



Press Release

다시, 대한민국!
새로운 국민의 나라

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Korean and Chinese Environmental Authorities announced their efforts to respond to ultrafine particle

- Both countries to take additional measures jointly to improve air quality -

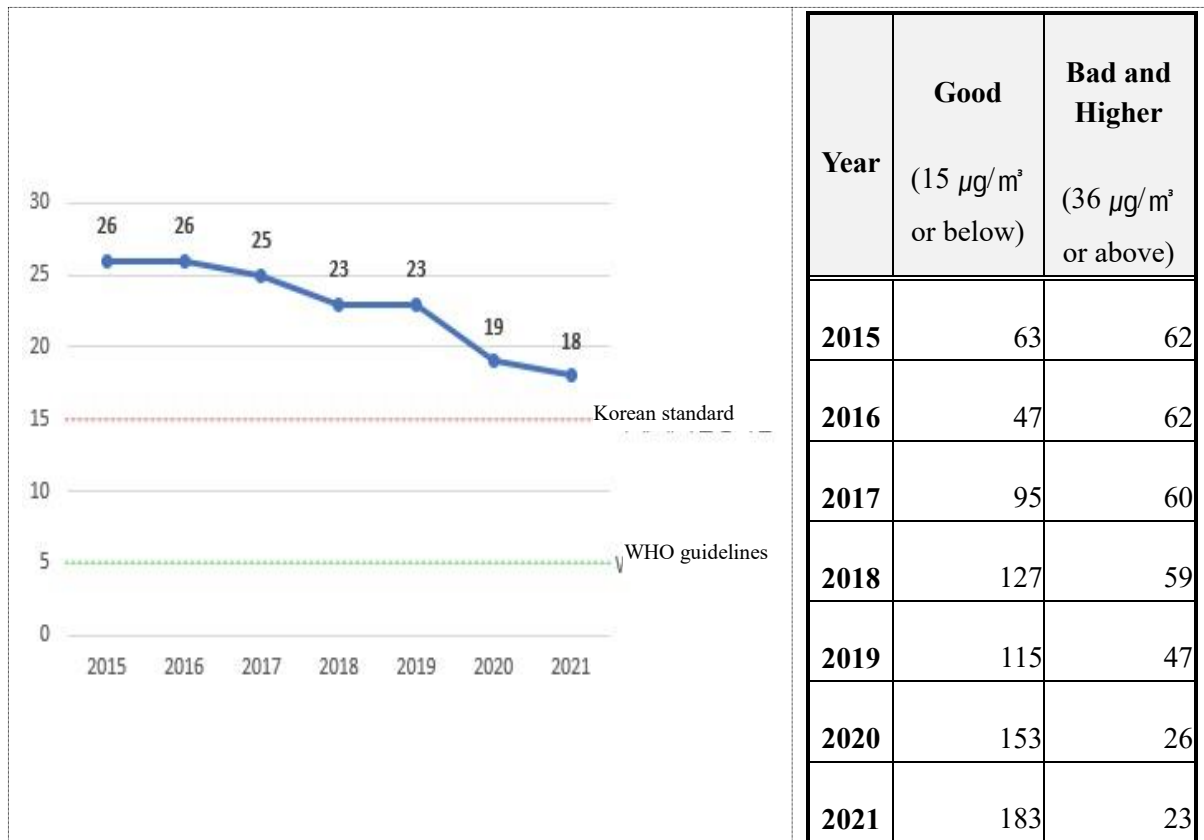
Sejong, August 18 - On August 11, the Ministry of Environment of the Republic of Korea and the Ministry of Ecology and Environment of the People's Republic of China publicly announced the progress of their joint endeavors dealing with ultrafine particles and plans. The announcement was made as a part of the "collaborative project on the Seasonal Management Program for ultrafine particles" taken by both countries. It is the second public announcement followed by the public announcement on the efforts against ultrafine particles made on February 10, 2021.

<Ultrafine particle concentrations and the response to the issue of both countries>

In 2021, the average ultrafine particle concentration in South Korea was $18 \mu\text{g}/\text{m}^3$, improved by 30.7% since particle pollution was measured nationally in 2015. Moreover, the number of days rated "Good ($15 \mu\text{g}/\text{m}^3$ or below)" for ultrafine particle concentration in the same year was 183 days, the highest ever recorded, and the number of "Bad ($36 \mu\text{g}/\text{m}^3$ or higher)" days was 23 days, a significant drop from the 62 days in 2015. In an attempt to reduce particle pollution, South Korea has implemented a wide variety of programs, including but not limited to the shutdown of 10 units of old coal power plants by 2021, the introduction of emission charges on nitrogen oxides, the supply of 257,000 zero-emission vehicles, early scrappage of 1.25 million old diesel vehicles, and supply of 720,000 green boilers.

However, the country's ultrafine particle concentration level still exceeds the atmospheric environmental standard of $15 \mu\text{g}/\text{m}^3$ and is in the lowest rankings among the OECD member countries, at 35th out of 38 countries.

[Korea's annual average level of ultrafine particle concentration ($\mu\text{g}/\text{m}^3$) and the number of Good/Bad days]



In 2021, the average concentration of ultrafine particles in China's prefecture and higher-level cities was $30 \mu\text{g}/\text{m}^3$, 9.1%, and improved by 34.8% compared to the average level in 2020 and 2015, respectively. The ratio of Good days in the prefecture and higher-level cities in the same year was 87.5%, increased by 0.5% and 6.3% compared to 2020 and 2015, respectively.

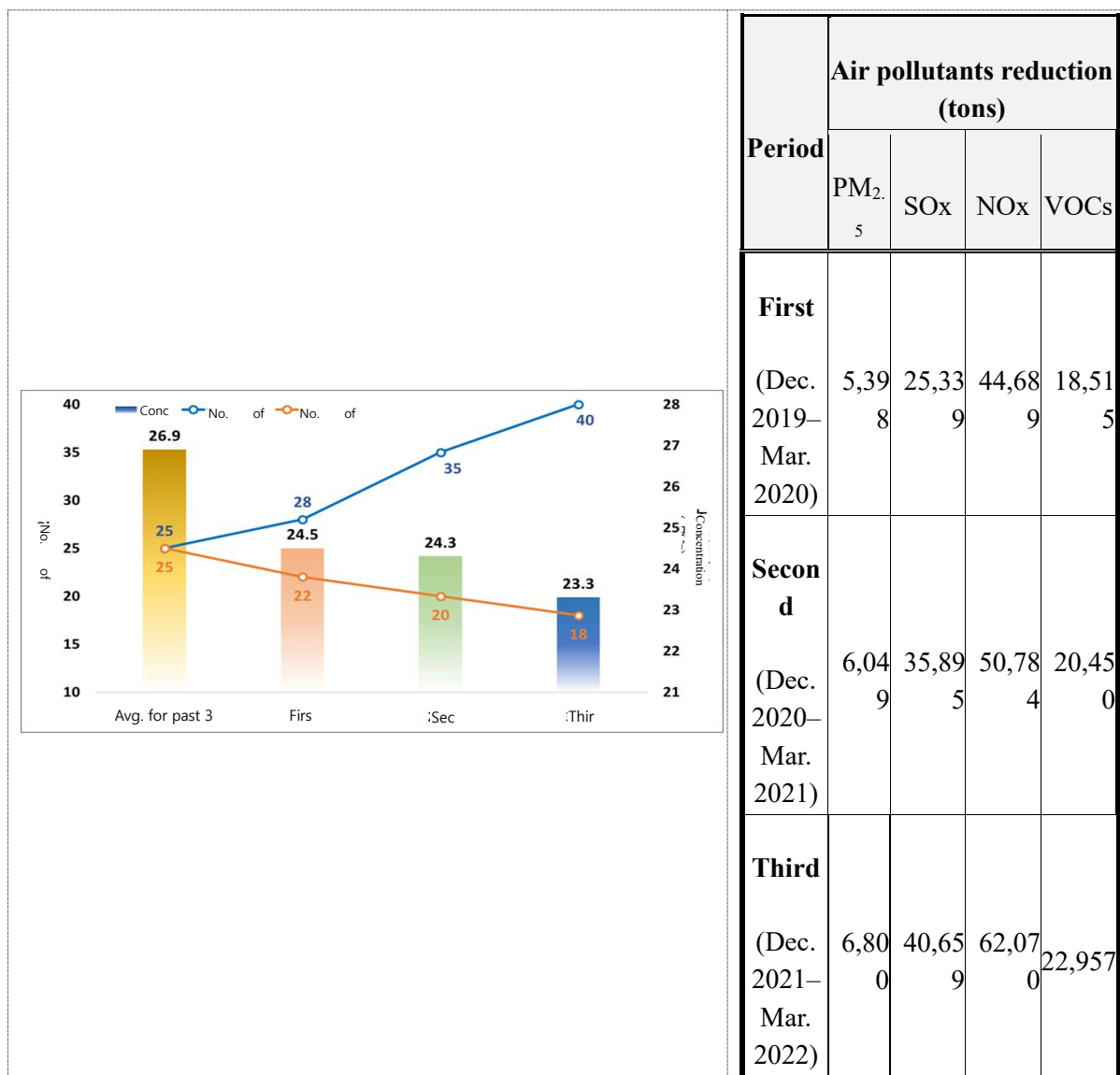
In 2021, the Chinese government implemented the Three-Year Plan for Blue Sky. It established objectives to reduce heavy pollution days and reduce ultrafine particle concentration. It managed pollution with precise, scientific, and legal measures to achieve the goals, focusing on three key categories: industry, energy, and traffic and transportation. The outcomes of the initiative are as follows. First, in terms of industrial structure, steelmaking capacity was reduced by 2 billion tons in 2021. The government shut down approximately 1 billion tons of outdated coal facilities and modified crude steelmaking facilities for 680 million-ton capacity into ultra-low emission facilities. Second, in terms of energy structure, of all primary energy sources, the consumption ratio of coal dropped from 64% in 2015 to 56% in 2021, a total of 300,000 small coal boilers were discarded, and loose coals were removed from 27 million households in the priority areas. Third, in terms of the traffic and transportation sector, 30 million old vehicles were scrapped, the number of zero-emission cars was increased to 7.84 million, and the ratio of zero-emission buses was increased from 20% to 70%. Moreover, the Chinese government fully implemented the China 6 standard* in 2021, and the total railroad and maritime cargo transports increased by 5.9% and 8.2%, respectively.

<Countermeasures of both countries against high concentration of ultrafine particles>

From December to March, the Korean government implemented the Seasonal Management Program for Ultrafine Particles to further bolster the existing reduction measures. It instigates an emergency reduction measure in case of a high ultrafine particle concentration or if one is expected to occur.

First, the seasonal management program launched in 2019 could mitigate ultrafine particle concentration during winter and spring, when high concentrations frequently occur, and, in due course, improve the overall air quality. Especially, air pollutant emissions were continuously reduced during the period of the seasonal management program through measures sector by sector, including voluntary reduction, reinforced surveillance and monitoring by large businesses, the shutdown of and restrictions on coal power plants, and restricted operation of class 5 diesel vehicles.

[Air quality improvement and ultrafine particle reduction during the Seasonal management Program]



Moreover, the emergency reduction measures were initially effective in the metropolitan area in 2017 and spread nationwide starting in 2019. Together with the Seasonal Management Program for Ultrafine Particles, the emergency reduction measures played a critical role in protecting people's health from a high concentration of ultrafine particles through actions such as adjusting the operation rate of businesses and working hours of construction sites.

China has implemented the Action Plan for Air Pollution Management in Autumn and Winter since 2017, generating successful outcomes. In 2020 and 2021, the concentration levels of ultrafine

particles in the Beijing-Tianjin-Hebei region and their surrounding areas and Fenwei Plain during the fall and winter seasons decreased by 37.5% and 35.1%, respectively, compared to 2016, and the number of heavy pollution days decreased by 70% and 65%, respectively.

In October 2021, the Ministry of Ecology and Environment, along with ten other ministries and seven local governments, announced their 2021–2022 Autumn and Winter Action Plan for Air Pollution Management. Their policies include the following: continuous implementation of pollution reduction measures differentiated by the performance of priority business types, prevention of the use of loose coal through effective management, strengthened management of rice straw incineration, modification of steelmaking facilities into ultra-low emission, transition of large cargo into the railroad and maritime transportation, pollution management of diesel vehicles and trucks, and integrated management of industrial furnaces and coal boilers. During the fall and winter of 2021–2022, the ultrafine particle concentration level in 59 cities in the Beijing-Tianjin-Hebei region and their surrounding areas and Fenwei Plain dropped by 8.7%.

<Policy directions for ultrafine particles of Korea and China>

According to the "Integrated Measures for Ultrafine Particle Management," South Korea plans to improve the ultrafine particle concentration level by 16% by 2024 compared to 2020. The Korean government will also complete the roadmap for lowering 30% of the ultrafine particle by the end of this year, one of the tasks selected by the Yoon administration. More specifically, in power generation and industries, the Korean government will cut down the current usage of fossil fuels from the current 60% to 40% by 2027 and reduce the total emissions cap and allowances by districts for air quality management. The Korean government will expand the subsidy program for the early scrappage to class 4 diesel vehicles and increase supplying zero-emission vehicles in the transportation sector.

Moreover, to better respond to the high concentration of ultrafine particles, the Korean government will devise improvement plans for the Seasonal Management Program for Ultrafine Particles and the Emergency Reduction Measures. The Ministry of Environment will forecast the high concentration of particles two days before instead of 12 hours. The Ministry of Environment will extend the Seasonal Management Program for Ultrafine Particles. During the period, it will reduce coal power generation. From the following year, restricted operation of old diesel vehicles during the Program will be expanded from the current metropolitan area to all six metropolitan cities, and

the current voluntary reduction of high emission businesses will be systematized.

South Korea will newly establish the 2nd Integrated Damage Prevention Measures against Long-range Transport of Air Pollutants to reorganize the policies for responding to the inflow of ultrafine particles overseas.

In November 2021, the Chinese government declared its "resolute battle to prevent and fight against pollution," which aims to reduce average levels of ultrafine particles in the prefecture and higher-level cities by 10% from 2020 to 2025, reaching 87.5% for the ratio of Good days, and find a fundamental solution to heavy pollution days. The Chinese government will focus on relieving heavy pollution, strengthening its ability to manage priority areas, and improving pollution management for priority industries by monitoring particle pollution levels during the fall and winter seasons. Additionally, the Chinese government will work on preventing ozone pollution and promote a reduction in volatile organic compounds and nitrogen oxides during summer and fall. China will continuously manage pollution caused by diesel vehicles and trucks and execute action plans for clean diesel vehicles (construction machines) to accelerate the transition of large and medium-to-long-distance cargos into railroad and maritime transportation.

<Collaboration of the two countries on air quality>

South Korea and China established and executed the 2021 Blue Sky Initiative and cooperated in a wide range of fields, including policy and technology exchanges (Air Pollution Prevention Policy and Technology Exchange, Seasonal Program Attainment Sharing Conference, and Automobile Pollution Prevention Policy Seminar), joint research (Air Quality Forecast and Technology Exchange Seminar), and technology industrialization (Korea-China Environmental Technology and Industry Collaboration Forum). Furthermore, the two countries exchanged common interests. They developed understanding and trust through the annual Environment Ministers Meeting, Environmental Cooperation Joint Committee meeting, and Directorial Meeting, contributing to deepened collaboration in the field of air quality.

<Conclusion>

Through this joint presentation, South Korea and China sympathized that joint efforts in the ultrafine particle reduction are in both countries' best interests. Furthermore, the two agreed to step up the collaboration against ultrafine particles, which persisted through the Blue Sky Initiative.

Minister of Environment of South Korea Han Wha-jin emphasized the substantial outcomes of collaboration between the two nations. She also said, "South Korea will reduce ultrafine particle concentration down to 13 $\mu\text{g}/\text{m}^3$ by 2027 to tail off the apprehension of our citizens and exert our most efforts to manage ozone concentration as well. Through strengthened collaboration with China, we must rely on scientific analysis and objective facts to cut domestic pollutant emissions and formulate solutions for ultrafine particles issues in Northeast Asia."

Minister of Ecology and Environment of the People's Republic of China Huang Runqiu highly praised the close communication and substantial accomplishments of the collaboration between the two countries. He said, "China will adhere to precise, scientific, and legal management of pollution and bolster the control over ultrafine particles and ozone to intensify our battle against pollution. The two nations must work to further collaborate for the atmospheric environment by tackling our common problems, including air quality forecasting techniques, reducing ultrafine particles and ozone, and promoting its attainments so that our citizens can take pleasure in their daily lives."