

Meeting notes from the
INTERNATIONAL SESSION
of the
SAINT PETERSBURG
INTERNATIONAL AIR CONGRESS

SEMINAR WITHIN THE RUSSIAN-SWEDISH PROJECT:
“DEVELOPMENT OF THE CO-OPERATION WITHIN THE
CONVENTION ON LONG-RANGE TRANSBOUNDARY
AIR POLLUTION”

17 April 2012

**Improving air quality in Eastern Europe, Caucasus and Central Asia (EECCA)
and prospective implementation of the GAINS (Greenhouse Gas and Air
Pollution Interactions and Synergies) model in the Russian Federation**

The session was attended by 31 persons. Participants and representatives from the following countries were present: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Sweden, Tajikistan, Ukraine, and Uzbekistan. Representatives from the European Commission, CLRTAP EGTEI, CITEPA and Norwegian Meteorological Institute were present.

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1. The Director General of JSC SRI Atmosphere (SRI) and Swedish project manager from IVL Swedish Environmental Research Institute Ltd. opened the meeting and welcomed the meeting participants.
2. The seminar organizers introduced the background and purpose of the session. It was highlighted that to ensure air quality in Europe, increased national interest and more active international participation is required from EECCA countries. The meeting noted that for effective air quality protection work, there is a need for increased coordination between the involved organisations, international technical support, and exchange of experience between EECCA countries.
3. The representative from CITEPA in France provided the French perspective on air pollution and ongoing activities, including trends in emissions, legislation at national and local levels, and current air quality problems. Too high concentrations of PM₁₀ and NO_x in urban areas are one of the major problems. Among non-technical measures to improve air quality, reinforcement of prescriptions in sensitive zones was mentioned, taking into account both air quality and climate aims. The meeting expressed a special interest in the monitoring and reduction of emissions from mobile sources in France.

- 4.** The Italian/EGTEI representative presented ongoing work in Italy. The work is focused on modeling as techno-scientific support for policy makers. The combination of the GAINS Italy model and a local dispersion model enables development of scenarios for separate regions taking into account national circumstances and providing results with high spatial resolution. The meeting noted that the modeling project has succeeded to provide the policy makers with scientific based elements for a more accurate assessment of the measures to be implemented at the regional level and provided a better understanding of the potential of reduction measures adopted at national level for the purposes of the international negotiations.
- 5.** An expert from Karolinska Institutet in Sweden presented impacts on health from high levels of air pollution, based on data obtained during wildfires in the Moscow region in the summer 2010. The results demonstrate clear relationship between heat waves / air pollution from wildfires and mortality rates. The expert highlighted that no “safe levels” could be indicated and it is therefore important to find a balance between the abatement costs and accepted mortality rate. The meeting noted that there is a general understanding of the existing connection between air pollution, especially high concentrations of PM, and health problems but extensive scientific research should be conducted to quantify this connection.
- 6.** The Swedish expert on air pollutant emission inventories presented the importance of air emission inventory correlations with GAINS model results and the need for input data completeness checks when working with the GAINS model. The Swedish air emission inventory system was explained as an example. The meeting noted that emission inventories can be used among others to get an overview and identify important sources, to track the emission trends, to follow up fulfillment of the obligations under Conventions and to validate GAINS model results.
- 7.** The EMEP model expert from Norwegian Meteorological Institute (met.no) in Norway presented an overview of the EMEP model and the results of the project involving Russian and Norwegian experts in EMEP-modeling. The meeting noted that the EMEP model has spatially extended and is being actively used for emission dispersion modeling in Europe, providing scientific basis for negotiations under the Convention by revealing the inputs from countries and regions into concentrations and depositions in EMEP grid cells.
- 8.** A project representative from the Russian-Swedish cooperation project presented latest results. The new GAINS Russia model regionalization was presented, together with the description of the method used to pre-process data needed for further development of the model by introduction of trans-boundary effects function. Regionalization of the GAINS Russia model is expected to enable its use as a decision support tool at the regional level.
- 9.** A project representative from the Belarus-Swedish cooperation project presented ongoing work and latest results. Focus of the project activities is on obtaining correct input data, analysis of abatement technologies and cost assessments. It was highlighted that model parameters such as removal efficiency of abatement equipment are not always suitable for EECCA countries, which increases uncertainties of the results. The meeting noted that there is a need for further analysis of cost components and comparisons between real-life costs and modeled costs.

10. Needs for similar research and technical assistance in other EECCA countries as that presented from the two bilateral cooperation projects between the Russian Federation/Sweden and Belarus/Sweden were discussed. Several countries mentioned the importance of model estimates as a scientific basis for national internal air quality work as well as for international negotiations, and expressed interest in potential international cooperation. Methodological assistance is important, both in modeling and in emission inventory work.

11. A representative from the EECCA coordination group presented the main tasks of the group and its role in harmonization of the EECCA countries methodological approach with the CLRTAP mechanisms. The EECCA coordination group sees its main task in facilitating the work under the Convention by, among others, formation of the joint position of the EECCA region during the negotiations on the revision of the Convention Protocols. The group has recognized the importance of communication and pays special attention to Russian-English and English-Russian translations of important documents.

12. Main message from the meeting participants about their main areas of concern and interest

The following scientific topics were recognized as especially relevant for future efforts:

- Transport emissions and abatement possibilities (especially policy instruments focusing on removal of old and high emitting vehicles)
- Air emission inventories
- Inventory of emissions of NH₃ from the agricultural sector (need for improved statistical and other background data is required)
- Abatement cost assessments

International technical assistance and training of experts related to the revision (and subsequent implementation) of the Gothenburg protocol is recognized as important.

The environmental experts working with air pollution need to co-operate closely with health experts in order to establish knowledge on long term human health effects from air pollution

The Russian/ Swedish and Belarus/Swedish co-operation projects show that national capacity building and establishment of national technical expertise works in the field of air pollution and the CLRTAP, including GAINS and EMEP modelling.

The experiences from these projects can be used for future co-operation projects related to air pollution and the CLRTAP.

The experiences from these projects have triggered a more in-depth EECCA country collaboration under the EECCA country working group.

13. Summary of conclusions from the meeting

<p>a. National scientific support to decision makers in the field of air pollution requires a wide span of scientific expertise. This requires time and extensive international scientific collaboration. (In order for scientific support to be conclusive it is important to correlate various scientific activities related to air pollution emission inventories, air pollution dispersion, impact assessment and abatement costs.)</p>	<p>a. Для научной поддержки принятия решений, связанных с проблемами загрязнения атмосферного воздуха, необходим широкий научный опыт. Для приобретения такого опыта требуется время и активное международное сотрудничество. (Для убедительности научной поддержки, необходимо сочетать различные виды научной деятельности, связанные с инвентаризациями выбросов загрязняющих веществ, рассеиванием выбросов, оценкой воздействий и затрат на снижение выбросов.)</p>
<p>b. Emission dispersion modeling is an essential part of analyzing environmental and health impacts.</p>	<p>b. Моделирование рассеивания выбросов является важной частью анализа воздействий на здоровье населения и окружающую среду.</p>
<p>c. Health effects caused by high levels of particulate matter are of concern in large parts of Europe and especially in larger cities. Local and international action can be taken to reduce this impact.</p>	<p>c. Воздействие на здоровье, связанное с высокими концентрациями твердых частиц, является важной проблемой в Европе, в особенности в больших городах. Для снижения такого воздействия могут быть приняты меры как национального, так и международного масштабов.</p>
<p>d. The human health impact of extreme air pollution events has made, and will also in the future make, impacts even more severe if no action is taken.</p>	<p>d. Экстремальные случаи загрязнения воздуха в прошлом уже вызвали негативное воздействие на здоровье населения. Еще более негативные воздействия возможны в будущем при отсутствии каких-либо мер по их предотвращению.</p>
<p>e. International cooperation projects show a large potential for solid capacity building and awareness raising, resulting in direct contributions to increased and well-founded activity in international negotiations related to air quality.</p>	<p>e. Проекты международного сотрудничества демонстрируют широкие возможности развития потенциала и повышения осведомленности, что вносит непосредственный вклад в возрастающее активное участие в международных переговорах по вопросам качества атмосферного воздуха.</p>