



Distr.: General
17 August 2010

English only



**United Nations
Environment
Programme**

**Global Mercury Partnership
Partnership Advisory Group
Second meeting
Geneva, 21-22 September 2010**

**Reporting of the mercury emissions from coal partnership area
(January 2009 – May 2010)**

UNEP Global Mercury Partnership

Note by the Secretariat

Individual partnership area evaluations have been prepared by the partnership areas in response to Annex I Section 3.f.iv of the UNEP Global Mercury Partnership Overarching Framework. The mercury releases from coal partnership area has drafted a partnership area evaluation. It is available in the annex to this document for information.

Annex 1: Evaluation of the ‘Mercury releases from coal’ partnership area
TIMEFRAME: January 2009 – May 2010

1. General Information	
1.1 Individual partnership area:	Mercury releases from Coal Combustion
1.2 Individual partnership area lead	Dr Lesley Sloss, Principal Environmental Consultant, International Energy Agency, Clean Coal Centre (IEA CCC)
1.3 Reporting year/period:	January 2009 – May 2010
1.4 How many meetings were held over the reporting period?	Number of face to face meetings: 1 (Ljubjiana, Slovenia, in May 2009) Number of teleconferences: 0 Other: Small –subgroup meetings and POG meetings
1.5 How many partners are part of this partnership area?	The partnership currently has 24 official partners with much additional informal support.
1.6 How much funding was raised through this partnership area? What about in-kind assistance?	<p>UNEP provided funds (51,750 USD) to facilitate the drafting of the Process Optimisation Guidance document (POG). In-kind assistance from several experts from the MEC (Mercury Experts from Coal) group giving both time and expertise to work on POG document.</p> <p>The European Commission has funded (1 million Euro) the project “Reducing Mercury Emissions from Coal combustion in the energy sector” which started in 2009. Details are included in monitoring performance, section 2.2 below.</p> <ul style="list-style-type: none"> • In-kind assistance has been provided by the US EPA with respect to the use and promotion of the mercury measurement tool-kit during mercury measurement campaigns in South Africa and Russia. • In-kind assistance has been provided by the USGS (Geological Survey) towards providing free analysis of coal and ash samples for the mercury monitoring project in South Africa. <p>The MEC experts group meeting was held in conjunction with the Coal Combustion Partnership area, funded by IEA CCC.</p>
1.7 What is the objective of the individual partnership area?	
	The objective of this partnership area is continued minimization and elimination of mercury releases from coal combustion where possible.
2. MONITORING PERFORMANCE (tracking partnership activities and partner contributions)	
2.1 Please provide a short overview of the key current partnership area efforts (brief description, expected outcomes, budget, timeframe).	
	A Process Optimisation Guidance (POG) document has been prepared for mercury control at coal-fired facilities. The POG outlines how changes in plant performance and efficiency can reduce emissions of all pollutants in an effective and economic manner. The promotion of technologies to reduce emissions of other pollutants such as particulates, SO ₂ and NO _x are also supported since many of these technologies provide co-benefit reduction of mercury. A draft report is developed and has been circulated to interested parties. Workshops have been held in South Africa, China and Russia to take on board comments that would improve the document and its applicability in these countries. A workshop is planned for later in

2010 in India. The POG has been produced within budget and in a timely manner. Final publication cannot be achieved until all comments have been received from the target countries and relevant stakeholders. It is expected that the POG document will be fully completed by late 2010 at a final total cost of 210,000 USD. This includes translation of the POG into Chinese and Russian, and arranging workshops in Russia, China and South Africa. UNEP funded the initiation of this document and remaining funds for validation and translation are part of the European Commission project “Reducing mercury emissions from coal combustion in the energy sector”.

Furthermore as part of the project “Reducing mercury emissions from coal combustion in the energy sector”:

- The Ministry of Environmental Protection in China and Tsinghua University are currently completing one of the largest ever projects to evaluate the mercury contents of coals in China and to estimate current and future emissions from the coal utility sector. An update of this type of information is also being produced in South Africa and Russia.
- Two projects demonstrating mercury reduction at two coal-fired power plants are being implemented in Russia. These projects will be carried at a cost of 90,000 USD and should be completed by the 3rd quarter of 2011 (one of the demonstration projects is co-funded by the US EPA).

The US EPA and USGS have provided in-kind assistance carrying out mercury measurements at two plants in South Africa and are currently planning a similar campaign in Russia at the end of May 2010. The in-kind contributions amount to 60,000 USD. These will help improve the accuracy of the South African and Russian coal mercury emission inventories.

Overall, the inventory work in China, Russia and South Africa will be completed at a cost of 400,000 USD.

2.2 Please provide a short overview of any key upcoming, planned partnership area efforts (brief description, expected outcomes, budget, timeframe).

The POG document should be completed and translated into the target languages by the end of 2010 at a total final cost of 210,000 USD.

The partnership hopes to develop an expanded interactive on-line version of the POG that estimates ranges of Hg emissions and Hg removals for existing and contemplated fuel properties, firing configurations, gas cleaning configurations, and all major Hg control schemes (proposed task could take place in 2011 with a cost of approximately 50,000 USD).

As part of the project “Reducing mercury emissions from coal combustion in the energy sector”: With funds from the European:

- A mercury reduction demonstration project in South Africa should be proposed by the end of 2010 with a cost of about 100,000 USD.
- It is planned that the partnership will now increase efforts to initiate project activities in India.

In addition, the partnership is actively seeking new members from Indonesia and Brazil with a view to helping with inventory work and demonstration projects in these countries.

2.3 Please provide a short overview of key partnership area efforts completed since the previous Governing Council (brief description, outcomes, costs, timeframe).

A number of activities have been initiated in this reporting cycle and will be finalized in the next reporting cycle.

3. ASSESSING EFFECTIVENESS

(measuring the impact of partnership activities on target beneficiaries)

3.1 What are the partnership area indicators of progress? If no indicators, please specify why.

Two specific indicators are currently identified in the business plan including:

- Availability of guidance tools to assist countries in achieving emission reductions.
- Emission reductions achieved.

Since estimates for mercury emissions from coal combustion are known to be somewhat inaccurate and difficult to quantify, it is perhaps not appropriate to use actual emission estimates and reductions therein as a target at this stage. Rather the initial proposed regional projects would be used to provide more accurate emissions for smaller target areas.

The current work to obtain more accurate emission inventories for mercury emissions from coal and projections for emissions in the future will go a long way to determining the areas of most concern and the most suitable areas to target. The mercury reduction projects planned in Russia and South Africa will provide an indication of what can be achieved in the target countries.

3.2 Please report on progress in terms of each of the partnership area indicators outlined within the partnership area business plan.

The number of partners registered is steadily growing (currently 24 partners).

Availability of Guidance Tools:

- The POG document is completed in draft, publically available and, subject to comments from South Africa and India, should be completed and distributed by the end of 2010.
- A project outline for a mercury reduction demonstration in South Africa should be completed by August 2010, applying information from the POG.

Data and Information

- Data for the Chinese, South African and Russian inventory for mercury emissions is being collected and the complete inventories will be finalised by the 3rd quarter of 2010.

3.3 Please summarize the key results achieved to date by the partnership area in terms of the following areas (as applicable):

i) Sharing and exchanging information:

- Report “Economics of mercury control” produced and distributed (2008).
- Draft report “Process Optimisation Guidance Document for mercury control at coal-fired plants” has been produced and is currently undergoing editing in response to comment.
- POG consultation meetings were conducted in China, Russia and South Africa to take on board comments to improve the document as well as exchange information on other related areas.
- UNEP invited this work area to present the latest results at the technical briefing to the first meeting of the Intergovernmental Negotiating Committee (6 June 2010).

ii) Strengthening capacity:

- The number of partners is growing (currently 24 partners).
- Meetings of mercury partners are being aligned to coincide with other international meetings to allow as much interaction and communication as possible (face to face meeting held in conjunction with the IEA CCC Mercury Emissions from coal expert group meeting).
- Improved collaboration with the US EPA and USGS is allowing expertise and training to be passed to the target countries through the coordination of work programmes. It has allowed for a significant amount of project work to be completed in a timely and economic manner as well as forging new alliances between research groups and target countries.

iii) Other results you may wish to highlight:

Interest in the partnership is strong. We have excellent links with conferences such as MEC, ICMGP and US EPA multi-pollutant control meeting which allow for frequent and useful interactions among partners.

3.4 What are the strengths of the partnership area?

- The partnership has a strong and committed lead from the IEA CCC who has excellent international expertise and a very broad contact network.
- The partners continue to demonstrate willingness to contribute with their expertise.

- In-kind assistance has been generated to support the European Commission funded project, for example, the sampling and analysis expertise from US EPA and USGS (US Geological Survey).

3.5 What are the weaknesses and/or major challenges for this the partnership area?

The major challenges for the partnership area include:

- the production of accurate emission estimates for coal emissions in different areas and understanding of the type of coals and combustion systems being used in these areas
- rapid development in many regions of the world
- evaluating the potential for mercury control as part of existing and emerging legislation / action plans and as part of multi-pollutant strategies and determining those areas where the greatest reduction in emissions can be achieved
- evaluating the future with respect to proposing further reaching, more mercury specific control strategies
- evaluating and addressing household use of coal.

3.6 Can the weaknesses or major challenges be addressed through the partnership? If yes, what is the best strategy to address such weaknesses / major challenges in moving forward?

Rapid growth in this area, especially in countries such as China and India, is important for this partnership area planning. Current work in China will help to evaluate the current/baseline emissions and provide more accurate estimates for mercury emissions from this sector in future. Furthermore, the work being undertaken in China under the current project will provide the most detailed data on mercury in Chinese coals and mercury emissions from large-scale coal combustion units ever published and should be a significant source of input to the Para 29 study. Ideally this level of data needs to be reproduced in India, and the partnership is working to establish a scope of work and commence this work with India as soon as possible.

Synergies and co-benefits that can be attained from legislation and action taken to reduce emissions of other pollutants, such as particulates, SO₂ and NO_x, are significant. Maximising these co-benefits could mean an average mercury reduction at many plants of over 70%. By aligning mercury control with the new efficiency improvement and emission reduction strategies in place in countries such as China, there is the potential for rapid reduction in mercury emissions at many plants in an economic manner. However, there is a limit to what can be achieved within a short timeframe with the budgets available.

3.7 In view of above, how should the partnership area be modifying its approach in the coming two year cycle? Should the objective and indicators of the partnership area be revised in moving forward?

The partnership should continue with its current work and should seek further funding to allow more work to be undertaken to deal with the issues discussed above and to expand to nations other than those listed in the original remit.

3.8 Please specify whether the promotion of non-mercury technologies (where suitable economically feasible alternatives do not exist) is relevant to the partnership area, and if it is, how the partnership area is addressing this aspect.

The increasing demand for power in developing nations is a challenge with respect to emissions of all pollutants. Alternative fuels to coal are available, but the choice of fuel used in developing nations is made based on cost and availability. Without legislative or other action, fuel switching is unlikely to occur as a result of any advice on mercury reduction alone. Further, in most of these countries, legislation is currently concentrating on emissions of major pollutants such as CO₂, particulates, SO₂ and NO_x, and mercury is not on the legislative agenda yet.

3.9 Please outline how this report was drafted and who was consulted with in doing so?

Drafted by the partnership area lead Dr Lesley Sloss, IEA CCC in consultation with UNEP and some of the partnership area members.

4.0 This section is intended for other relevant comments.