Transboundary Air Pollution

NEASPEC: building the foundation for collaboration on transboundary air pollution through technical projects, and now moving onto the next stage

Holistic program (monitoring, modeling, impact assessment)

Connection between science and policy

New subregional strategy/ framework

Open and effective exchange of knowledge and data

Air pollution-climate interaction (SLCPs)

3rd phase project components

(**1**) Air Pollution Abatement Plans; (**2**) SO2 Emission Regulation and Compliance; (**3**) Mongolian Power Plant Emission Standards; (**4**) Knowledge Transfer and Dissemination; (**5**) Demonstration Project and Management Modules

Development of the technical and policy frameworks for transboundary air pollution assessment and abatement

Proposal by the Russian Government as follow-up to the Review project in 2012

Presented to SOM-17 (Dec. 2012) and endorsed at SOM-18 (Nov. 2013)

Goals: Assess options for establishing a science-based and policy-supported cooperation framework in North-East Asia for the assessment and mitigation of transboundary air pollution

Target pollutants: $PM_{2.5}$, PM_{10} and Ozone and their linkages with other pollutants including SO_x, NO_x, Black Carbon, NH_3 and VOCs.

Priorities of the framework: (a) modeling of source-receptor relationship of transboundary air pollution, (b) policy scenarios, (c) emission inventory, (d) abatement technology assessment, (e) impact assessment, etc.

Implementation of the project

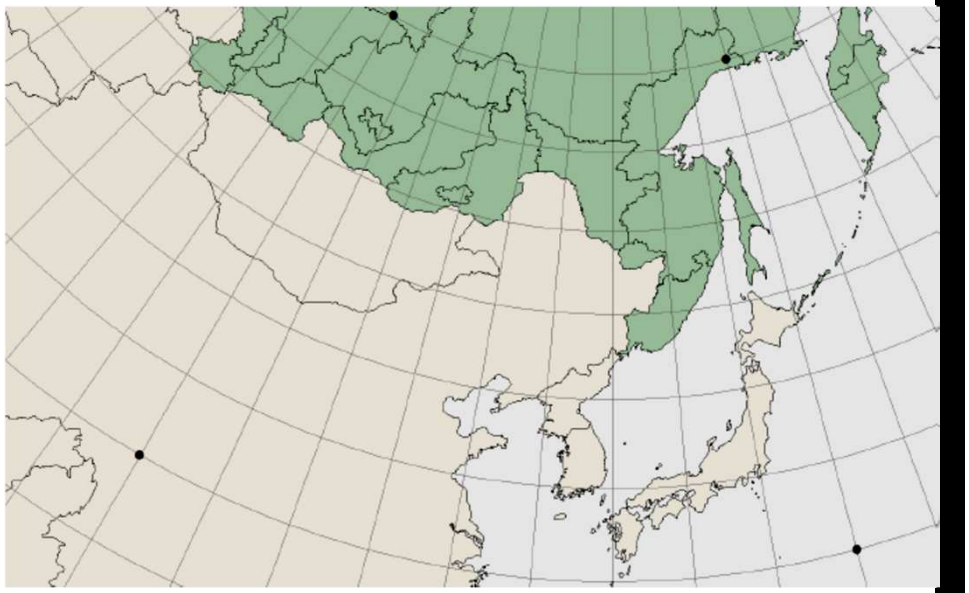
Key Work Components

- Modeling of source-receptor relationship of transboundary of Particulate Matter (PM2.5 and PM10)
- Formulating recommendations on science-policy linkage and health impact assessment
- Development of the concept of the cooperation framework

Implementing body

- **Lead agency:** Scientific Research Institute for Atmospheric Air Protection (SRI), the Russian Federation

- **Collaborating agencies:** Respective national institutions including the Chinese Research Academy of Environmental Sciences and Busan National University, Republic of Korea, and national experts involved in LTP modeling.



Proposed domain for the Project
(30°N-60°N and 100°E-145°E)

Implementation of the Project: 2014-2016

Develop a detailed scope and approach of the project *(Expert consultation meeting, May 2014)*

Assess data and technical approaches, and prepare a joint modelling methodology *(Consultation workshop, March 2015/ consultation with LTP experts, Nov. 2015)*

Carry out modelling of transboundary air pollution and conduct a background study *(by Dec 2016)*

Formulate the concept of a subregional framework on assessment and mitigation of transboundary air pollution *(by Dec 2016)*

Intergovernmental consultations and decisions on the framework *(Sep 2014, Feb 2016 and 2017)*

Science-Policy Linkage

An example of science-policy linkage: CLRTAP

Science

- providing relevant data
- carrying out atmospheric and effects modeling
- analyzing dose response and critical loads
- developing emission inventories
- carrying out integrated assessment; and
- developing science-policy recommendations

Policy

- addressing linkages with climate change, biodiversity and other cross-sectoral considerations
- exchanging information and good practices
- developing and disseminating guidance documents

Policy Scenario

Integrated assessment modeling for policy scenario:

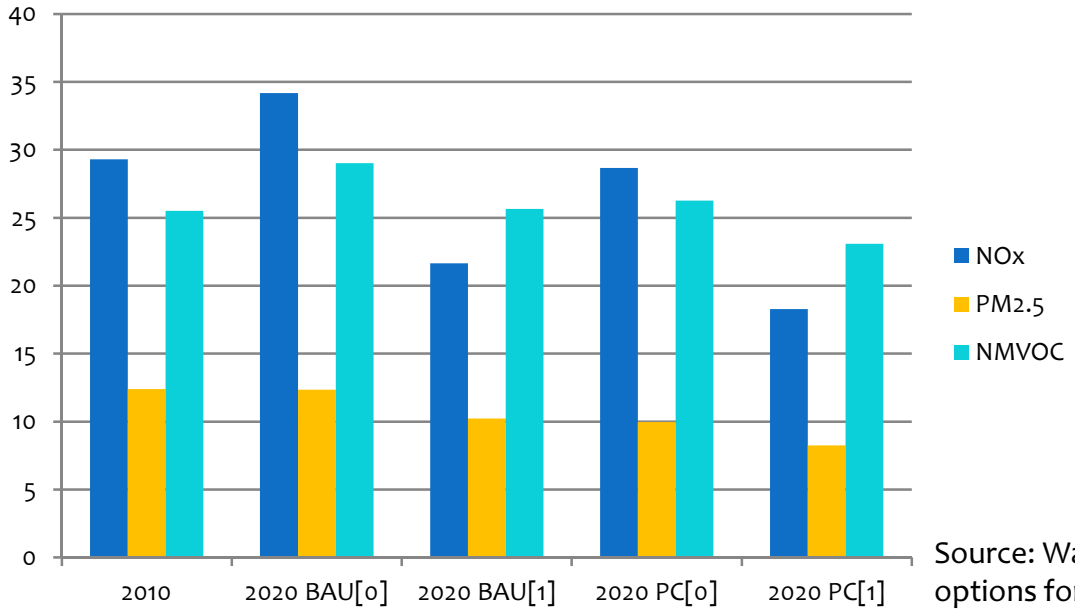
(a) **abatement options** for reducing multiple air pollutants and GHGs, and structural measures in major sectors

(b) **projections of emissions**

(c) **assessments of the atmospheric transport** of substances

(d) analysis and **quantification** of the environmental and health **effects and benefits** of emission reductions

Policy scenario for air pollutions in Northeast Asia



Countries include China, DPRK, Mongolia, Japan and ROK

Scenarios are based on the combination of end-of-pipe control measures and energy-saving policies

Source: Wang S. X. et.al. 2014. Emission trends and mitigation options for air pollutants in East Asia, Atmos. Chem. Phys., 14,

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