

Presentation at UNECE EPCAC

International Cooperation in East Asia - Past, Present & Future

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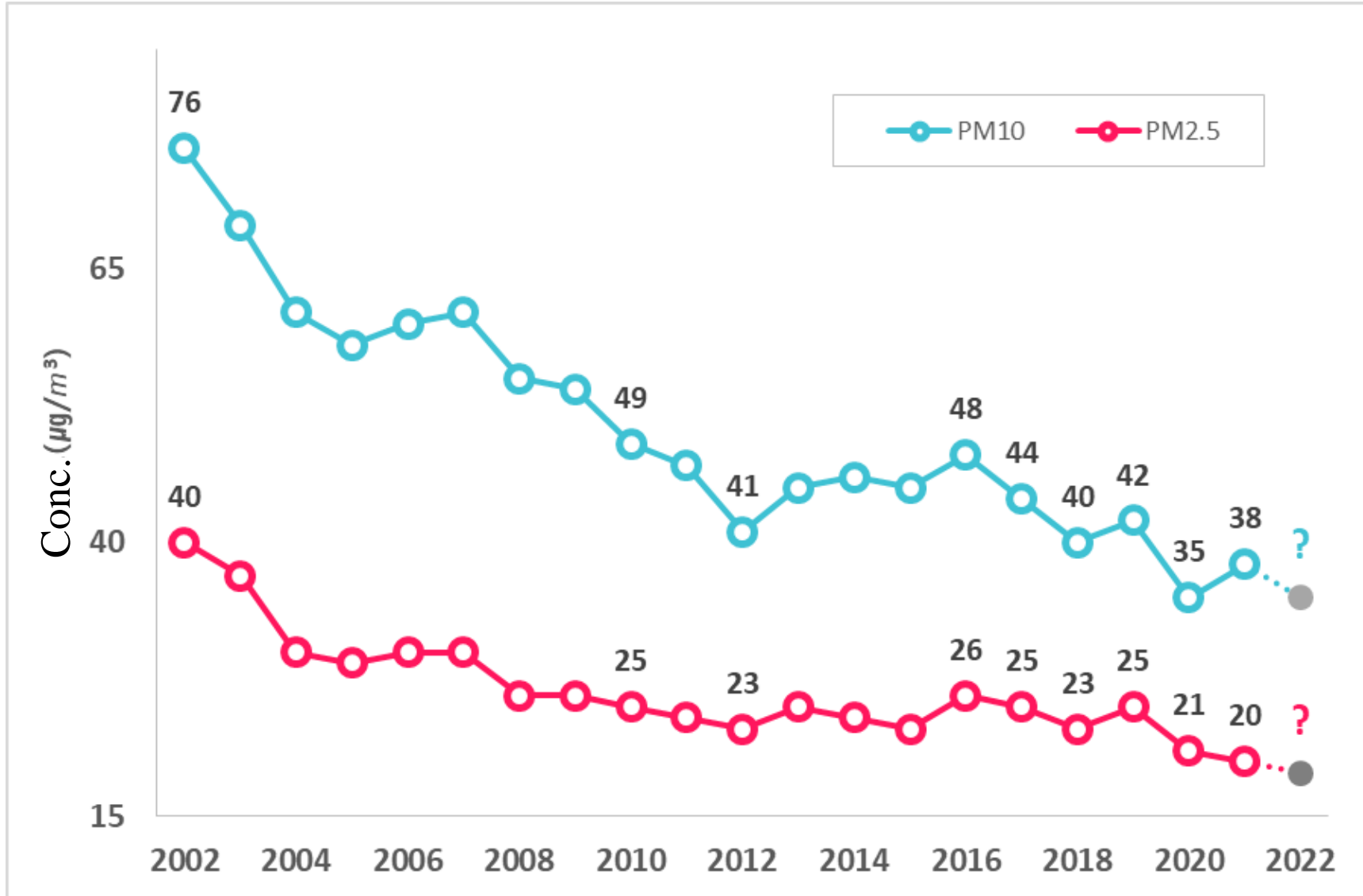
Director General, IUAPPA

16 November 2022

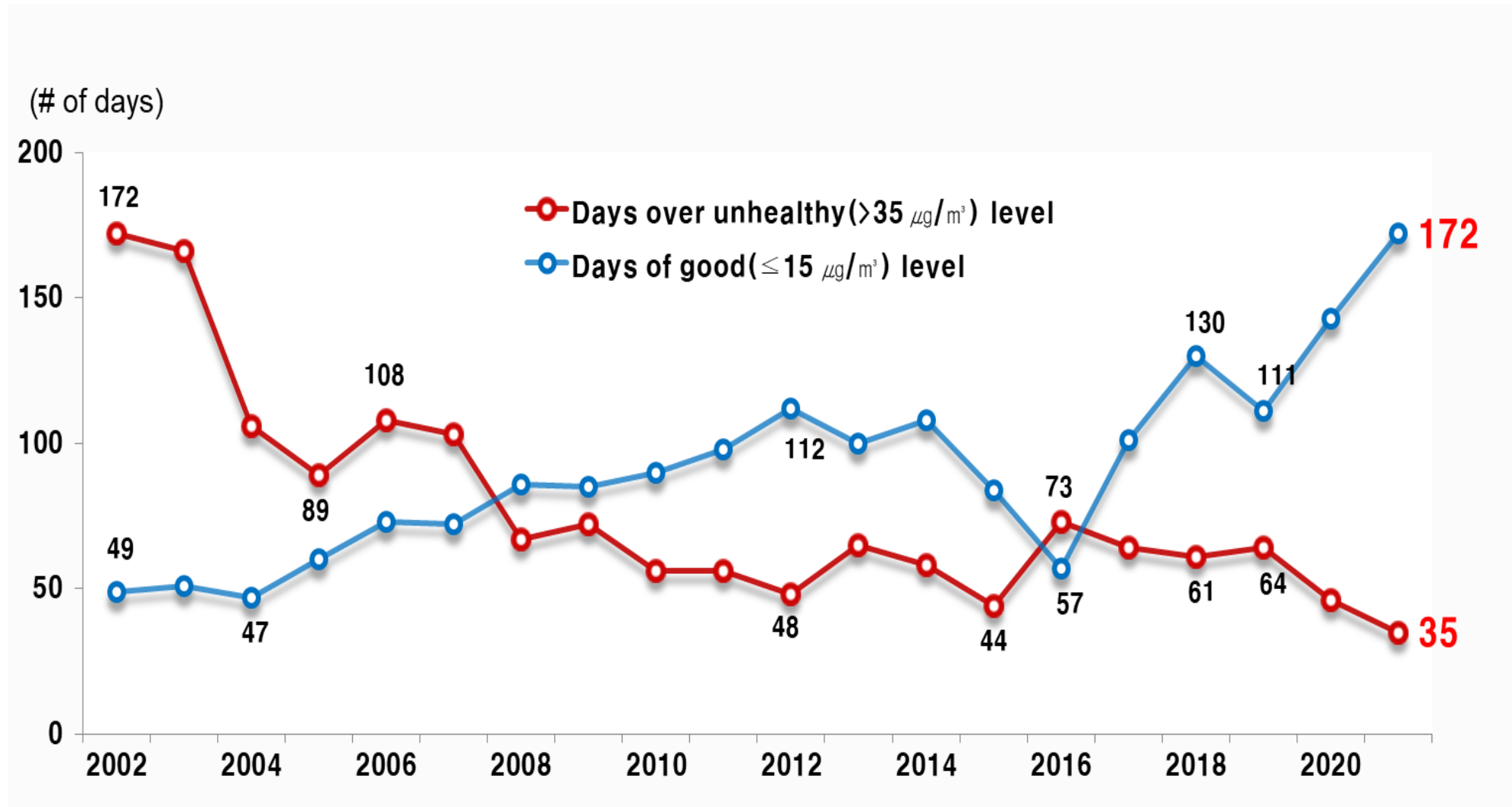


Some Background - the Present

PM concentration in Seoul



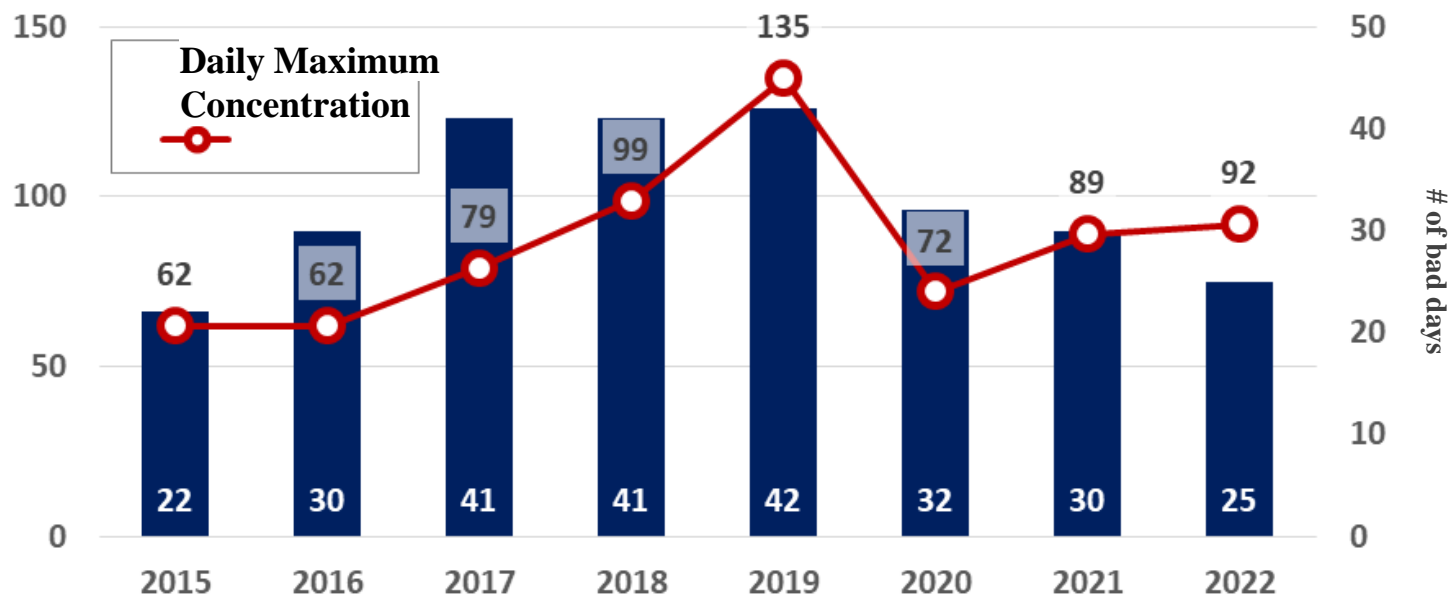
Changes in the number of days of PM “good/bad”



Some Background - the Present

PM and Meteorological Conditions in Seoul over the past five years (December to March)

| | Concentration ($\mu\text{g}/\text{m}^3$) | | | # of "Bad days" | Meteorological factors | | | | | |
|------|--|-----|-----|-----------------|------------------------|------------------------------|---------------------|--------------------|---------------|---------------------|
| | Mean | Max | Min | | Wind speed (m/s) | Temp. ($^{\circ}\text{C}$) | Precip. Amount (mm) | Precipitation days | Stagnant days | Main wind direction |
| 2022 | 25 | 92 | 2 | 25 | 2.4 | 1.3 | 122.4 | 30 | 35 | W |
| 2021 | 27 | 89 | 6 | 30 | 2.4 | 2.2 | 67.0 | 27 | 37 | W |
| 2020 | 28 | 72 | 5 | 32 | 2.3 | 3.3 | 152.5 | 34 | 51 | WNW |
| 2019 | 35 | 135 | 8 | 42 | 1.9 | 1.7 | 141.5 | 16 | 71 | WNW |
| 2018 | 25 | 99 | 5 | 25 | 1.9 | 0.90.2 | 120.7 | 30 | 71 | WNW |

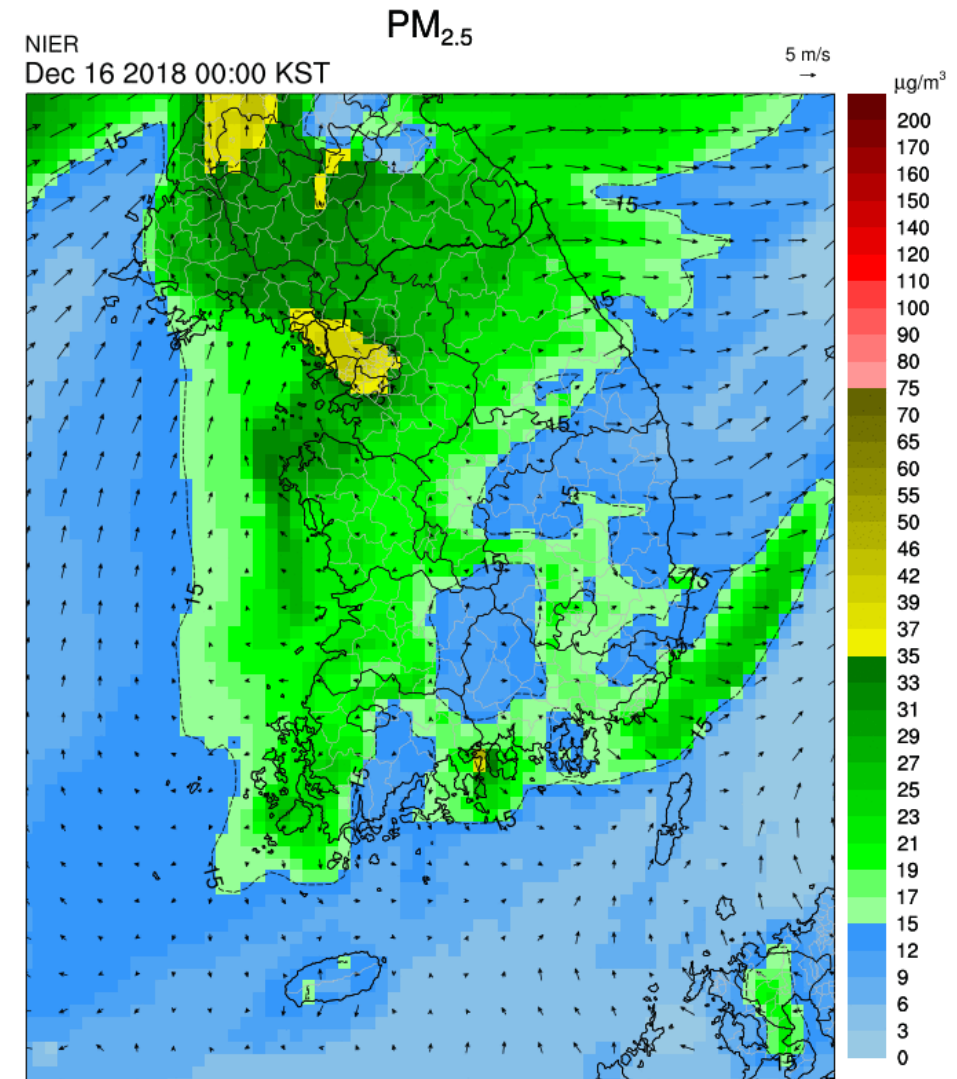
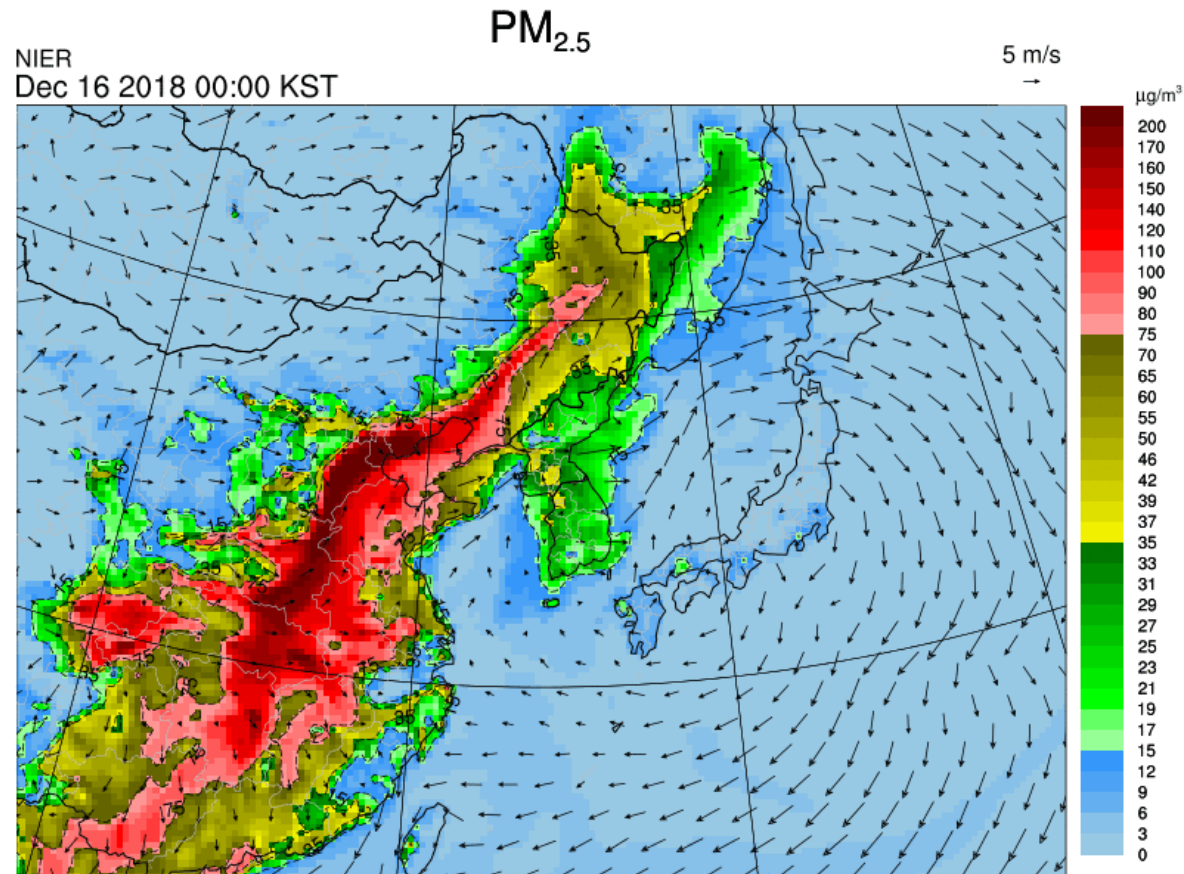


※ Bad days : PM_{2.5} concentration exceeding $35\mu\text{g}/\text{day}$
 ※ Precipitation days: 0.1mm or more in total
 ※ Stagnant days: 2m/s or less in average daily wind speed

Some Background - the Present

Sample Case

Air quality modeling results (16~17 Dec, 2018)



(Source : National institute of environmental research of Korea)

Some Background - the **Present**

Blame: China vs. Us



Beating air pollution in Seoul, Incheon, and Gyeonggi (SIG) through evidence-based solutions

Stakeholder Workshop

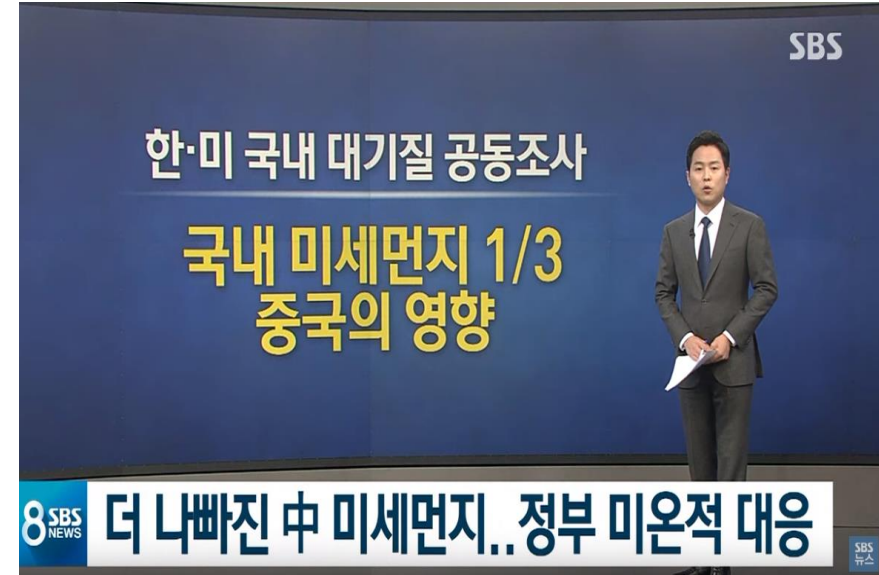
1st September 2022

Blame: China vs. Us

China vs. Korea + CLRTAP



VS.



CLRTAP (The Convention on Long-range Transboundary Air Pollution)

: an international convention signed by major European countries to control 'Long-range Transboundary Air Pollutants' in Geneva, Switzerland (1979).

UNECE 2018 Air Convention Meeting

VIEWS for ENHANCED COOPERATION (excerpts)

- International cooperation has been very helpful
- Information-sharing, including lessons learned, is a good starting point
- LRTAP can act as a model for cooperating to address air pollution

- **BATUMI ACTION for CLEANER AIR**

- Opportunity to inspire voluntary actions and promote additional collaboration
- Need for a commission or platform at the global level – Air Convention can steer this
- Regional platforms in Asia are weak; voluntary actions and own ways of developing a regional mechanism; guidelines as reference
- Diversity of approaches and global cooperation
- Global framework convention for air pollution as an option;
 Work with climate change and work on one atmosphere approach

- **FORUM for GLOBAL COOPERATION**

International Cooperation – the **Future?** South Korea vs. North Korea

'대북제재'에 막혀 논의만 8개월째...남북경협 지지부진

남북철도-신규항로 실무협의를... "제재 탓에 진전 힘들어"
철도 기공식 상징적 행사에 그칠수도... "제재완화 부터"
(세종=뉴스1) 김희준 기자 | 2018-11-18 08:00 송고

출처 : 뉴스1 Korea



6-Party Negotiations



International Cooperation

NEACAP (North-East Asia Clean Air Partnership)

- The NEACAP would serve as a voluntary framework to address transboundary air pollution in North-East Asia, covering multiple pollutants
- Complements existing subregional mechanisms, such as Long-range Transboundary Air Pollutants in Northeast Asia (LTP) and Acid Deposition Monitoring Network in East Asia (EANET)
- Supports new science-based and policy-oriented cooperation
- NEACAP not only complements existing subregional mechanisms, such as Long-range Transboundary Air Pollutants in Northeast Asia (LTP) and Acid Deposition Monitoring Network in East Asia (EANET), but also supports new science-based and policy-oriented cooperation.



Building multilateral platform in North-East Asia



Launched in 1993 and supported by ESCAP
as the Secretariat

NORTH-EAST ASIA CLEAN AIR PARTNERSHIP

*Comprehensive platform on air pollution in North-East Asia for
science-based, policy-oriented cooperation*

Work Plan 2021-2025

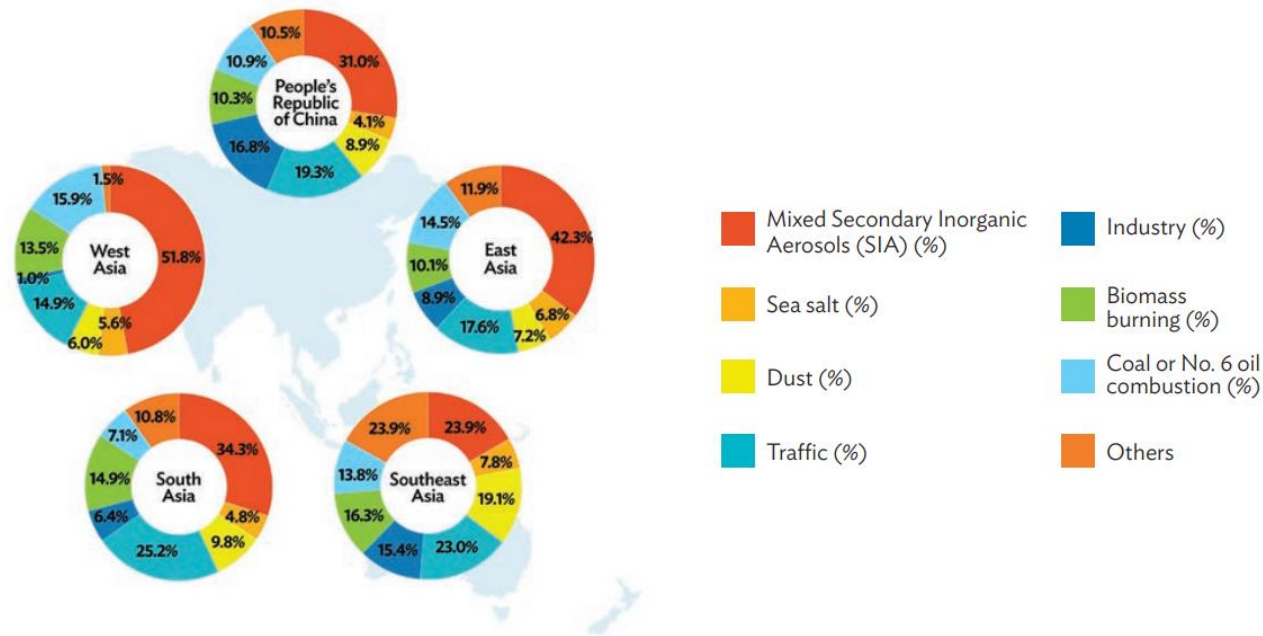
- Propose potential **technical and policy measures**
- Organize **policy dialogue**
- Conduct **policy analysis** on air pollution management
- Support voluntary collaboration on the **Best Available Techniques**
- Support **technology forum**

ADB - ACBSP (Asia Clean Blue Skies Program)

At the joint forum of the Fourth Asia Pacific Clean Air Partnership in the Republic of Korea, the Asian Development Bank (ADB) launched the Asia Clean Blue Skies Program (ACBSP) to scale up ADB’s investments in improving air quality in Asia and the Pacific.

ACBSP will be implemented from the fourth quarter of 2022 until 2030.

Source Contributions to PM2.5 Emissions



Source: Hopke et al. (2020).

International Cooperation – the **Future?** **CCAC(Climate & Clean Air Coalition)**

: The CCAC was launched to reduce Short-Lived Climate Pollutants by the United Nations Environment Program(UNEP) and six countries — Bangladesh, Canada, Ghana, Mexico, Sweden, and the United States.(2012)

The CCAC aims to catalyze rapid reductions in ‘Short-lived Climate Pollutants’ to protect human health, agriculture and the environment



INITIATIVES



HEAVY-DUTY VEHICLES



OIL AND GAS



WASTE



BRICKS



HFC



HOUSEHOLD ENERGY



AGRICULTURE



EFFICIENT COOLING



SNAP

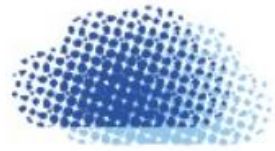


FINANCE



ASSESSMENTS

International Day of Clean Air for Blue Skies



International Day
of Clean Air
for blue skies



CLIMATE &
CLEAN AIR
COALITION
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS



Federal Ministry
for Economic Cooperation
and Development



Ministry of Environment

Adopted by a UN General Assembly Resolution in 2019, *the International Day of Clean Air for blue skies* – whose observance is facilitated by the UN Environment Programme (UNEP) – stresses the importance of and urgent need to raise public awareness at all levels and to promote and facilitate actions to improve air quality.

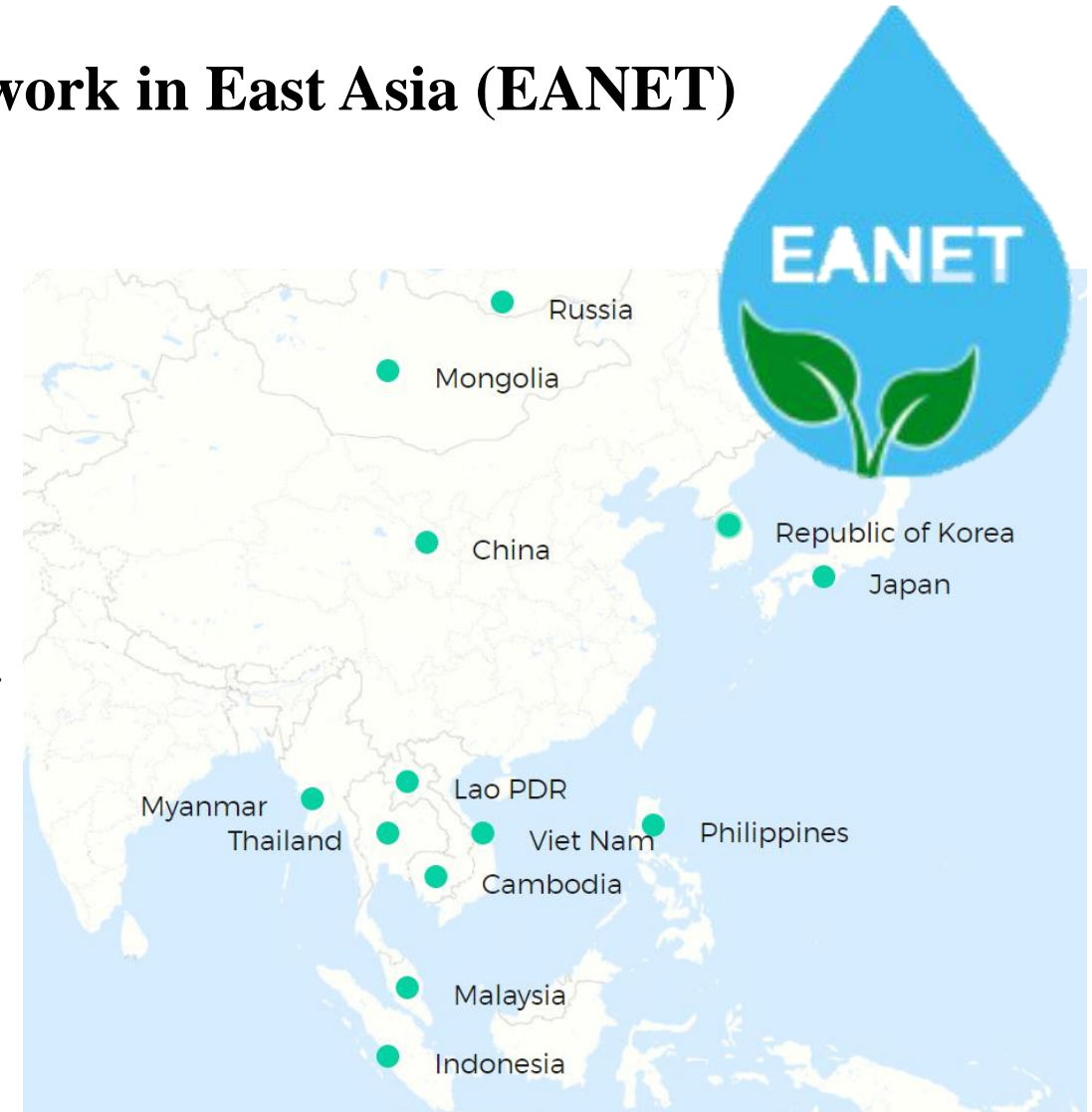
The Republic of Korea led global efforts to create this new International Day of Clean Air for blue skies and will host an event to start celebrations.

#TheAirWeShare

This year's theme of "The Air We Share" focuses on the transboundary nature of air pollution, stressing the need for collective accountability and action.

Acid Deposition Monitoring Network in East Asia (EANET)

- EANET was established in 2001 as an intergovernmental initiative to create a common understanding on the state of acid deposition problems in East Asia, provide useful inputs for decision making at various levels, and promote cooperation among countries.
- 13 countries in East Asia are participating in EANET at present. UN Environment Asia Pacific is the Secretariat and the Asia Center for Air Pollution Research (ACAP) located in Japan is the Network Center for EANET.



LTP (Long-range Transboundary Air Pollutants in North. East Asia)

In order to establish common understanding of mechanism of transboundary movement of pollutants, the three countries of Korea, China, and Japan have held LTP Expert Meetings since 1996. The objectives of the LTP project are to study the state of air quality, the influence of neighboring countries, and the policy making of each country to improve the air quality. The LTP project has been executed in the four stages as below:

1st stage (2000–2004) – Built the foundation for collaborative research of measurements and modeling

2nd stage (2005–2007) – Drew the S–R (Source–Receptor) relationship for sulfur compounds by using the emission data agreed upon by the three countries

3rd stage (2008–2012) – Updated the emission inventory and extend the research area to nitrogen compounds

4th stage (2013–2017) – Focused on the S–R relationship of PM_{2.5} concentrations over Korea, China, and Japan

This report summarizes the results of the 4th research stage (2013–2017) of the joint research project for Long–range Transboundary Air Pollutants in Northeast Asia (LTP).

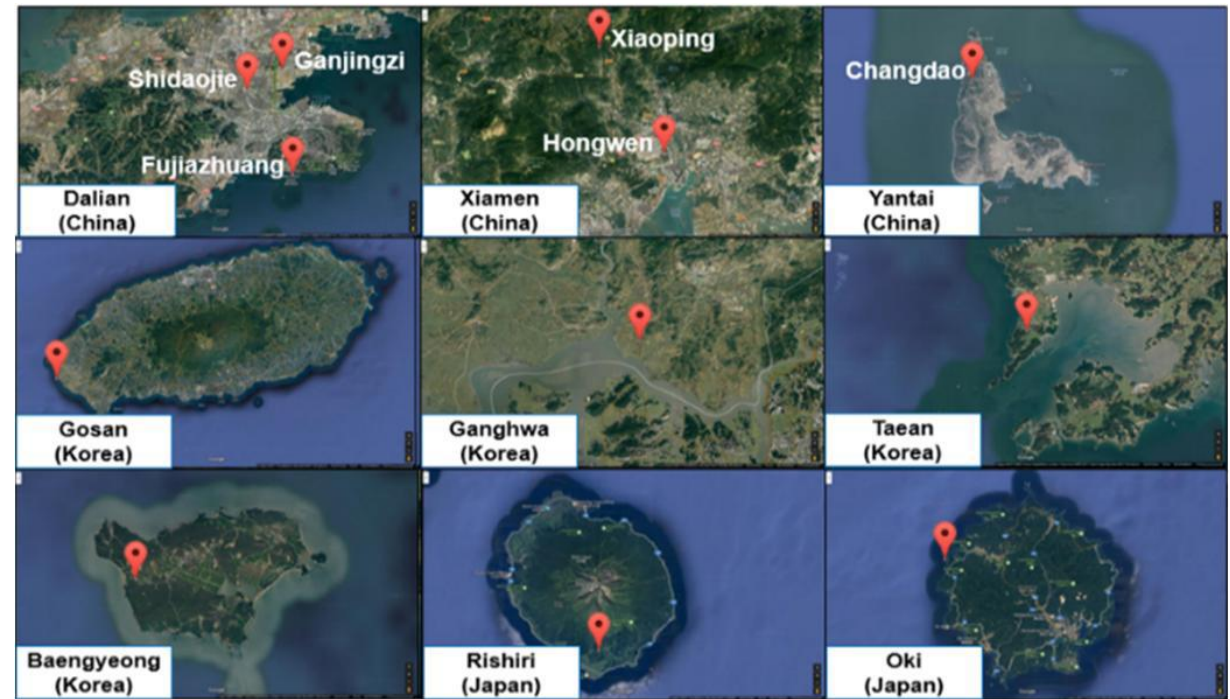


Fig. Locations of monitoring sites in three countries for LTP project

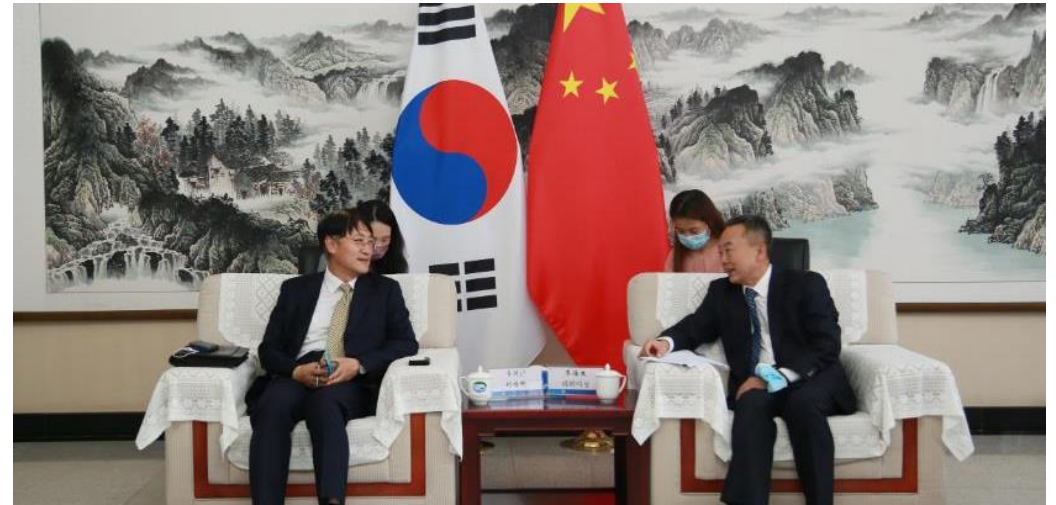
TEMM (Tripartite Environment Ministers Meeting)

The Tripartite Environment Ministers Meeting (TEMM) is the oldest and one of the most institutionalized mechanisms among all the current 21 trilateral minister-meeting-level consultative mechanisms. The three ministries have been holding the meeting on an annual basis since 1999 and achieved great results. Within this framework, the three countries aim to promote environmental management, to take a leading role in regional environmental management, and also to contribute to global environmental improvement. The three leaders adopted the Joint Statement of Environmental Cooperation at the 6th Trilateral Summit, and put stress on the necessity of continued and strengthened cooperation in addressing a range of common environmental problems in 9 priority areas.



24th Korea-China Joint Committee on Environmental Cooperation

It was decided to seek cooperation measures together to achieve improvement in air quality that the people can feel. In this regard, it was decided to continue to implement the Korea-China air quality forecast information and technology exchange project adopted through the 23rd Joint Committee.



[Korea-China, Cooperation for Air Quality Improvement and Carbon Neutralization]

The Ministry of Environment of the two countries checked the implementation of the 2022 Cheongcheon Plan, a cooperative plan signed by the two countries to jointly respond to air pollution and climate change.

The two sides evaluated the Cheongcheon plan as contributing to embodying environmental cooperation between the two countries through policy and technology exchanges, joint research and technology industrialization, and agreed to continue developing it.

In the field of air pollution, through video conferences between the two countries, they shared the results of air pollution prevention policies, technology exchanges, and seasonal management measures, and discussed future technology and policy development measures to reduce fine dust and air pollution.

In addition, the topics of air pollution forecast information technology, air pollution reduction policy, automobile pollutant management policy, and joint research on air quality between Korea and China were discussed.

International Cooperation – the **Past**

Regional Cooperation

- ✓ Establishment of a platform for Northeast Asian countries to jointly respond to air pollution
- ✓ Joint research program about the transboundary movement of air pollutants
- ✓ Strengthening of bilateral cooperation and joint response for tackling air pollution with neighboring countries

| Korea-China-Japan | Korea-China | Korea-Japan | Regional |
|--|--|--|---|
| <p>-Tripartite Environmental Ministers Meeting (TEMM)</p> <p>- Air Pollution Policy Dialogue</p> <p>WG1: Scientific Research of Air Pollution Prevention & Control</p> <p>WG2: Technology and Policy on Air Quality Monitoring & Forecasting</p> | <p>- Korea-China Joint Committee on Environmental Cooperation</p> <p>- Joint Research (Basement at Beijing)</p> <p>- Data Sharing (35 cities of China ↔ 3 cities of Korea)</p> | <p>PM2.5 Bilateral Cooperation Meeting</p> | <p>- EANET (Acid Deposition Monitoring Network in East Asia)</p> <p>- LTP (Long-range Transboundary Air Pollutants in Northeast Asia)</p> <p>- North-East Asia Clean Air Partnership (NEACAP)</p> <p>- ASEAN Agreement on Transboundary Haze Pollution (Haze Agreement)</p> |

4th Korea-EU Energy, Environment, and Climate Change Working Group Meeting

Korea and the EU mutually evaluate Korea's "Green New Deal" and the EU's "European Green Deal" to realize 2050 carbon neutrality, and in the energy conversion discussion, the two sides shared renewable energy and hydrogen policies to realize a low-carbon economy and strengthened efforts to find specific cooperation opportunities in the field.

Gathering the will of the 20 major countries (G20) to respond to the environmental and climate crisis.

The European Union (EU) and South Korea have decided to cooperate so that international plastic agreements can be prepared without a hitch by 2024 through discussions at the Intergovernmental Negotiation Committee (INC). It also discussed policy issues between the two countries, such as the circular environment system and the green classification system, and promised continued cooperation on the emission trading system.

Discussions on environmental protection and climate change response in the G20 countries.

Environment and climate ministers discussed three agendas: supporting more sustainable recovery from COVID-19, raising land and marine-based actions to achieve environmental protection and climate change response goals, and promoting financing to achieve environmental protection and climate change response goals. Details of the discussions include responding to land degradation, recovering biodiversity losses, promoting a circular economy, expanding efforts to reduce and adapt, raising climate resources, and strengthening cooperation among the G20.

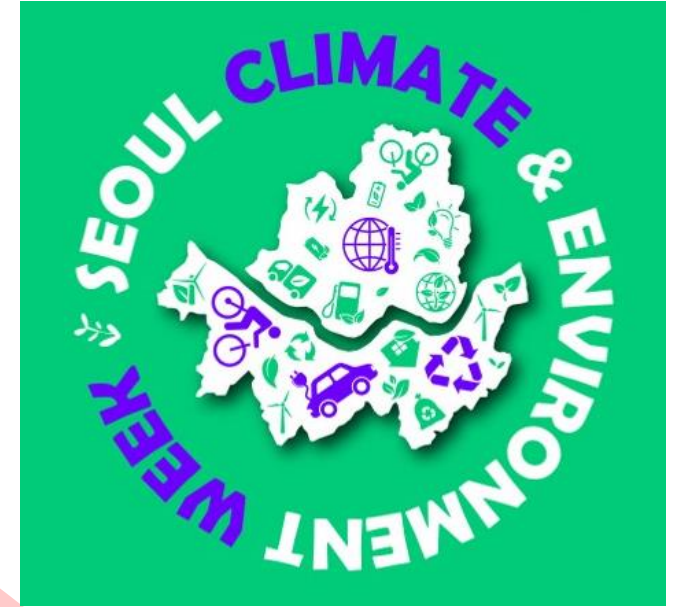
International Cooperation – the **Past**

Strengthening the Capacity to Analyze Persistent Organic Pollutants in East Asia

The National Institute of Environmental Research introduced international trends and the latest analysis technologies of new residual organic pollutants to officials from 10 East Asian countries and experts from the World Health Organization's Western Pacific region.



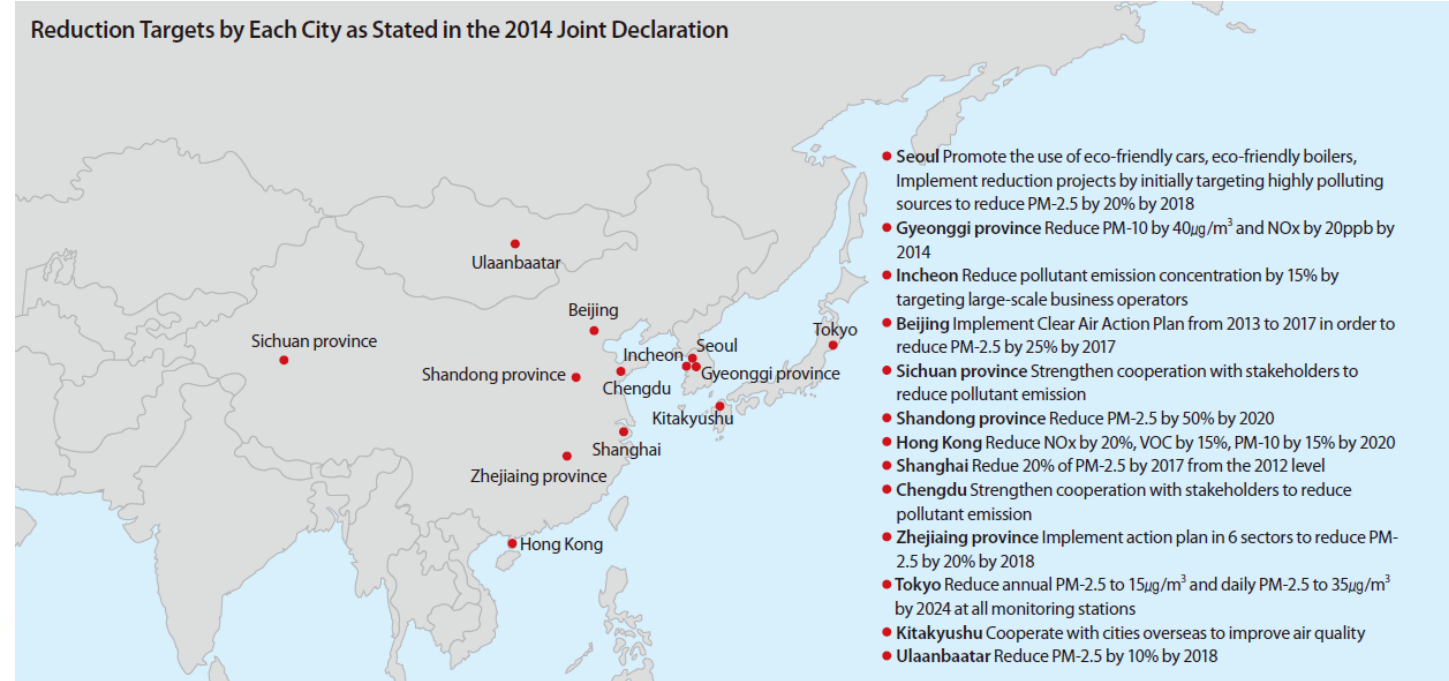
Cooperative Network to Improve Air Quality



International Cooperation – in Seoul

Cooperative Network to Improve Air Quality

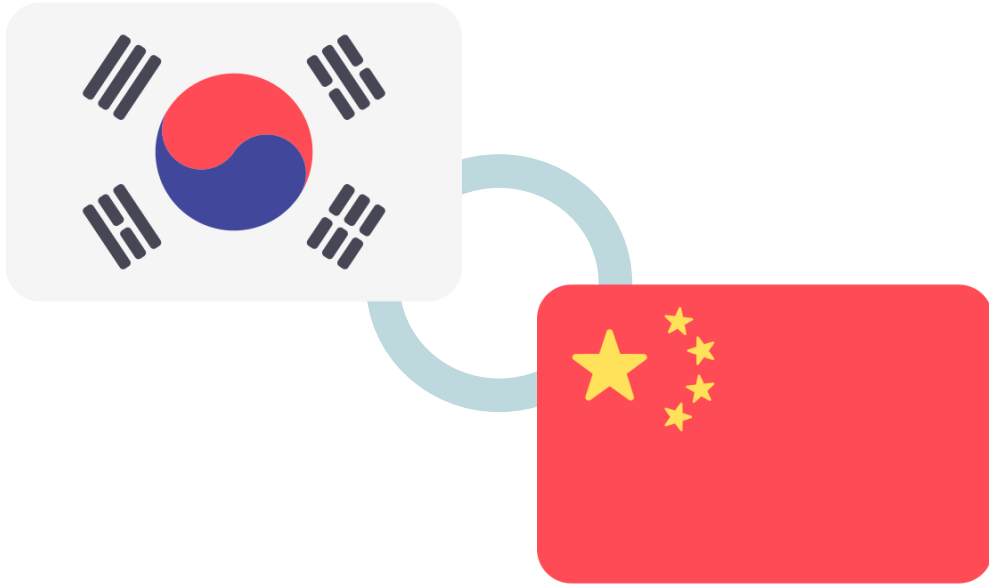
: City-to-city Cooperation, a Prerequisite to Tackle Air Pollution in Northeast Asia



Northeast Asia has a high population density and the emission of pollutants in the region is expected to increase in the future with rapid expansion of industrial facilities. The region is also vulnerable to the impact of Yellow dust. Since the pollutants react, dissipate, and travel far distances in the region, no country or city in Northeast Asia is immune to such pollutants. Therefore, efforts by one particular city can only do so much to reduce air pollution. Close cooperation between neighboring countries and cities where the pollutants originate from is crucial to tackle air pollution in Northeast Asia.

Cooperative Network to Improve Air Quality

: Seoul-Beijing Cooperation ('14~'22.9.)



- ✓ Policy Forum : 13 times
- ✓ Air pollution reduction technology exchange : 3 times
- ✓ Air pollution reduction information exchange : 5 times
- ✓ Air pollution reduction human resources exchange : 7 times
- ✓ Cooperation Secretariat Meeting : 14 times

A tall, white wind turbine stands on a grassy hill. The background features rolling green hills, a forested valley, and snow-capped mountains under a sunset sky with orange and blue tones. The text "Thank you for your attention :)" is overlaid in white, serif font on the right side of the image.

**Thank you for
your attention :)**