

Improving Efficiency of Particulate Abatement Systems of CFPPs in NEA

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Historic Perspective

✦ SOM 1, 1993 in Seoul, Republic of Korea - origin of NEASPEC

✦ SOM 2, 1994 in Beijing, China - five priority areas were identified:

- (a) Operations and Maintenance Training for Reduction of Sulphur Dioxide in Older Coal Fired Electricity Generation;
- (b) Demonstration of Clean Coal-Fired Power Plant Technology;
- (c) North-East Asian Biodiversity Management Programme
- (d) North-East Asian Seed Research and Information Base for Forests and Grasslands
- (e) Environmental Pollution Data Collection, Intercalibration, Standardization and Analysis.



Historic Perspective (2)

✦ Asian Development Bank funding for three projects (starting 1996, three years):

- ◆ Subproject-I: Training for sulphur dioxide reduction in coal-fired power plants
- ◆ Subproject-II: Demonstration of low-air pollution coal-fired power plant technology
- ◆ Subproject-III: Environmental pollution data collection, comparability and analysis.



Historic Perspective (3)

Major outcomes:

- ✦ Capacity building;
- ✦ Information dissemination on clean technology operation of coal-fired power plants;
- ✦ Information exchange and cooperation in pollution data collection and monitoring;



Historic Perspective (4)

**SOM 4, 1998, Moscow, the Russian Federation
approved four project profiles for next phase:**

- ✦ **Project I: Pollution Reduction in Coal-fired Power Plants**
- ✦ **Project II: Environmental Monitoring, Data Collection, Comparability and Analysis;**
- ✦ **Project III: Efficiency Improvement of Electrostatic Precipitators in Existing Power Plants;**
- ✦ **Project IV: Demonstration of Dry Sorbent Duct Injection (DSDI) Flue Gas Desulfurization (FGD) Technology.**

**SOM 5, 1999, Kobe, Japan reaffirmed commitment
of NEASPEC countries**



Historic Perspective (5)

ADB approved in 1999 a Technical Assistance Project with three components:

- ✦ Regional training for reducing pollution from coal-fired power plants;
- ✦ Environmental Monitoring, Data Collection, Comparability and Analysis;
- ✦ Action plans for improving the efficiency of particulate abatement systems in existing power plants.



Implementation

I Regional Training for Reducing Pollution from Coal-Fired Power Plants

- ✦ A comprehensive training programme for reducing pollution from coal-fired power plants;
- ✦ A Regional Training Centre was established and is hosted by the Korea Electric Power Research Institute;
- ✦ A comprehensive report and proposal for strengthening of the training programme was developed.



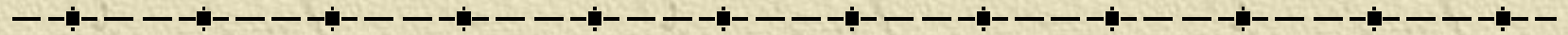
Implementation

II Regional Network for Trans-boundary Environmental Monitoring

- ✦ A regional network on environmental monitoring, data collection, comparability and analysis;
- ✦ Two training workshops to harmonize the data standards and methodology were organized.
- ✦ North-East Asian Centre for Environmental Data and Training was established;



Implementation



III Action Plan for Improving the Efficiency of Particulate Abatement Systems in Existing Power Plants

- ✦ **Two On-site Assessment Workshops on Efficiency Improvement of Particulate Abatement systems in Existing Power Plants were organized;**
- ✦ **Guidelines for the development of the Subregional Action Plan for Efficiency Improvement of Particulate Abatement systems**



Implementation

Final stage of the implementation of the TA project:

- ✦ Technical audits of selected CFPPs in China and Mongolia
- ✦ Action plans for the selected CFPPs in China and Mongolia;
- ✦ National consultations and review;



The way forward

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- ✦ **Development of investment proposals for the two selected power plants in Mongolia and China;**
 - ✦ **Development of a Decision Support System (DSS) with the following elements:**
 - ◆ **Develop a comparative model for the emissions from coal-fired power plants and ambient air pollution;**
 - ◆ **Apply the model for the selected coal-fired power plant in Mongolia;**
 - ◆ **Conduct a study on the standards for control of emissions and best practices in the North-East Asia subregion;**
 - ◆ **Comparative study on available emission reduction technologies for coal-fired power plants**



The way forward (cont'd)

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- ✦ Conduct a needs assessment study for the establishment of national data collection centres in the NEASPEC Member States
 - ✦ On-the job-training
 - ◆ Develop a training of the trainers curriculum, including manuals and guidebooks in national languages;
 - ◆ Conduct training of the trainers workshops with provisions of equipment;
 - ◆ Follow up national training conducted by the trainers
 - ✦ Develop the subregional action plan for improvement of the particulate abatements systems and emissions from the coal-fired power plants in North-East Asia with targets and timeframe;
 - ✦ Public awareness activities – further development of the NEASPEC web site, production of publications and leaflets, stakeholder involvement strategies; etc.

