UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

Concept Note

Consultations on Modeling of Source-Receptor Relationship of Transboundary Air Pollution

18-21 March 2015

Pusan National University, National Institute of Environmental Research and Chinese Research Academy of Environmental Sciences

Background

In 2012, NEASPEC member States jointly conducted the "Review of existing and required capacities for addressing adverse environmental impact of transboundary air pollution in North-East Asia". The review showed strong potential for further improvement of national and subregional capacity on air pollution issues both on technical and policy levels, and identified existing gaps and possible steps forward. The review also recommended the development of a subregional framework that promotes a holistic approach covering all components of transboundary air pollution management, strengthens connections between science and policy, and provides channels for open and effective exchange of knowledge and information, etc.

As a follow-up to the review, NEASPEC member governments had a series of consultations on conducting a project to further elaborate the scope and modality of the proposed subregional framework and, at the SOM-18 in November 2013, decided to carry out the project "the Development of Technical and Policy Framework for Transboundary Air Pollution Assessment and Abatement" proposed by the Russian Government.

Subsequently, an Expert Group Meeting (EGM) in May 2014 discussed technical approaches and activities of the proposed framework as well as the current project, and made the following recommendations.

- **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) health impact of air pollution, (b) policy scenarios, (c) emission inventory, (d) abatement technology assessment, (e) modeling of source-receptor relationship of transboundary air pollution, policy scenarios, impact assessment, etc.

- **Focuses of the activities under the current project:** modeling of source-receptor relationship of transboundary air pollution in collaboration with the planned modeling work of LTP and relevant research, and by utilizing national emission inventories and EANET monitoring data.

- **Implementing body of the modeling:** the Scientific Research Institute for Atmospheric Air Protection (SRI), the Russian Federation, and 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.

The recommendations were generally supported by the SOM-19 held in September 2014 while the SOM highlighted the need to seek synergies and avoid duplication with existing mechanisms and focus on modelling research cooperation. In this connection, this consultation will be held with the following goals and agendas.

Goals

- Connect the on-going work in North-East Asia, i.e. the Joint Research Project on Long-range Transboundary Air Pollutants in North-East Asia (LTP Project), the Model Inter-Comparison Study in Asia (MICS-Asia), and the Acid Deposition Monitoring Network in East Asia (EANET), with the planned work of SRI on modeling of source-receptor relationship of transboundary air pollution,
- Share the information of modeling methodologies and emission inventories in North-East Asia with experts at SRI,
- Develop a detailed plan of SRI's modeling including required technical support from other institutions.

Participants

- Modelers and experts of SRI and relevant Russian institutions
- National experts involved in LTP modeling

Provisional Agenda

1. Opening of the workshop
2. Overview of modeling under LTP
3. Overview of national, regional and global emission inventories pertaining to the planned modeling
4. Major programmes and operation of the Community Multiscale Air Quality Model (CMAQ)
5. LTP's configurations of meteorological model and air quality model
6. Source and arrangement of input data
7. Model performance evaluation and verification
8. Technical support from LTP institutions and experts
9. Plan of SRI's modeling