Gyeonggi-do Fine Dust Management policy

2021. 9. 9.
Gyeonggi-do Fine Dust Management policy

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1. Gyeonggi-do Environmental conditions and Air Quality Status
1. **Gyeonggi-do Environmental conditions and Air Quality Status**

**Geographical conditions**

- Westerlies region (China, permanent sphere of influence of Chungcheongnam-do), Peninsular region (Northwesterly winter)

**Social conditions**

- **Gyeonggi-do air pollution** Continuous increase in Emission source

- **Population:** 13.48 million (26%, No. 1) out of 51.68 million people nationwide.

- **Number of cars registered:** 6.09 million (25% and No. 1) in Gyeonggi-do out of 24.58 million cars nationwide.

- **Number of businesses:** 93 million (22%, No. 1) in Gyeonggi-do out of 418 million businesses nationwide.
High concentrations in winter and spring: implementation of the seasonal management system (December to March)

- PM2.5 Concentration (seasonal management period): 29 //m$^3$
- Concentration of PM2.5 (other periods): 18 //m$^3$
  * As of December~21.3/'April~November, 2020

High deviation of ultrafine dust by region

- 16 cities in urban areas: 20.5 //m$^3$
- 12 cities in urban and rural areas: 22.4 //m$^3$
- Three agricultural districts: 18 //m$^3$
  * Based on the concentration of ultrafine dust in 2020
Ultrafine dust (PM2.5) ranks second in the country, No. 1 fine dust (PM10) in the country

Air quality Status

<table>
<thead>
<tr>
<th></th>
<th>PM2.5</th>
<th>PM10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seoul City</td>
<td>21</td>
<td>35</td>
</tr>
<tr>
<td>Gyeonggi-do</td>
<td>21</td>
<td>39</td>
</tr>
<tr>
<td>Incheon City</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>Chungcheongnam-do</td>
<td>22</td>
<td>37</td>
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<tr>
<td>Jeollabuk-do</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>Gyeongsangnam-do</td>
<td>16</td>
<td>29</td>
</tr>
</tbody>
</table>

* PM_{10}, PM_{2.5}: \mu g/m^3
1. Gyeonggi-do Environmental conditions and Air Quality Status

Air quality improvement status

It's improving slightly every year BUT STILL higher than the national average

**PM10:** A national average of 33μm/m, in 2020, 39μm/m 39 in Gyeonggi-do

**PM2.5:** The national average of 18/μ, in 2020, 21/μm² in Gyeonggi Province

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**PM2.5 by year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Gyeonggi-do</th>
<th>Country Wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>2016</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>2017</td>
<td>25</td>
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<td>2018</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>2019</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>2020</td>
<td>21</td>
<td>18</td>
</tr>
</tbody>
</table>

**Comparison of PM10 by Year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Gyeonggi-do</th>
<th>Country Wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>2016</td>
<td>51</td>
<td>48</td>
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<td>2017</td>
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<td>2018</td>
<td>44</td>
<td>45</td>
</tr>
<tr>
<td>2019</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>2020</td>
<td>39</td>
<td>33</td>
</tr>
</tbody>
</table>

*PM_{10}, PM_{2.5}: μg/m²*
2018 ultrafine dust (PM2.5) emissions of 10,488 tons

Contribution: scattering dust > non-road transport pollution > road transport pollution > biological combustion

Scattering dust: 34.7%
Non-road transport pollution: 20.6%
Road transport pollution: 19.6%
Biological combustion: 15.1%
ETC: 10%

*Scattering dust Non-Road Contamination Sources a source of road pollution Biological combustion ETC...*

National Institute of Environmental Sciences, 18“ Air pollutant emissions statistics
2 Gyeonggi-do Seasonal Fine Dust Management system
2. Gyeonggi-do Seasonal Fine Dust Management system

Policy Direction of Promotion

- Increase the effectiveness of reduction measures on the scientific basis
- Joint Response by Strengthening Government-Local Cooperation
- Encourage residents to participate based on empathy

① (year-round) Permanent policy
- Gyeonggi-do Fine Dust Management Implementation Plan
  - Characteristics of comprehensive measures for fine dust management
  - Reduction of fine dust + protection of sensitive class + international cooperation
- Gyeonggi-do Air Environment Management Implementation Plan
  - Calculation of cuts in the atmospheric management area

② (December to March) Seasonal management system
- The purpose of reducing the frequency and strength of high concentrations during high concentrations (special measures)
  - Reduction of emissions from workplaces and construction sites
  - Restriction on the operation of emission-grade 5 vehicles
  - Two-part public vehicle system, etc.

③ (in case of a disaster) Emergency reduction measures
- Issue a crisis alert
  - Attention-Caution-boundary-severity
- Implementation of local government measures by alert level
  - Attention: Situation class
  - Caution, alert: General Situation Room
  - Serious: Gyeonggi-do Disaster Safety Countermeasure Headquarter
## Implementation of the Gyeonggi-do Fine Dust Seasonal Management System

<table>
<thead>
<tr>
<th>Policy tasks</th>
<th>Protect the health of residents by reducing the concentration of fine dust by implementing enhanced fine dust reduction policies at the time of high concentration of fine dust (December to March)</th>
</tr>
</thead>
</table>
| **Project Overview** | ① Planning Characteristics: Self-planning (Central Cooperation)* 1st: '19.12. First establishment  
② Planning period: December every year to March next year (when high concentration of fine dust occurs)  
③ The direction of implementation: Selection and concentration of fine dust emission sources, strengthening cooperation between central and local governments  
④ Policy tasks: 19 detailed tasks in 5 major categories |
| **Policy Task Details** | **(Transportation field)**  
Four projects, including restriction on the operation of Class 5 vehicle seasonal management system  
**(Industrial field)**  
Two projects, including reduction of air pollutant emissions from small business establishments  
**(Projects surrounding living)**  
Five projects, including support for on-site crushing of agricultural residues  
**(Health Protection Field)**  
Five projects, including a project to strengthen indoor air quality management of facilities for vulnerable people;  
**(Work Cooperation)**  
3 projects including Pyeongtaek-Dangjin Port Air Quality Improvement Work Cooperation |
3 / Gyeonggi-do Fine Dust Seasonal Management of policy by sectoral
## Transportation field

### Low emission zone (LEZ)
- The restriction on the operation of Class 5 emission vehicles has been enforced since 20.12
  Number of detections from 20.12 to 21.3 (11,990)

### SUPPORT FOR Low emission Low pollution support
- Promotion of zero emission level 5 difference (’21 140,000 units, KRW 334.1 billion)

### Electric vehicle distribution AND infrastructure construct
- Operating 19,075 electric vehicles and 26,000 chargers in 2021.
  - Budget Spending 318.4 billion won

### Hydrogen car supply AND infrastructure construct
- Operation of 3,712 hydrogen cars and 30 charging stations in 2021
  - Budget Spending $124.4 billion Won
### Support for improvement of SMALL atmosphere prevention establishment

- Improvement of facilities in 2021 (1,144 locations, KRW 103.8 billion), Northern Material Clean Fuel Conversion Project (20 locations, 900 million won)

### Total volume management of air pollutants

- Reduce NOX and SOX (320) through total emission management

### Intensification of regulation on sites business

- (56,000 businesses nationwide / 34%)
- 3D inspection of contamination blind spots using 7 drones for crackdowns

### TMS (Chimney surveillance) Expansion of business establishment

- Monitoring of TMS large-volume emission business establishments (152 units)
- Support for installation and operation management costs (55 chimneys in year 21)
### Private sector

#### Support for on-site crushing of agricultural residues
- Support for agricultural debris shredder (106 units) and agency
- Personnel: Strengthening public relations to prevent illegal incineration in rural areas

#### Prevention of illegal incineration of agricultural waste
- Collection compensation (17,635 tons of waste vinyl, 260,000 pesticide containers)
- Support for the expansion of 26 joint concentration sites

#### Support for installation of low-nox boilers in the home
- 54,446 low-nox boilers for home use
- Budget: 10.9 billion won

#### Operation of fine dust monitoring team
- Fine dust construction site and illegal incineration monitoring, etc.
- 375 people
3 Gyeonggi-do Fine Dust Seasonal Management of policy by sectoral

Health protection

Reinforcement of the residents' notification function

- Radio 'Gyeonggi-do Air Environment Information' (twice/day)
- Using the "Atmospheric Environment Information Service in Gyeonggi-do" Air Quality Information Residents Notification

Installation and operation of fine dust traffic lights

- 245 fine dust traffic lights in operation
- Additional 80 units installed in 2021

Strengthening management of facilities for vulnerable groups

- Reinforcement of indoor air quality management of multi-use facilities (inspection and contamination inspection)
- Supply of air purifiers for vulnerable people (211,248 units)

Dust control zone management

- Designation of 8 intensive management zones and promotion of specialized projects (Seongnam, Osan, Bucheon, Icheon, Anseong, Yongin, Suwon, Hwaseong) (fine dust shelter, smart air shower, window type ventilation system, etc.)
### Business collaboration

<table>
<thead>
<tr>
<th>Agreement on the Improvement of Air Quality in the West Coast Area</th>
<th>Work cooperation to improve Pyeongtaek Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>· To improve air quality in the west coast area, Cooperation between Gyeonggi-do, Incheon-si and Chungcheongnam-do (21.2)</td>
<td>· Five institutions, including Gyeonggi Province, signed an agreement on the management of fine dust reduction at Pyeongtaek-Dangjin Port(20.2)</td>
</tr>
<tr>
<td></td>
<td>· Pyeongtaek Port Seasonal Management System Promotion Campaign (21.3) (Joint inspection of DPF attached vehicle emissions)</td>
</tr>
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<tr>
<th>Air Quality Improvement in Seoul Metropolitan Area and Sharing Agreement</th>
<th>Cooperation to reduce fine dust overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>· United Nations Environmental Program (UNEP)-Gyeonggi-do, Seoul, Incheon-si Joint Evaluation Agreement for Air Quality Improvement (20.12)</td>
<td>· China's Kubuchi Desert Fine Dust Reduction Tree Planting (approximately 35 ha per year)</td>
</tr>
<tr>
<td>· &quot;At the 6th United Nations General Assembly on the Environment, 2023“ Best practice for improving air quality</td>
<td></td>
</tr>
</tbody>
</table>
Thank you.