

Report¹ on the UN Development Account project “Capacity Building for Air Quality Management and the Application of Clean Coal Combustion Technologies in Central Asia” (CAPACT)

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1. Summary of your overall assessment of the project results (to be used for the website and other reports to the GA)

The UN Development Account project “Capacity Building for Air Quality Management and the Application of Clean Coal Combustion Technologies in Central Asia” (CAPACT) responded to a strong need to develop air quality management policies and expertise in Central Asia. While it has been a challenge to develop the inter-sectoral cooperation between energy and environmental sectors in the region, environmental and energy sectors have benefited substantially from the project. The following main achievement of the project can be highlighted:

- ***On national policy making:
Kazakhstan is using a National Programme developed under the project for the design of its future air quality management policies. The country is planning to ratify four Protocols under the UNECE Convention on Long-range Transboundary Air Pollution (further LRTAP Convention) and to develop a dedicated Air Quality Management Programme. The experiences of Kazakhstan has been demonstrated to and studied by the other four Central Asian countries.***
- ***On regional networking and training:
Experts from Central Asia and also from all other countries of Eastern Europe and the Caucasus have been given the opportunity of networking and training in modern air quality management and policy development during three Workshops. For the benefit of future policy development, model assessments of transboundary pollution of heavy metals and persistent organic pollutants have been made for the region. The project has further developed ability of networking and modern air quality managerial skills of environmental and energy sectors decision makers in the region***
- ***On monitoring:
A new ambient air monitoring station in Borovoe, Kazakhstan, set up***

¹ This report is preliminary and does not include the full report on EA2. This project component will be finalized in June 2008, after which a final report will be delivered.

under the project expands the Co-operative programme for monitoring and evaluation of the long range transmission of air pollutants in Europe (EMEP) to Central Asia and makes it possible to better follow and model transport of air pollution between Europe and Asia.

- ***On the use of clean coal combustion technologies:***

Based on the results of an in-depth analysis of prospects for CCT's implementation in Central Asia countries done in the frame of CAPACT the "Energy Efficiency and Conservation Programme" was developed. Countries recognized the fact that implementation of advanced CCTs requires a significant amount of investment and looked for some alternative instruments to ensure the energy supply at the level necessary for successful economic and social development of the region. It is exceptionally important for Central Asia countries to develop and improve international cooperation in development and deployment of CCTs. The evidence of such cooperation was demonstrated within CAPACT workshops.

- ***On energy pricing and policy reform :***

Experts from the region have been given the opportunity of participating in an International Seminar on reforms of pricing related to coal, heat and electricity in management of investments for introduction of energy effective CCTs in Central Asia countries. They were presented the results of the study devoted to estimation of national pricing reforms of energy prices formation and tax policy in the countries of Central Asia. It was pointed out that the major goal of the reforms is to create a stable, competitive market oriented at increase of energy efficiency and quality of energy services.

- ***On investment projects:***

Criteria for selecting appropriate energy efficient CCT projects in Central Asia were identified. Eight projects related to CCTs were selected from 4 Central Asian countries participating in the project. Training on business plan development was organized successfully (3 training sessions) that could be illustrated by plans of all the participating countries to submit their projects to potential donors.

2. Review of the performance indicators and activities as per logical framework of the project document.

EA1	<p>(i) National Concept for air quality management and for implementing selected LRTAP Convention protocols;</p> <p>(ii) National Programme for air quality management and for implementing selected LRTAP Convention protocols; and</p> <p>(iii) An Implementation Plan for the National Programme.</p>
I.1.1: <i>Quantitative Performance (Indicator(s) related to EA1)</i>	A National Concept, National Programme and Implementation Plan for Kazakhstan have been developed and approved.
Qualitative Results/Impact achieved for EA1:	There is a significant impact on the policy level. Selected items of the National Programme and Implementation Plan have been included in the Environmental Programme for 2008. Further components of this work will be used to develop a dedicated Air Quality Management Programme. Moreover, as a direct result of the conclusions in the National Programme, In March 2008 the Government of Kazakhstan gave an assignment to the Ministry of Environment Protection to prepare a package of the documents for joining to all four selected CLRTAP protocols.
A.1.1 (<i>Main activities completed in relation to EA1</i>)	Kazakhstan was selected to be the pilot country for this Work Package. A consultant prepared a desk study that served as a basis for the development of the work. A National Concept was developed by the Kazakh Scientific Institute of Environment and Climate, discussed during national seminars in Astana and Almaty and approved by the Kazakh Ministry of Environment.
A1.2	The National Programme and Implementation Plan were developed by the same Institute, discussed at two national seminars, and approved and finally used as an input to the Ecological Programme of Kazakhstan for 2008-2010.
EA2	Raised awareness in Central Asia on air quality management and international cooperation on transboundary transport of air pollution. Improved subregional cooperation on air quality management issues.
I.2.1:	Three training Workshops has been held with totally 61 participants from all five states in Central Asia. A report “Model assessment of transboundary pollution by lead and PCB-153 of the Central Asian Countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan” has been developed and published in English and Russian.
Qualitative Results/Impact achieved for EA2:	Improved understanding of international cooperation and reporting on air quality issues in Central Asian environmental authorities. Strengthened network between air quality experts in the region.
A.2.1-2	A Workshop on Air Quality Management and the International Legal Framework was held in Almaty 12-14 October 2005. A second Workshop

	<p>on International Air Monitoring, Data, Reporting and Environmental Effects, was held in Almaty 17-19 October 2006. A third concluding Workshop was held 4-6 July 2007. Total number of participants from Central Asia was 61. Using funding from other sources, experts from Eastern Europe and Caucasus also participated in the Workshops and contributed with their experiences.</p>
A2.3	<p>Project component not implemented.</p>
A2.4	<p>A report “Model assessment of transboundary pollution by lead and PCB-153 of the Central Asian Countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan” has been developed and published in English and Russian. The report is available on www.msceast.org/publications.html.</p>
EA3	<p>Upgrading and testing one station of air pollution monitoring in Central Asia as a link between the EMEP and the Asian air-monitoring network; and established cooperation on air pollution monitoring and evaluation, planned cooperation in emission inventories and effects monitoring, between Central Asia on the one hand, and Europe and Asia on the other.</p>
1.3.1: <i>Quantitative Performance (Indicator(s) related to EA3)</i>	<p>The Borovoe EMEP air monitoring station in Kazakhstan delivers data to the EMEP system as well as to EANET in Asia from 1 September 2007.</p>
Qualitative Results/Impact achieved for EA3:	<p>The conditions for a dialogue on air quality issues between Europe (EMEP) and EANET (Asia) has improved and may contribute to the developing hemispheric cooperation on air quality management. A number of other EECCA countries have expressed their interest in establishing EMEP station.</p>
A.3.1	<p>An inception report including work plan, ToR for the various studies/expert services to be procured, were prepared.</p>
A3.2	<p>The planned workshop to develop plans for air monitoring cooperation between Central Asia and Asia, and Europe did not take place as a unique event. Instead a series of separate meetings/discussions and mail exchanges have taken place in connection with other seminars and conferences between representatives of the UNECE Air Convention and its working organs, Kazakh representatives and representatives from Asia dealing with the regional cooperation on air pollution.</p>
A3.3	<p>A monitoring station (Borovoe, Kazakhstan) has been upgraded to become an EMEP monitoring station. It is the first EMEP monitoring station in Central Asia.</p>
A3.4	<p>Plans and procedures for national reporting of air data and emission inventories from Central Asia to EMEP and Asian networks, as well as tentative plans to develop effects monitoring have been developed.</p>

EA4	A sub-regional network comprising representative experts on Clean Coal Technologies (CCTs) and investment project finance from the public and private sectors of interested participating countries in Central Asia; and website for use by all participants of the sub-regional network for value added information exchanges and dissemination of project outputs.
Quantitative Performance (Indicator(s) related to EA4)	A new software was elaborated in order to adopt the National Informational-Analytical Centers in Central Asian countries to specific tasks such as monitoring enterprises using coal as a fuel, audit of its quality, ecological compatibility, efficiency on the basis of the international and national standards and requirements, an estimation of energy and ecological situations, degrees of their safety and estimation of risks, and also development of administrative decisions on maintenance of rational manufacture and use of power resources, and management of protection of the air environment. Elaborated software covers data and analysis available in the EMEP system for generating practical decisions for air quality management on national, regional and international levels.
Qualitative Results/Impact achieved for EA4:	Experts from Central Asian countries started to apply the software at their enterprises and are able to apply the principles of ecological safety organization at enterprises and territories level both within the framework of CCTs, and for other types of fuel.
A.4.1 (Main activities completed in relation to EA4)	The sub-regional network for heat and thermal power generation sector will be set up on the basis of the Regional Information Network of national institutions involved in energy and water saving that was created within the framework of the UNDA project “Rational and Efficient Use of Energy and Water Resources in Central Asia”. In order to adopt the National Informational-Analytical Centers of this Network to specific tasks new software was elaborated. This software was elaborated on a basis of the “EcoAnalyst” software, which is an intellectual core of the Regional Information Network.
A4.2	Website was updated and information related to CCTs is available on the website www.cintech.ru/Central Asia
A4.3	Three training work shops were prepared and conducted. They were held from 12-16 March, 4-6 July and 12 to 15 November 2007, in the city of Almaty (Kazakhstan).
EA5	Review of energy policy and energy pricing reforms to facilitate promotion of CCTs and assessment of policy options and pricing reforms required supporting selected case study investment projects.
Quantitative Performance (Indicator(s) related to EA5)	Capacity of Central Asian experts for understanding applicability of CCTs to local coals and conditions was improved.
Qualitative Results/Impact	No impact yet.

achieved for EA5:	
A.5.1 (Main activities completed in relation to EA5)	<p>Long-term scenarios of power engineering development for the countries of Central Asia have been worked out. Three types are considered (inertia, gas and hydro-coal). The effect from the use of clean coal technologies was demonstrated. It was identified that the effect from introducing such technologies may be achieved through inexpensive and quickly repayable projects.</p> <p>Analytical review on energy price policy and reforms in the power engineering sector of the Central Asia countries has been prepared;</p> <p>An analysis of cooperation between the states of Central Asia in the field of fuel and energy production and trade has been made;</p> <p>The scope of more perspective options of utilization of clean coal technologies identified;</p> <p>Legal, institutional, regulatory policy measures, energy pricing mechanisms, reforms needed in the region were analyzed and discussed.</p>
A.5.2	Implemented
A.5.3	Implemented
A.5.4	Implemented
A.5.5	<p>Third Seminar focused on appropriate pricing reforms regarding coal, heat, and electricity to facilitate investments for deployment of Clean Coal Technologies (CCTs) in the sub-region in order to implement the UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) and to facilitate investments in the sub-region for deployment of appropriate, cost-effective and commercially available CCTs was held in Almaty, Kazakhstan</p>
A5.5.1	<p>Basing on Analysis of the role of Kyoto flexible mechanisms, in particular the Clean Development Mechanism (CDM) and Joint Implementation (JI) with emphasis on prospects for CDM and JI in the sub-region and benefits that might be gained in terms of facilitating investment in deployment of CCTs seminar recommendations about the use of Kyoto Mechanisms in Central Asia have been prepared.</p>
EA6	<p>It further facilitated ability to identify and develop investment projects for introduction of low cost, fast payback CCTs for heat and power generation sector in Central Asia; and a greater awareness of the modalities of project finance, guarantee mechanisms and sources of investment available for reducing air pollution emissions through introduction of energy efficiency measures and common best practice CCTs.</p>
Quantitative	Eight projects related to CCTs were selected from 4 Central Asian

Performance (Indicator(s) related to EA6)	countries participating in the project. There were 3 training sessions dedicated to the projects. During the first session projects were selected and presented and they were then developed during the second and third sessions.
Qualitative Results/Impact achieved for EA6:	No impact yet.
A.6.1 (Main activities completed in relation to EA5)	Implemented
A.6.2	The third training workshop on analysis of different financial mechanisms that could be used in Central Asian countries to implement projects aimed at utilization of energy efficient clean coal technologies, planning the utilization of resources for exploiting the market opportunities and for maximizing the return, analysis of profit and loss budgets and cash flow forecast was held from 12 - 16 March 2007 in Almaty (Kazakhstan).

3. Statistical data

- Number of workshops (participants, gender) and advisory missions.

Three workshops on air quality management were held in Almaty:

- 1. Air Quality Management and the International Legal Framework 12-14 October 2005. (30 participants from Central Asia, 10 women, 20 men)**
- 2. International Air Monitoring, Data, Reporting and Environmental Effects 17-19 October 2006. (19 participants from Central Asia, 10 women, 9 men)**
- 3. Concluding Workshop 4-6 July 2007. (12 participants from Central Asia, 6 women, 6 men)**

In addition 4 national seminars in connection with the development of a National Programme on air quality management were held in Kazakhstan.

Within the framework of the project 6 advisory missions were made by the Regional Advisor on Environment and 6 advisory missions were made by the Regional Advisor on Energy to Central Asia.

Energy workshops:

- 1. Three training workshops on analysis of different financial mechanisms that could be used in Central Asian countries to implement projects aimed at utilization of energy efficient clean coal technologies were held in Almaty, Kazakhstan (12-14 October 2005, 17-19 October 2006 and concluding workshop 12 -16 March 2007).**
- 2. Training workshop on software to be used within National Informational-Analytical Centres for generating recommendations and air quality management decision-making in the energy sector was held 12 -16 March 2007 in Almaty .**
- 3. Workshop on Energy for Sustainable Development in Central Asia was held 14-15 November 2007 in Almaty.**

In addition 3 national seminars on adequate pricing reforms to be implemented in Central Asian countries in order to facilitate investment in cost effective and commercially available Clean Coal Technologies (CCTs) were held in Kazakhstan, the final one being held 4-6 July,2007.

- **List of countries who benefited from interventions**

Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

In addition the following countries benefited from the project as they participated in the CAPACT Workshops using funding from other sources: Armenia, Azerbaijan, Belarus, Georgia, Moldova, the Russian Federation, and Ukraine.

- **List of main partners in project implementation**
 - **Ministry of environmental protection, Republic of Kazakhstan**
 - **Scientific Institute of Environment and Climate of Kazakhstan**
 - **Kazhydromet, Kazakhstan**
 - **Power Engineering Union of Kazakhstan**
 - **OKP ESU JSC KazNIPITES “Energy”, Kazakhstan**
 - **State Agency for Environment Protection and Forestry, Kyrgyzstan**
 - **OJSC "Electric Power Stations", Kyrgyzstan**
 - **Scientific and Technical Centre for Energy "Energy", Kyrgyzstan**

- **Ministry of energy and industry of the Republic of Tajikistan**
- **Ministry of agriculture and Environment Protection of the Republic of Tajikistan**
- **Institute of water problems, waterpower engineering and ecology of the Academy of sciences Tajikistan**
- **Ministry of Nature Protection of Turkmenistan**
- **State Committee for Protection of Nature of Uzbekistan**
- **Institute of Energy and Automation, Uzbekistan**
- **State Joint-Stock Company “Uzbekenergo”, Uzbekistan**
- **UNEP Resource Centre for Asia and the Pacific, Thailand**
- **Regional Environmental Centre for Central Asia, Kazakhstan**
- **Nizjgorodskiy regional innovation centre for energy saving**
- **Norwegian Institute for Air Research (NILU)**
- **Meteorological Synthesizing Centre – East (MSC-E), Moscow**

4. Please elaborate on the following issues related to the project, both in terms of project design (i.e. materials, type of activities, expected accomplishments, objectives, etc.) and project implementation (collaborations, implementation structures, etc.).

a. Good practices

- **It has been positive to build project implementation on the existing LRTAP Convention network and expertise as this will support the cooperation also after the conclusion of the project.**

b. Problems encountered

- **The expertise and priority of air quality management have been weaker than initially anticipated.**
- **The energy sector gives a low priority to environmental protection in Central Asian countries.**
- **It has been difficult to establish a dialogue between the energy and environment sectors to discuss the links between energy policies and air quality management.**

- **The link of the project to the Regional Environmental Action Programme for Central Asia has not been very productive as the environmental cooperation between countries in the region is weaker than expected.**

c. Lessons learned (both positive and negative)

- **There is a need for the LRTAP Convention to establish a long-term programme for the expansion of the Convention and its Protocols. A decision on has also been taken by the Executive Body of the Convention.**

5. Are some of the products or approaches generated by the project continuing to be used by the target audience or other groups?

As the project was developed in close cooperation with the LRTAP Convention Secretariat, products and approaches will be used in the further work of the Convention in EECCA countries. This cooperation is also a guarantee that the future work in the region will build on CAPACT results and experiences.

6. Are there any plans to continue or to replicate any of the activities or initiatives of the project?

An action plan for the further expansion of work in EECCA countries under the LRTAP Convention is based on the results of and experiences of the CAPACT project.

A Workshop to demonstrate the Borovoe EMEP station to Central Asian experts is planned for the summer of 2008.

7. Were supplementary funds raised during the course of the project to support the project's objective and facilitate the achievement of the expected accomplishments?

Supplementary funds were raised to make it possible for experts and policymakers from Eastern Europe and Caucasus to participate in the Air Pollution Workshops.

Some of the experts from Western countries participating in the Workshops were funded by their home institutions.

NILU, the institution responsible for the establishment of the EMEP station, contributed with its own funds to travel and work time of their experts.

Kazakhstan is responsible for the running costs of the EMEP station.

8. List of additional information materials on project activities available, such as press clippings, media coverage, meeting reports, publications, websites etc. You may include important materials with this report as desired; if the information is available online, it would be particularly useful to send the relevant URLs. Reports of internal and/or external evaluations conducted should also be included.

**Most of the material from the project is available on:
<http://www.unece.org/ie/capact/>**