



Stakeholder Meeting on Black Carbon Emissions from Diesel Sources in the Russian Arctic

**Murmansk, Russia
November 5, 2014**

Battelle and its partners Murmansk State Technical University (MSTU) and WWF-Russia organized stakeholder meeting in Murmansk to discuss the results of black carbon (BC) emission inventory from diesel sources in Murmansk region. The project “Arctic Black Carbon: Reducing Emissions from Diesel Sources” is sponsored by the U.S. Environmental Protection Agency (EPA) and consists of four tasks: scoping and planning, an inventory of relevant emissions in Murmansk, two demonstration projects, and analysis of policy and financing options to reduce emissions in the Arctic. Teresa Kuklinski from EPA, Meredydd Evans from Battelle and Daniel Ross, Peter Burba, and Oganés Targulyen from U.S. Embassy in Moscow participated in the meetings from the U.S. side.

The meetings began in Murmansk City. We held a half-day stakeholder meeting (the agenda and participants list are attached). We also had a series of side meetings with representatives of the Murmansk office of WWF-Russia, Murmansk State Technical University, and two local bus companies (Murmanskavtotrans and Elektrotransport).

The research team presented the main findings of BC inventory. We started with two presentations on climate and health effects of BC. Meredydd Evans presented our calculations and estimates of BC emissions from the largest diesel sources in Murmansk region. MSTU team then provided more detailed analysis of emissions calculation methodology and measurement. We also shared a summary of our BC emissions inventory.

Battelle is working on two demonstration projects on aimed at reducing BC emissions in the region. Battelle is working with MSTU and WWF-Russia on documenting emission reductions by Murmansk bus company Murmanskavtotrans (MAT). MAT’s general director discussed procurement of new Euro 5 buses. Another big public transportation company Elektrotransport followed the example of MAT and also upgraded its bus fleet. An Elektrotransport representative joined the discussion.

We found that mining industry is far the largest consumer of diesel in the region, partly because off-road mining vehicles do not have any emission controls. Battelle and MSTU are working on emission reduction guidance for mining companies. Professor Vladimir Malyshev from MSTU presented our findings and initial recommendations.

The team visited Murmanskavtotrans bus depot.

The event received great attention from local mass media. Information on media coverage of the event is presented in Appendix 3.



Appendix 1. Agenda

Stakeholder workshop
Murmansk State Technical University and Battelle Memorial Institute

“Arctic Black Carbon: Reduction of Black Carbon from Diesel Sources”

Conference room “Moscow”, AZIMUT Hotel
82, Lenina Avenue, Murmansk

November 5, 2014

- 14:00 – 14:15 **Introduction**
- Welcome from MSTU (Vladimir Malyshev, MSTU)
 - Welcome from U.S. EPA (Teresa Kuklinski, U.S. EPA)
 - Black carbon initiative and overview of the project (Meredydd Evans, Battelle)
- 14:15 – 14:30 **Black Carbon and Its Effects on Climate and Health**
- Global and regional climate effects of black carbon (Alexey Kokorin, WWF Russia)
 - Health Effects and Black Carbon (Teresa Kuklinski, US EPA)
- 14:30 – 15:30 **Results of Black Carbon Inventory in Murmansk Region**
- Major sources of BC emissions in Murmansk Region (Meredydd Evans, Battelle Memorial Institute)
 - Methodology of emission calculations from on-road transport (Alexander Barinov, MSTU)
 - Analysis of vehicle registries: lessons from Murmansk (Evgeny Gusev, MSTU)
 - BC emissions from fishing vessels and off-road sources (Svetlana Tretyakova, MSTU)
 - Discussion around questions
- 15:30 – 15:45 Coffee-break
- 15:45 – 17:00 **Pilot Projects in Murmansk Region**
- The value of bus fleet upgrades in Murmansk (Andrey Varzugin, MAT)
 - Reduction of BC emissions from mining (Vladimir Malyshev, MSTU)
 - Discussion around questions
- Overall comments and feedback**
Summary and Closing Remarks



Appendix 2. Murmansk Media Coverage

1. In Murmansk, Russian and American scientists have discussed the problem of black carbon [В Мурманске российские и американские ученые обсудили проблему чёрного углерода]. Available at <http://murman.tv/news/9315-v-murmanske-rossiyskie-i-amerikanskije-uchenye-obsudili-problemu-chernogo-ugleroda.html> (video). Assessed on 10.11.2014.
2. Coal dust accelerates global warming [Угольная пыль ускоряет процесс глобального потепления] <http://arctic-tv.ru/tv-novosti/ugolnaya-pyl-uskoryaet-process-globalnogo-potepleniya> (video). Assessed on 10.11.2014.
3. Murmansk will host a seminar of the international project on study of black carbon emissions in the Arctic [В Мурманске пройдет семинар международного проекта по исследованию выбросов «чёрного углерода» в Арктике] (Announcement published a week before the seminar). Available at <http://www.arcticasever.ru/index.php/developments/news/29-digest/6444-v-murmanske-projdet-seminar-mezhdunarodnogo-proekta-po-issledovaniyu-vybrosov-chjornogo-ugleroda-v-arktike>. Assessed on 10.11.2014.
4. Experts have found out how to deal with emissions of black carbon in the Arctic [Эксперты выяснили, как бороться с выбросами черного углерода в Арктике] (From MSTU website). Available at <http://www.mstu.edu.ru/press/news/05-11-2014/carbon.shtml>. Assessed on 10.11.2014.
5. Black carbon in Murmansk region contributes to increase of cancer rates [«Чёрный углерод» в Мурманской области способствует росту раковых заболеваний]. Available at <http://nord-news.ru/news/2014/11/05/?newsid=67377>. Assessed on 10.11.2014.
6. Mining trucks emit the largest amount of black carbon in Murmansk region [Больше всего «чёрного углерода» в Мурманской области дают большегрузные карьерные самосвалы]. Available at <http://nord-news.ru/news/2014/11/05/?newsid=67380>. Assessed on 10.11.2014.
7. Scientists discussed in Murmansk the issue of black carbon emissions [Ученые обсудили в Мурманске проблему черного углерода]. Available at http://www.murman.ru/news/?d=06-11-2014_09:05; <http://news.rambler.ru/27748938/>. Assessed on 10.11.2014.
8. Who pollutes Murmansk region with black carbon [Кто загрязняет Мурманскую область черным углеродом]. Available at <http://murmansk.kp.ru/online/news/1889843/>. Assessed on 10.11.2014.
9. Murmansk region emits 400 tons of black carbon annually [Мурманская область ежегодно выбрасывает в атмосферу около 400 тонн "черного углерода"]. Available at http://www.bellona.ru/articles_ru/articles_2014/1415273743.78, <http://ecoportal.su/news.php?id=80142>. Assessed on 10.11.2014.