

STATUS REPORT
Short-Lived Climate Forcers and Black Carbon Project Steering Group
For ACAP WG meeting February, 2014, Norway

(1) Work accomplished since last ACAP WG in September 2013

Project 1: Reduction of Black Carbon from Diesel Sources in the Russian Arctic

Overview:

The US Department of State has prioritized reducing black carbon in the Russian Arctic, and has sought US EPA's expertise in reducing diesel emissions to address this challenge.

\$5 million USD has been committed by US towards the reduction of black carbon emissions in the Russian Arctic, part through the Arctic Council. The Diesel Project has \$2.5 million USD led by US EPA. The US Department of Energy is also responding by developing collaborative programs on combined heat and power to attempt to address the residential sources of black carbon. The US Forest Service is working on reducing black carbon from forest fires and agricultural burning in the Russian Arctic.

Over the next several years, the US will work on a four-step project to reduce black carbon emissions in the Russian Arctic. Specifically, the US will work to:

- Assess primary sources of black carbon in the Russian Arctic;
- Develop a targeted baseline emission inventory for black carbon from diesel sources, in key areas;
- Implement targeted, on-the-ground demonstration projects for reducing black carbon from diesel; and
- Establish policy recommendations and financing options for reducing black carbon diesel sources.

While the US's work will be focused in the Russian Arctic, the project will collaborate more broadly to reduce diesel black carbon emissions across the Arctic.

Project Update:

- The draft project emissions inventory is in process and a draft will be completed in April 2014.
- A Technical Steering Group meeting on potential pilot projects and pilot project criteria was held in September 2013.
- US EPA, Battelle, and WWF, Russia held a Circumpolar Transport and Clean Air Workshop in Moscow in December 2013. Leading experts shared best practices on reducing emissions of particulates and black carbon from diesel sources in the Arctic. Participants heard lessons learned and examples of overcoming barriers which informed approaches at the city and national levels.

- The pilot mitigation projects will address two of the largest sources of black carbon, on-road and off-road transport. A case study will be developed of a bus company deciding to purchase more fuel-efficient buses which will reduce black carbon in its fleet. A guide will be developed for mines to make their diesel vehicles more energy efficient, thereby reducing black carbon.
- NEFCO is currently in the process of developing the projects for further review and possible options for pilot projects. A relevant pilot project on stationary diesel engines will then be chosen for appropriate financing.

Project 2: Reduction of Black Carbon Emissions from Residential Wood Combustion

Project update

The Norwegian Environment Agency (former Norwegian Climate and Pollution Agency) and the Finnish Environment Institute are co-leading a project with focus on the reduction of black carbon (BC) emissions from residential wood combustion in the Arctic countries. The project was approved by ACAP Working Group in November 2012 and has participating national experts from Canada, Denmark, Finland, Sweden, Norway and the US.

Data on BC emissions from wood combustion and information on abatement instruments and measures are collected from all the six participating countries with the help of the nominated national experts. Consultants are helping in the synthesis and analysis of the information. The co-leading institutions hosted a workshop in Oslo on 18th and 19th of June 2013. The workshop was organised as part of the midpoint status review of the project. Nominated national experts from all the six participating arctic countries and representatives from international organizations and research institutions took part in dedicated workshop discussions.

Since the last ACAP WG meeting in September 2013, the consultants, co-leads and national experts have been making significant progress on the project report. National experts have commented on draft reports in two rounds and on 10th of January 2014 a teleconference was arranged to discuss the recommendations. An advanced draft of the report will be distributed to the ACAP WG before the meeting in Tromsø and the co-leaders will present our findings and invite ACAP WG to discuss the recommendations on the 4th of February. After receiving comments from the ACAP WG and carrying out final editing the co-leads hope for the final approval of the report from ACAP WG. The process towards approval will be discussed at the ACAP WG meeting in Tromsø.

Project 3: SLCF Trust Fund with NEFCO and Quick Start Projects

NEFCO is preparing a potential “quick-start” initiative on how to address black carbon emissions from Cleaner Production/Energy Efficiency/Combined Heat and Power sectors. NEFCO proposal for “quick start” projects in the Russian Arctic, will focus on energy efficiency and implementing cleaner technologies to replace inefficient technologies including diesel power generators. NEFCO envisages use of a number of funding instruments such as the Barents Hot Spots Facility, the Arctic Council Project Support Instrument (PSI) when operational, and the recently established Swedish Trust Fund to address SLCFs. Hitherto 38 energy efficiency and cleaner production projects in the Russian North-West have been addressed. Total investment costs for the projects under consideration and implementation is approximately EURO 12 million. The quick start initiatives are expected to be of the order of about EURO 1.0 - 1.5 million subject to criteria applied and environmental gains accrued. The quick start projects would be able to be implemented within the

next 2 years. NEFCO sees substantial potential to address several fields for reducing emissions of contaminants, including SLCFs/SLCP in the Northern Russian regions. Most of the projects are small-scale energy efficiency and cleaner production projects, fuel switching conversion of coal- and other projects such as mazut-fired Combined Heat and Power Plants (CHPs) and boilers, management of waste including end-of-life equipment, and - in particular - replacement or upgrading of diesel-powered stations in off-grid locations together with additional measures to reduce the usage of diesel at such locations. NEFCO is interested in technical assistance that facilitates uptake of projects.

Project Preparation

Sweden has during Dec 2013 augmented its SLCF Trust Fund with NEFCO. The Swedish EPA total contribution and pledges currently amount to about SEK 3 270 000 (three million two hundred and seventy thousand; corresponding to about USD 503 000) of which about SEK 2,6 million are to address SLCF. This amount is available for measures that aim at decreasing emissions from the Russian Federation. The purpose of the SLCF Trust Fund is to contribute to funding of projects that reduce SLCF emissions, including black carbon, that transports to and deposits in the Arctic. Projects identified by the Arctic Council's ACAP project steering group on SLCF should be prioritized.

Project 4: Russia – System for Black Carbon Emissions Impact Management from sources in the Russian Arctic

This project will include:

- Project launch event
- National methodical framework development
- Inventory of black carbon emissions
- Review of integrated assessment models for black carbon emissions transport deposition and impact assessment
- Development of database for black carbon emission reduction techniques
- Black carbon emissions transport and evaluation of the Russia-originated black carbon emission impact on the Arctic
- Evaluation of black carbon emission reduction technique efficiency and recommendations on the black carbon emissions reduction in the Russian Arctic
- Development of recommendations on the application of the black carbon emissions management system for sources in the Russian Arctic and transfer of the system to an authorized public authority of the Russian Federation for further implementation
- Organization of the final project results international conference

This project is under ACAP SLCF PSG review now. A list of comments provided by countries (US, Sweden, Norway) is being addressed. This work is expected to be accomplished by February 2014. In parallel, an official letter from the Ministry of Natural Resources and Environment of the Russian Federation on the project ownership and related issues is being prepared.

Project 5: NEFCO – Russian Arctic-Barents Region Short-lived Climate Pollutants Mitigation Project

NEFCO is working on the development of three SLCP initiatives with a number of respective sub-projects:

Project 1-M: Reduction of Methane Emissions

Project 2-BC: Reduction of Black Carbon Emissions

Project 3-HFC: Mitigation of HFC (including ODS) Emissions (End-of-Life Equipment)

Partners: Interest FIN, [NO], RF, SE, USA, NEFCO

Total cost up to EURO 77 million. Not all Projects are expected to proceed, subject to feasibility studies, however. Regarding the current status of the Work Plan, the NEFCO, in response to the SAO's Haparanda decision, is working to proceed on Project "2.5-BC-K: Eight Karelian settlements with diesel power". Some of the sub-projects are also on the NEFCO-AMAP Barents Hotspot list, (as Project Kr 14 & Kr16). The SLCP work is running a delay due to field conditions, A number of inception reports (IR) has been received up to January 2014, others are underway. The IRs will help NEFCO to develop a detailed Work Plan and budget for the SLCP Projects and review with the PSG. NEFCO will present satisfactory candidates for the PSI financing pipeline.

Project 6: US – Case Studies Platform

The U.S. undertook outreach to better understand the capacity of potential partners, including the Arctic Council Secretariat, to host a platform that would be interactive and easily evolve with additional information. Research into what types of technical capacity this project could tap in order to meet its stated interface goals continues. Additionally, research on specific cases to include in the initial set of studies continues. Norway renewed its expressions of interest in partnering on this project, which the U.S. welcomed. The U.S. continues to encourage any additional partners in this project who would like to contribute informational, in-kind, or financial resources.

(2) Funding expenditures for 2013

Project 1: Reduction of Black Carbon from Diesel Sources in the Russian Arctic.

The US and NEFCO signed an agreement for the US to participate in the Arctic Council (AC) Project Support Fund (PSI) in June 2012. The U.S. has allocated up to USD 5 million to the Arctic Council's environmental projects. Near term allocation is of USD 1.0 million to address BC mitigation from diesel sources.

Battelle will have \$1,000,000 to expend through April 2015.

Project 2: Reduction of Black Carbon Emissions from Residential Wood Combustion.

Total funding provided for the project by Norway is 1.8 million NOK and Finland has provided 5500 EUR. Most of this is spent in 2013, the remaining will fund the finalization of the project spring 2014.

Project 3: SLCF Trust Fund with NEFCO and Quick Start Projects

Work is under way to identify potential projects and prepare the documents for the review of the SLCF SG and relevant further work. SEK 2,550,000 are available/pledged to the SLCF Trust Fund to address SLCPs.

Project 4: Russia – System for Black Carbon Emissions Impact Management from sources in the Russian Arctic

This has not been funded yet. Potential to propose to PSI.

Project 5: NEFCO – Russian Arctic-Barents Region Short-lived Climate Pollutants Mitigation Project

NEFCO's allocations for the SLCP work can be summarised as follows:

No.	Description	Timing	Budget, EURO
1	Energy Supply in 8 Karelian Settlements:	Q1 2014	120 000
2	Mapping alternative solution for diesel power plants in NW Russia.	As above	28 000
3	Dolgoshcheliie wind-diesel complex.	Q1 2014	Max 30 000
3	Energy Supply Conversion in Kolguev Island.	Q1, 2014	t.b.d.
4	Structuring of power supply in Arkhangelsk Region;	t.b.d.	t.b.d.

Project 6: US – Case Studies Platform

This has not been funded beyond in-kind. Funding from partners and/or the PSI would be welcome.

(3) Main findings

Project 1: Reduction of Black Carbon from Diesel Sources in the Russian Arctic.

- Preliminary results from the project's emissions inventory has determined that on-road and off-road transit are two of the largest sources of black carbon from diesel sources in the Murmansk Region.

Project 2: Reduction of Black Carbon Emissions from Residential Wood Combustion.

Information on BC emission inventories from residential wood combustion and measures and instruments in the participating countries are compiled. Recommendations for further work both on national and international level are given.

Project 3: SLCF Trust Fund with NEFCO and Quick Start Projects

Sweden-NEFCO SLCF Trust Fund: The SLCF Trust Fund is to contribute to funding of projects that reduce SLCF emissions, including black carbon, that transports to and deposits in the Arctic. Projects identified by the Arctic Council's ACAP project steering group on SLCF should be prioritized.

The SLCF SG/ACAP is in the process of identifying potential projects.

Project 4: Russia – System for Black Carbon Emissions Impact Management from sources in the Russian Arctic

This project has not begun so there are no findings.

Project 5: NEFCO – Russian Arctic-Barents Region Short-lived Climate Pollutants Mitigation Project

This project is under development. From preliminary discussions with AMAP (Dec 2013), Emissions from gas flaring contribute 42% to Arctic-mean BC surface concentrations. In addition, there is a need to have a common understanding on the methodology to use in determining mitigation measures of respective SLCPs for projects.

Project 6: US – Case Studies Platform

This project is in its initial phases, so no progress report available.

(4) Next Steps for the Projects

Project 1: Reduction of Black Carbon from Diesel Sources in the Russian Arctic.

1. The Emissions Inventory and Emissions Inventory Report will be completed by June 2014.
2. NEFCO/PSI funding opportunities and complimentary projects will be identified.
3. A report on Project Feasibility and Design will be developed by June 2014.
4. A report on Project Results and Tracking System will be developed by December 2014.

Project 2: Reduction of Black Carbon Emissions from Residential Wood Combustion.

An advanced draft of the report will be distributed to the ACAP WG before the meeting in Tromsø and the co-leaders will present our findings and invite ACAP WG to discuss the recommendations on the 4th of February. After receiving comments from the ACAP WG and carrying out final editing the co-leads hope for the final approval of the report from ACAP WG. The process towards approval will be discussed at the ACAP WG meeting in Tromsø.

Project 3: SLCF Trust Fund with NEFCO and Quick Start Projects

1. Sweden: Resource allocations to be identified and considered, including through the PSG
2. Subject to process and local ownership, "Quick Start" projects expected to be implemented within the next 2-3 years

Project 4: Russia – System for Black Carbon Emissions Impact Management from sources in the Russian Arctic

1. Finalize the project proposal to be approved by SLCFCs PSG (remaining comments by countries to be addressed by February 2014)
2. Prepare an official letter by Ministry of Natural Resources and Environment of the Russian Federation concerning its ownership of the project as well as its leading role in the project implementation.
3. Submit the project preapproved by SLCFCs PSG for consideration of the ACAP WG.

Project 5: NEFCO – Russian Arctic-Barents Region Short-lived Climate Pollutants Mitigation Project

Work underway with the stakeholders to assess the projects and proceed with the ones that are considered sustainable.

Project 6: US – Case Studies Platform

The following steps are in progress and will continue:

- Case study content acquisition
- Condensed case study drafting
- Website architecture planning
- Partnership outreach

The following steps should commence before the September 2014 ACAP meeting:

- Website and print product design
- Website and print product launch