common goal of solving atmospheric haze pollution.⁹

Local Characteristic Legislation According to Local Conditions

Since the legislative law was amended in 2015, as of December 2017, the 274 district cities, autonomous prefectures, and prefecture-level cities not divided into districts that have newly granted local legislative powers have only issued 14 local laws and rules on atmospheric environmental protection. In view of this, in 2018, the Legal Work Committee of the National People's Congress issued special opinions to remind and urge all localities to speed up local

legislative work on air pollution prevention and control. According to this requirement, by the end of 2018, various localities have successively introduced or revised legislation on air pollution prevention and control. It is inevitable that legislation in such a short period of time will be a little hasty, and the legislative technology and level are more open to question. In the vast territory of China, the natural environment and the resource endowments between regions are different, leading to big differences in the composition of air pollutants in various places. Take Harbin as an example. In the autumn and winter heating seasons, haze weather frequently occurs because of smoke dust emission, Harbin City issued the "Harbin City Coal Pollution Prevention and Treatment Regulations" in 2016, specifically for the prevention and treatment of coal pollution. Also in Harbin, another important factor causing haze pollution is straw burning, but there is currently no local legislation for the prevention and treatment of straw burning. Therefore, each place must formulate corresponding air pollution prevention and control regulations according to its own natural environmental conditions and pollutant types. In addition, differences in the level of regional economic development in China will also lead to different sources of pollutants. Each place must also consider the local economic development level and pollutant sources when setting up special legislation. In the context of building a socialist ecological civilization and establishing rule of law in China, local legislation, as an important part of the legal system for air pollution prevention and control, must comply with the higher laws and make necessary innovations in accordance with local conditions based on respective natural conditions, economic development levels, types and sources of pollutants, so that local legislation is more targeted and operational.

CONCLUSION

The haze weather caused by smoke dust pollution has brought serious impact on economic and social development. Various measures have been taken to control smoke dust pollution,

including developing regional central heating, reducing scattered chimneys, reforming boilers, increasing fuel combustion efficiency, expanding urban green areas, etc. The State Council's report on the environment status and the completion of environmental protection goals in 2018 pointed out that in 2018, the average annual concentration of fine particulate matter (PM_{2.5}) in 338 cities at the prefecture level and above was 39 mg/m³, which exceeded the standard by 11.4%. The national air quality continues to improve compared with previous years, but air pollution control is becoming more and more complicated, and it is more difficult to greatly improve air quality. In this case, legal means must be used for regulation. While revising the "APPC Law", we need speed up regional joint prevention and treatment legislation, develop local legislation according to local conditions and improve the legal relief mechanism for haze pollution to form a "three-in-one" legal system for the prevention and treatment of atmospheric haze pollution, thereby winning this arduous battle to defend the blue sky!

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