

Arctic Contaminants Action Programme (ACAP)

Project Steering Group on Dioxins and Furans

Work Programme 2015-2017

14th of January 2015

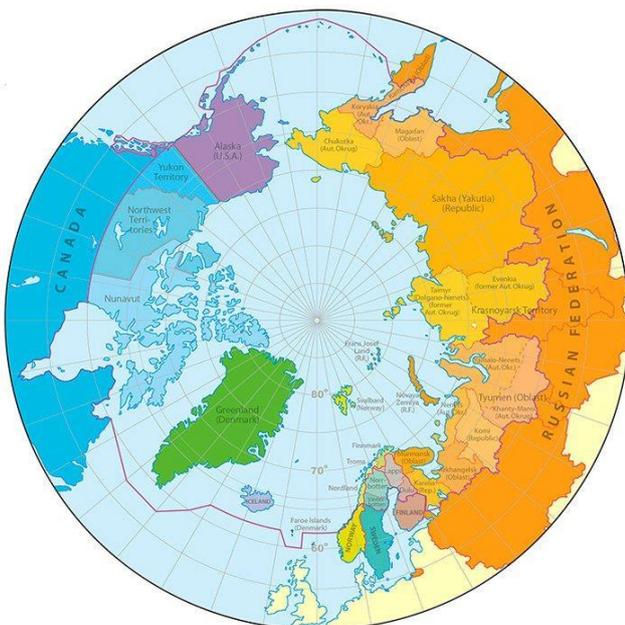


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1. Introduction

This Work Programme guides the efforts of the PSG Dioxins in facilitating the continued progress during the period 2015-2017, in accordance with the aim to reduce emissions of POPs in the Russian Federation. The operative work reducing the emissions of dioxins and furans requires thorough effort from regional authorities and other stakeholders.

2. Background

The first Steering Group meeting was held on 11 – 12 March 2002 in Moscow. The Project consists of three phases, whereof the first was completed in August 2005 and the second in September 2008. During Phase I and Phase II the coordination in Russia was executed by the Centre for International Projects. The Russian Cleaner Production and Sustainable Development Centre has had a certain role in coordinating activities on Cleaner Production in collaboration with TEKNA (Norway).

The Phase I and the Phase II Reports are posted on the ACAP website. Preparations for Phase III have been initiated and are currently directed on the Vorkutinskiy Cement Plant (VCP) in the Komi Republic.

2.1. Phase I

In the first phase activities in 2002-2005, data were collected, the UNEP Toolkit was translated into Russian and a fact sheet on polychlorinated dioxins and furans (PCDD/F) in Russian language was produced and distributed by Russian authorities. A workshop was arranged in Stockholm to which Swedish specialists on sampling and analysis of flue gases were invited to present theoretical as well as practical blocks including hands-on training. Scientists from four Russian laboratories attended the workshop. In Russia, emission inventories were carried out based on UNEP Toolkit estimations at 61 sites investigated (21 in Arkhangelsk Oblast, 19 in Komi Republic and 21 in Murmansk Oblast) and in addition, 11 chemical analyses of flue-gas samples were made at 4 of them. Based on this dioxin emission inventory a priority list of emission sources was produced.

2.2. Phase II

Based on the results of the PCDD/F emission inventory in Phase I a more comprehensive review was carried out in 2005-2008. The project also explored different options for implementation of BAT and BEP requirements, *e.g.* legislation prescribing technical measures for reduction of dioxin emissions, setting limit values, voluntary commitments by industry, *etc.*

Other important parts of Phase II were cleaner production training and elaboration of recommendations for actions based on findings on how technical processes could be improved in order to decrease formation and release of environmental pollutants such as POPs.

As facilities relevant for further examination, the following were selected:

- Kotlas Pulp & Paper Plant, Koryazhma (Arkhangelsk Oblast)
- Vorkutinskiy Cement Plant (Komi Republic)
- Syktyvkar Timber Mill (Komi Republic) (Cleaner Production program only)
- Murmansk Municipal Solid Waste Incinerator Plant (Murmansk Oblast)

2.3. Phase III

Having awaited the translation and refinement of the Phase II report, the PSG Dioxins continued its activities in 2011, elaborating a comprehensive Work Programme for the PSG (see section 4

below) and during 2011-2014 concentrated its efforts to Activity 1: “Implement emission reduction actions at the Vorkutinskiy Cement Plant (VCP)”.

Based on the recommendations for possible Phase III pilot projects identified in Phase II, the Project Steering Group agreed on a plan for reduction of the emissions of dioxins and dust as well as a Cleaner Production training programme at VCP. A first study funded by NEFCO was conducted in June 2011 – July 2013 and resulted in a report “*Study for a Demonstration Project targeting Dioxins and other pollutants at the VCP*”. The report includes possible actions to reduce dioxin emissions complementary to the actions planned at the enterprise for reduction of dust emissions.

In follow of this report and in close cooperation with the Vorkutinskiy Cement Plant as well as with the environmental authorities in Komi Republic, the PSG Dioxins during the spring and summer of 2014 prepared three assignments for consultants, aimed at promoting emission reduction actions at the Vorkutinskiy Cement Plant:

- a) Sampling and Analysis of targeted pollutants at the Vorkuta Cement Plant in the Komi Republic
- b) Phase 2 of the Feasibility Study for dioxin mitigation and other environmental pilot measures at the Vorkuta Cement Plant in the Komi Republic
- c) Seminar in Syktyvkar on “Environmental Requirements for Using Waste as Fuels the Cement Industry”

On 27-29th of August 2014, the Seminar (c) was successfully conducted, with representatives from the Federal Environmental Supervision Service (Rosprirodnadzor) in the Komi Republic, the Ministry of Natural Resources of Environment of the Komi Republic as well as representatives from Finnish Environment Centre, the Norwegian Environmental Agency, the Swedish EPA and part of the BEAC WGE Subgroup for Hotspots Exclusion (SHE).

The final reports from the Sampling and Analysis (a) and the “Phase 2 of the Feasibility Study...” (b) are expected in early 2015.

3. Mandate and International Framework

3.1. The Arctic Council and the ACAP Working Group

The PSG Dioxins is one of seven* project steering groups under the Arctic Contaminants Action Program Working Group (ACAP WG) which is a subsidiary body to the Arctic Council and the cooperative activities ran by the PSG Dioxins thus, via the ACAP WG, are implemented under the guidance and direction of the Senior Arctic Officials. Key reference documents for the work of the PSG Dioxins are:

- Arctic Environmental Protection Strategy, Rovaniemi, June 14, 1991
- Declaration on the Establishment of the Arctic Council, Ottawa, September 19, 1996
- Arctic Council Action Plan to Eliminate Pollution of the Arctic, Oslo in June 2001
- Arctic Council Rules of Procedure, Iqaluit, September 18, 1998 (revised in Kiruna May 15, 2013)
- ACAP Overall Strategy, Barrow, October 13, 2000
- ACAP Operating Guidelines, April 2008

*) The seven ACAP PSGs are: Dioxins and Furans (Dioxins), Polychlorinated Biphenyls (PCBs), Mercury (Hg), Obsolete Pesticides (OP), Short Lived Climate Forcers (SLCFs), Integrated Hazardous Waste Management Strategy (IHWMS) and the Indigenous People Contaminants Action Program (IPCAP).

3.2. Mandate

The mandate of the PSG Dioxins and Furans (PSG Dioxins) is based on the Arctic Council Action Plan to Eliminate Pollution of the Arctic (Action Plan), presented in Oslo and adopted at the 2nd Arctic Council Ministerial Meeting in Inari, Finland, October 2000, and its List of approved activities and proposals for future activities, in which the Dioxins project is listed in Annex A^{**}: *Co-operative activities agreed as ACAP actions*.

The main priorities for ACAP are documented in the "Arctic Council Action Plan to Eliminate Pollution of the Arctic" (2001) as supplemented by Work Plans approved by Ministers every two years. As a PSG under the ACAP WG, the PSG Dioxins has the mandate to develop and implement actions under the Council's auspices with respect to pollution prevention and remediation. The PSG Dioxins addresses Dioxins and Furans within the priority issue "*Persistent Organic Pollutants (POPs)*", which is one of four priority issues approved by ACAP in 2001. The Mandate of the PSG Dioxins thus is understood as to:

Develop and implement actions aiming at Reduction/Elimination of Dioxin and Furan Pollution in the Russian Federation with focus on the Arctic and regions impacting the Arctic

^{**}) As approved activities listed in Annex A were PCB:s, Dioxins and Furans, Obsolete Pesticides and Mercury as well as Fact Sheets and Cleaner Production.

3.3. Interaction with the ACAP WG

The PSG Dioxins is coordinated by the ACAP Working Group (ACAP WG) and through its Chair also the ACAP Secretariat. The PSG Chair must thus on request submit reports and other information to the ACAP WG Chair (or the ACAP Secretariat). The PSG Chair may also attend the ACAP WG meetings.

The responsibilities of the PSG Chair include 1) furthering the development of the project including funding, 2) providing leadership to the PSG, 3) facilitating secretariat support, 4) reporting to ACAP WG meetings on the progress of the project 3 weeks prior to the ACAP WG meetings:

- Status Reports are submitted twice a year (typically February and September).
- Biannual Reports are submitted to the ACAP every second year
- In addition, other reports or information may be requested by the ACAP WG Chair prior to Ministerial Meetings or other relevant occasions.

The ACAP Secretariat encourages the PSGs to publish relevant Activity Reports, Fact Sheets etc. on the ACAP Web-site. Also Minutes of Meetings and other working documentation can be uploaded on the password area of the ACAP Web-site.

3.4. Current Political Priorities and Ministers Declaration

The planning and implementation of the work under the PSG Dioxins should take into regard the current Ministerial Declaration and the 2-year work plan of the ACAP WG. Of relevance for the PSG Dioxins the following extracts may be considered:

Extract from the KIRUNA DECLARATION on the Occasion of the Eighth Ministerial Meeting of the Arctic Council, September 15th, 2013:

- *Recognize* that there are further persistent organic pollutants to be addressed that pose threats to human health and the environment in the Arctic,
- *Encourage* Arctic States to continue monitoring and assessment activities and enhance their efforts to meet the objectives of the Stockholm convention,

Extract from the ACAP Work Plan 2011-2013 (a new Work Plan is under preparation):

8. To further identify important point sources and to implement control technologies for reduction/elimination of dioxin/furan releases at such point sources e.g. pulp and paper mills, metal industries, cement kilns and waste incineration plants in the Russian Arctic. A report summarizing the results from the work will be delivered to the Ministerial meeting in 2013.

4. Objectives

4.1. PSG's Overall and Long Term Objectives

The Overall Objective for the PSG Dioxins is defined as the addressed priority issue of the Action Plan in 2001: *Reduced emissions of POPs in the Russian Federation*

The Long Term Objectives for the PSG Dioxins are extracted from the objectives set in the ACAP Action Plan from 2001:

- 1) Reduction of dioxins and furans from major sources in Russia;
- 2) Identification of potential sources of dioxins and furans e.g. is metal smelters, waste incinerators and pulp and paper mills;
- 3) Technology and information transfer to bring Russian sampling techniques and analytical capabilities harmonised to European standards;
- 4) Facilitate Russia to establish a dioxins and furans inventory and to gain new information on sources of dioxins and furans and the magnitude of their releases;
- 5) Facilitate Russia to ratify and implement the LRTAP POP:s protocol and the upcoming global convention on POP:s;
- 6) The information and data generated will open possibilities for technical and practical measures to reduce the dioxins and furans releases from major sources, including other parts of the Arctic;
- 7) The characteristics and specifics identified in Russia will assist other CIS countries and countries in Eastern Europe and the Baltic States to better understand dioxin and furan issues in their own countries.

4.2. PSG Operative Objectives (2015-2017):

Based on the Long Term Objectives extracted from the objectives set in the Action Plan, the following Operative Objectives are formulated for the work of the PSG during 2015-2017:

- O1a – Determined actual dioxin emissions at VCP
- O1b – Implemented actions for dioxin emission reductions at VCP (if shown relevant)
- O2a – Updated information on potential pilot objects identified in Phase I-II
- O2b - Suggestions for Phase III pilot action projects
- O3a - Spread the inventory activities on dioxin and furans emissions to other regional entities of the Russian Federation (“Federation subjects”) than those examined during Phase I – II, in particular beyond the Urals
- O3b - Initiated facilitation of nationwide dioxin and furan inventory organised by Russian authorities
- O4 – Formulated programme for introduction and dissemination of techniques and management systems for reducing formation and emission of dioxins and furans
- O5 – Initiated support to Russia’s National Implementation Plan for the Stockholm Convention on POPs and/or other International Conventions

5. Methods and Prerequisites for the PSG's Work

5.1. Methods of work

The Arctic States representatives appointed to the PSG provide expert support within their field of expertise and carry out the tasks decided by the PSG and distributed by the PSG Chair. Decisions are made in consensus by the Arctic States, however for operational questions of less principal nature, the PSG Chair though may set a time limit for comments or written response. Apart from the Arctic State representatives, also NEFCO provides expert support in particular within the field of project preparation and financing as an Observer.

Apart of the representatives appointed to the PSG, the PSG also has the possibility to engage external experts (i.e. other authority experts etc.) and consultants on temporary issues or assignments. Such external experts may also be invited to attend the PSG Meetings.

PSG Meetings are arranged with a frequency as called for by the circumstances and aim to support the aim of this Work Programme. A preference is held for telephone or other virtual meetings, but physical meetings at least once a year are strived for. All PSG Meetings shall have a proper Agenda and be documented in Minutes of Meetings. Approved Minutes are later published at the ACAP Web-site.

5.2. Resources and Financing

The work conducted by the appointed representatives within the frames of the PSG Dioxins is funded by their respective host organisation and accounted for as the respective in-kind contribution. At a minimum this covers the costs for work, computer, office, communication and travel costs for the appointed representative. Additional funds may be allocated for specific activities and projects conducted by the PSG from funding sources in the Countries, by the PSI or by NEFCO or other sources.

6. Work Plan and Schedule

The work plan describes the activities required for fulfilling the strategic issues outlined above. When determining the priority of the activities and possible support projects, the mandate of the PSG Dioxins has been considered. In follow of this, the efforts and results of previous work are central. Based on this, the following strategic priorities are considered:

Activity 1 – Implement emission reduction actions at Vorkutinskiy Cement Plant (Phase III)

Based on the recommendations for possible Phase III pilot projects identified in the Phase II, the Project Steering Group together with NEFCO agreed on a plan for reduction of the emissions of dioxins and dust as well as a Cleaner Production training programme at Vorkutinskiy cement plant (Komi Republic).

Based on the same recommendations, NEFCO contracted a consultant to investigate further activities at Vorkutinskiy cement plant. The study was conducted in June 2011, in which also one PSG representative took part. The study has resulted in an interim report *"Study for a Demonstration Project targeting Dioxins and other pollutants at the Vorkuta Cement Plant"*. The report discusses possible actions in order to reduce dioxin emissions complementary to the actions currently planned at the enterprise on reducing the dust emissions. The PSG Dioxins and NEFCO keep a dialogue with the Plant and with the Ministry of Natural Resources and Environment of the Komi Republic as well as with the representation of the Federal Agency for Supervision of the Use of Natural Resources (Rosprirodnadzor) in the Komi Republic to assess the feasibility of further actions. If deemed feasible, Vorkutinskiy Cement Plant could be the first Phase III object of the Diox-

in project, possibly as a component of the Integrated Hazardous Waste Management Strategy (IHWMS). In relation to these actions, the following assignments need to be developed:

- A1a - Sampling & Analysis Assignment on Emissions of Dioxins and Furans
- A1b - Feasibility Study Assignment on Reduction of Emissions of Dioxins and Furans
- A1c - Seminar Assignment on “Environmental Requirements on Waste Combustion in the Cement Industry”
- A1d - Drafting of the Project Proposal P1 “Implementation of the Action Plan for dioxins and dust emission reductions at the Vorkutinskiy Cement Plant”

Based on the Prefeasibility Report from 2011, three new assignments were elaborated during 2013-2014: A1a, A1b and A1c, see section 8 below. All three were implemented during 2014-2015 and are subject to reporting to the Ministerial Meeting in April 2015.

Activity 2 - Up-date information on potential pilot objects identified in Phase II

In parallel to the activities at the Vorkutinskiy Cement Plant, possible actions at other objects identified in Phase II (Kotlas PPM, Syktyvkar Timber Mill, Murmansk Solid Waste Incineration Plant) will be considered. An up-date of the studies from 2006, incl. contacts with experts and owners is planned for 2015-2016 and if deemed viable, Terms of References for pre-feasibility or feasibility studies will be prepared.

- A2a – Drafting of the Project Proposal P2 “Up-dated information on potential pilot objects identified in Phase I-II and suggestions for Phase III pilot action projects”

Activity 3 - Broadened inventory of other emission sources than those inventoried in Phase II

Furthermore, the PSG Dioxins will consider additional Phase II projects from other parts of Russia than those studied in the Phase II inventory in 2006 and e.g. UNEP Toolkit studies could be initiated at potentially relevant facilities not examined before. The PSG Dioxins welcomes suggestions from the ACAP WG and other bodies on these issues.

- A3a - Drafting of the Project Proposal P3 “Broadened inventory, of other emission sources than those inventoried in Phase i-II”

Activity 4 - Promote implementation of control technologies

Based on foreseen legal reforms, inter alia connected with Russia’s decision to ratify key environmental protection related International Conventions*, it is likely that the authorities’ capacities to control and regulate dioxin formation and emission and discharges will need to increase. The PSG Dioxins will, if requested, offer guidance to the MNRE on these issues in order to promote compliance with these obligations.

- A4a - Drafting of the Project Proposal P4 “Promote implementation of techniques and management systems for reducing formation and emission of dioxins and furans”

Activity 5 - Support to Russia’s activities aiming at adaptation to the requirements under the International Conventions

In 2002 the Russian Federation signed the UNEP Convention on Persistent Organic Pollutants (Stockholm Convention on POPs), and ratified in 2011. The Ministry of Natural Resources and Environment of the Russian Federation is responsible for the implementation..

The work to eliminate or reduce the emissions and discharges of dioxins and furans from Russia affecting the Arctic is related also to other efforts and activities planned by the Russian Federation, including the work to comply with international conventions such as the Stockholm Convention on Persistent Organic Pollutants, signed and ratified by the Russian Federation. Through its activities the PSG Dioxins therefore may serve as a supportive force to these efforts and, e.g. provide expert advice in the implementation of new regulations, elaboration of instructions or educational efforts, etc. both on a general basis and in relation to specific plants/objects.

In connection with the Seminar on “Environmental Requirements on Waste Combustion in Cement Industry”, planned for Syktyvkar in August 27-28, 2014, this Russian NIP on the Stockholm Convention on POPs is supposed to be presented for the PSG Dioxins and the ACAP Chair. Based on this, the further activities in this field can be designed in detail.

- A5a - Drafting of the Project Proposal P5 “Support to Russia’s activities aiming at adaptation to the requirements under International Conventions”

Activity 6 - Coordination with other ACAP PSG:s

Coordination with other ACAP PSG:s is an important issue and reasons could be found to raise the attention and communication with any of the PSG:s. Since the collection, transport and incineration of hazardous waste is an important issue both in large cities and small rural settlements, both the IHWMS PSG as well as the IPCAP PSG:s are considered especially important for the PSG Dioxins to cooperate with. Another significant emission source of dioxins and furans is various combustion processes, i.e. for heat and power generation which also may occur in large cities as well as small rural settlements. To address these issues, also the SLCP PSG may be important to coordinate with, apart from the IPCAP PSG already mentioned.

Activity 7- Co-ordination with the BEAC WGE Efforts with the Barents Environmental Hot Spots

The BEAC WGE Subgroup on Hot Spots Exclusion (SHE) is intensively working with the remaining 36 of the Barents environmental hot spots located in the Arkhangelsk oblast, republic of Karelia, Komi republic, Murmansk oblast and Nenets autonomous Okrug. The PSG Dioxins may benefit from the contacts and the administrative pressure put also to some of the enterprises identified in Phase I and Phase II as potential sources of dioxin and furans. A list with those of the Barents environmental hot spots that are most relevant for further survey in respect of dioxin emission reduction actions will be compiled by the PSG Dioxin and the most relevant way of co-ordinating the PSG work with the work made by the regional Hot spot Exclusion Groups (HEGs) in the five north-west Russian regions will be outlined in co-operation with SHE.

The Seminar on “Environmental Requirements on combustion of waste as alternative fuels in the cement industry”, Activity A1c, was a good example of interaction between the PSG Dioxins and the BEAC WGE.

7. Time Frames and Priorities

The time frame for this Work Programme is 2015-2017, however an important reporting date is to the Ministerial Meeting in April 2015.

To achieve the operative objectives set for 2015-2017, the PSG Dioxins will first prioritise actions at the Vorkutinskiy Cement Plant since they are complex and must be coordinated with the ongoing activities on the plant, however also since they contribute to various parts of the Work Programme incl. O1a, O1b, O4 and O5. The possible action project also is dependent on the

Assigned Contribution from the Swedish Minister of Environment, with utilisation terms limited to 2015. Activities are thus prepared for from 2014.

Activities needed for the operative objectives O3 and O3a as well as O4 and O5, which all may benefit from each other. These activities may start during 2015.

Coordination activities with other PSGs are concentrated to the time before the ACAP WG meetings and with the BEAC WGE hot spots exclusion group.

8. PSG Members

The following persons are members of the PSG Dioxins:

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9. Time Plan

Year	2015												2016												2017											
Month	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
A1 - Implement emission reduction actions at Vorkutinskiy Cement Plant																																				
A2 - Up-date information on potential pilot objects identified in Phase II																																				
A3 - Broadened inventory of other emission sources than those inventoried in Phase II																																				
A4 - Promote implementation of control technologies																																				
A5 - Support to Russia's adaptation to International Conventions																																				
A6 - Coordination with other ACAP PSG:s																																				
A7 - Co-ordination with the BEAC WGE Efforts on Environmental Hot Spots																																				
PSG Meetings	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ACAP Meetings								X																												
AC Meetings																																				
Ministerial Meetings																																				