BEAC WGE, Subgroup on Hot Spots Exclusion (SHE)
Report on the Series of Workshops
conducted under
SA No1 "Preparing regional experts to apply the principles of BAT and the practical use of the Russian BREF documents for various branches"

August 2019

Moscow

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Introduction

In 1994, the Barents Region Environment Action Programme was adopted by the Ministers of the Environment of the countries involved. In 2003, a report was released identifying 42 acute environmental problems in the Barents Region requiring urgent action (environmental Hot Spots of the Barents region).

In 2005, the Ministers of Environment of the four Barents countries – Finland, Norway, Russia and Sweden – defined the goal to start launching investment projects in all of the Barents environmental Hot Spots by 2013 with the aim of eliminating these Hot Spots. In 2010, a procedure for exclusion of 42 environmental hot spots from the Barents environmental Hot Spot list was presented to the Ministers of Environment.

At the same time, since early 2000s, the concept of Best Available Techniques (BAT) and Integrated Pollution Prevention and Control (IPPC) has been studied, tested and gradually introduced in the Russian Federation. In 2014, the Federal Law of July 21, 2014 No 219-FZ amending the Federal Law No 7-FZ "On Environmental Protection" was adopted by the Government. This new Law is often called "The BAT Law" of the Russian Federation since it introduced the BAT concept and Integrated Environmental Permits (IEPs). This opened opportunity to apply BAT principles for excluding installations and facilities from the Hot Spots List based on the BAT implementation and development of Environmental Performance Enhancement Programmes (EPEPs).

By the end of July 2019, the majority of subordinate acts has been passed, but the most important statutory document – the IEP granting procedure – has been issued in so-called "preliminary" form. It does not reflect the national and international recommendations, results of open discussions, business games, etc. The reason for issuing this "preliminary" form by the Government Decree of February 13, 2019 No 143 is that the fundamental alterations to the Federal Law No 7-FZ "On Environmental Protection" (addressing the IEP granting procedure) were not made before the end of 2018. Still, first IEPs have to be granted in Russia in 2019, and the Barents region stakeholders need urgent support in order to prepare applications for such permits (including EPEPs).

The Government Decree setting requirements to considering and approving EPEPs passed back in 2015 (Government Decree of September 21, 2015 "On the Interdepartmental Commission Considering Environmental Performance Enhancement Programmes"). Currently it is being reviewed and amended to provide for the clear and participatory procedure harmonised with the BAT legislation.

The structure of Federal Service for Supervision of Natural Resource Usage (Rosprirodnadzor) (the agency under the Russian Ministry for Natural Resources and Environment) is currently being optimised: 32 units will be made out of 79 regional units functioning up to now. This means that new heads of these inter-regional units will become responsible for granting IEPs to all Russian Category I installations.

According to the Federal Project "Best Available Techniques" (an integral part of the National Project "Ecology" (Environment)), there are 239 installations operating within the territory of the Barents Euro-Arctic region that have to obtain Integrated Environmental Permits in 2019-2024. These installations include Pulp & Pulp Plants, Hydrocarbons Exploration Industries, Large Combustion Plants, Mining Industries, Municipal Wastewater Treatment Plants, etc.

Supporting Activity No 1 "Preparing regional experts to apply the principles of BAT and the practical use of the Russian BREF documents for various branches" aimed at (1) raising awareness of key stakeholders, (2) providing good knowledge among managers and experts on BAT principles and on procedures for granting BAT-based Integrated Environmental Permits to the IPPC installations and (3)

offering an insight in how the BAT-thinking can be used on the Barents Hot Spots in order to promote appropriate requirements and actions for exclusion.

Supporting Activity No 1 was divided into two parts: the first introductory workshop and five practical regional workshops conducted in Syktyvkar, Petrozavodsk, Naryan-Mar, Arkhangelsk, and Murmansk. All workshops were funded by the Barents Hot Spots Facility (BHSF) at NEFCO (the Nordic Environment Finance Corporation).

Aims and objectives

Supporting Activity 1 formed the necessary basis for a number of Supporting Activities to be carried out in the Barents Euro-Arctic region to improve environmental performance of the 'Hot Spots' and thereby to contribute towards the implementation of the Barents Region Environment Action Programme.

The Supporting Activity No1 aimed:

1) to raise awareness and build capacity of decision-makers (such as heads of federal units of Rosprirodnadzor and regional authorities as well as top industry management);
2) to provide good understanding and the necessary background for the future practical actions in the field of both BAT principles in general and new legislation with regards to granting BAT-based Integrated Environmental Permits (IEP) to category I (similar to those listed in the Industrial Emissions Directive, IED) industrial facilities (according to the FZ-219, Russian IED legislation);
3) to provide an insight in how the BAT-thinking can be used on the Barents Hot Spots in order to promote appropriate requirements and actions for the exclusion.

Places. Time. Experts. Participants

Six workshops conducted within the framework of SA 1 implementation included:

- A capacity building (introductory) Moscow workshop "Raising awareness of Hot Spot related regional decision-makers and industry managers in the field of Best Available Techniques and Integrated Environmental Permits" (Moscow, September 26, 2018)
- Four Intensive Practical workshops "Preparing Barents Region Environmental Hot Spot related industry practitioners, representatives of environmental authorities and experts in Best Available Techniques (BAT) in practical aspects of BAT implementation" conducted in Syktyvkar (December 10-14, 2018), Petrozavodsk (January 28 - February 1, 2019), Arkhangelsk (April 22-26, 2019), and Murmansk (June 3-7, 2019)
- One smaller scale practical workshop "Environmental Hot Spots of the Barents region: Best Available Techniques, Best Environmental Practices, Integrated Environmental Permits and Environmental Performance Enhancement Programmes (training industry practitioners, regional environmental officers and BAT experts of the Nenets Autonomous Okrug)" conducted in Naryan-Mar (February 28 – March 01, 2019)

All workshops were held jointly by Russian and Nordic experts. The Federal State Autonomous Body Research Institute 'Environmental Industrial Policy Centre' (EIPC, Russian BAT Bureau) developed training and awareness raising programmes being supported by the representatives of SHE, the Swedish Environmental Protection Agency, Russian authorities (the Ministry of Natural Resources and Environment of the Russian Federation (Minprirody) and the Ministry of Industry and Trade of the Russian Federation (Minpromtorg) and the Environmental Auditing and Management Centre (the EIPC partner in the field of training).

Very important roles in organising workshops in Syktyvkar, Petrozavodsk, Naryan-Mar, Arkhangelsk and Murmansk were played by the regional authorities and partners (energy efficiency, environmental centres, and universities).

The following Nordic and Russian experts took part in the development and implementation of the workshops (including preparation of presentations and online/video participation):

Nordic experts (14 experts, in alphabetical order)

- Richard Almgren, Green Business Company (Sweden)
- Ulf Bjallas, Fröberg & Lundholm Advokatbyrå (Sweden)
- Olaug Bjertnaes, Norwegian Environmental Agency
- Julia Bobina, International Barents Secretariat
- Helena Dalhbo, Finnish Environment Institute SYKE
- Henrik Forsstrom, Nordic Environment Finance Corporation
- Kristine Gasparyan, Swedish Environmental Protection Agency
- Jyrki Laitinen, Finnish Environment Institute SYKE
- Mikael Lundholm, Fröberg & Lundholm Advokatbyrå (Sweden)
- Åke Mikaelsson, Swedish Environmental Protection Agency
- Rickard Nätjehall, Swedish Environmental Protection Agency
- Anne Marie Mo Ravik, Norwegian Environmental Agency
- Kristina Svinhufvud, Swedish Environmental Protection Agency
- Anders Törngren, Swedish Environmental Protection Agency

In addition, Ms Eva Sundquist, the Consul General of Sweden in Saint Petersburg, and Mr Gabriel Hjort from the Swedish Ministry of Foreign Affairs, took part in Petrozavodsk site visit (JSC “PKS Vodocanal” – Waste Water Treatment Plant) and workshop.

Russian experts and technical staff (27 people, in alphabetical order):

- Michael Begak, St.Peterburg Research Centre for Environmental Safety, Russian Academy of Sciences
- Ruslan Butovsky, All-Russian Scientific Research Institute for Environmental Protection (VNII Ecologia)
- Dmitry Danilovich, Centre for Technical Policy and Modernisation of Municipal Services
- Alexander Druchinin, the Ministry for Natural Resources and Environmental Protection of the Russian Federation
- Andrey Epov, Chief technical specialist, TWW Treatment Water
- Serge Fokin, All-Russian Scientific Research Institute for Environmental Protection (VNII Ecologia)
- Eugene Gasho, National Research University "Moscow Power Engineering Institute"
- Oleg Grevtsov, Environmental Industrial Policy Centre (Russian BAT Bureau)
- Tatiana Guseva, Environmental Industrial Policy Centre (Russian BAT Bureau)
- Lubov’ Gurieva, Syktyvkar Forestry Institute, director
- Vera Kostyleva, Environmental Industrial Policy Centre (Russian BAT Bureau)
- Anatory Kryazhev, Advis Plus consulting company
- Yuri Kuznetsov, the Ministry for Industry and Trade of the Russian Federation
- Yuriy Lahtikov, RAO “Bumprom” Association
- Raul Mishiev, the Ministry for Industry and Trade of the Russian Federation
- Dmitry Ocheretenko, “Mondi-Syktyvkar” Pulp & Paper plant
- Vitaly Ostapchuk, JSC “PKS Vodocanal” (of Petrozavodsk)
- Eugene Perfiliev, INECA Consulting company

- Helena Perfilieva, INECA Consulting company
- Pavel Roslyakov, National Research University "Moscow Power Engineering Institute"
- Dmitry Skobelev, Environmental Industrial Policy Centre (Russian BAT Bureau)
- Kirill Shchelchkov, Environmental Industrial Policy Centre (Russian BAT Bureau)
- Irina Tikhonova, Dmitry Mendeleev University of Chemical Technology
- Victoria Venchikova, the Ministry for Natural Resources and Environmental Protection of the Russian Federation
- Victor Veselov, RAO “Bumprom” Association

The Russian team of experts was formed by EIPC in accordance with the priorities of the introductory (Moscow) and practical (regional) workshops.

To cover the most recent developments in BAT/IEP legislation and specific sector-related issues special presentations were prepared, recorded, shown, handed-out to the participants of the regional workshops:

- Russian legislation in the field of Best Available Techniques and Integrated Environmental Permits (Victoria Venchikova)
- Municipal wastewater treatment (Kristina Svinhufvud)
- Mining industry (Helena and Eugene Perfiliev)
- Waste management policy in Finland (Helena Dahlbo)

Several sessions were broadcasted online to allow representatives of the Ministry for Industry and Trade and Russian BAT Bureau as well as other interested parties to take part in role games and to participate in workshops discussions.

The total number of workshop participants amounted 250 people representing federal and regional authorities, industries and industrial associations, academia, NGOs, National Parks, media, etc. (please see Fig. 1 and Fig.2).

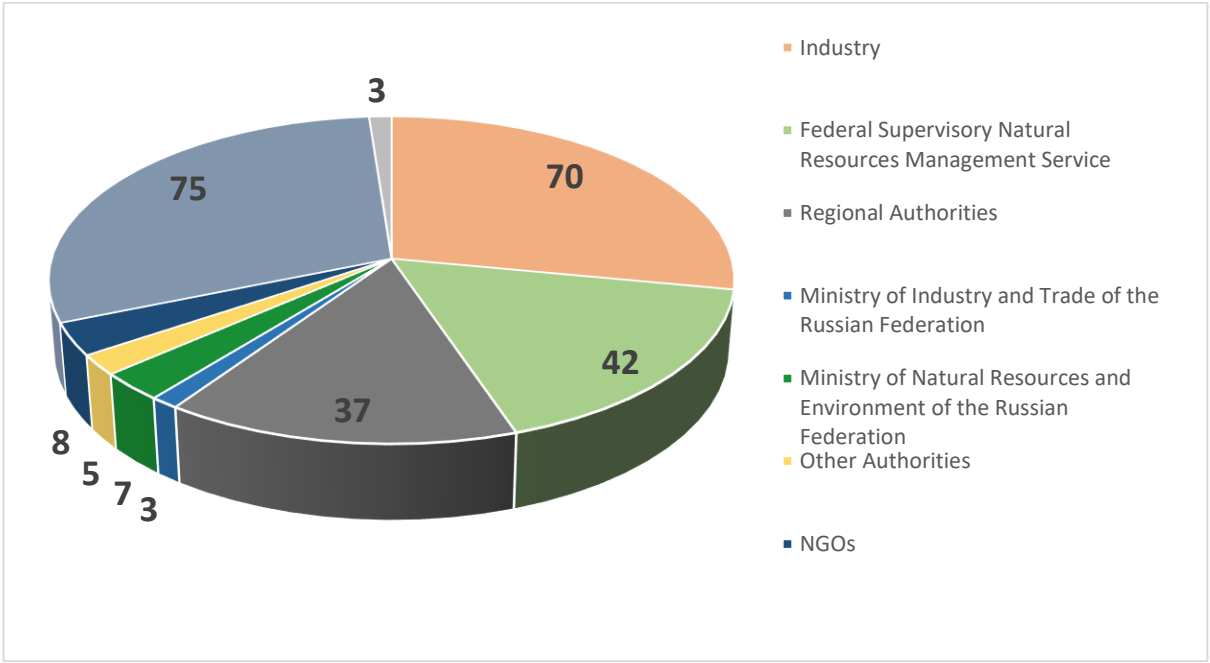

Fig. 1 – Participants of 1a and 1b workshops (target groups, sum total)

Besides that, there were about 20-25 participants who requested access to role games and training materials and tried to pass online BAT tests but did not attend workshops in the regions. **117 official certificates on the professional qualification enhancement** were granted to the participants of the successful practical workshops (15 of whom participated online, submitted their 'home works' and passed online tests).

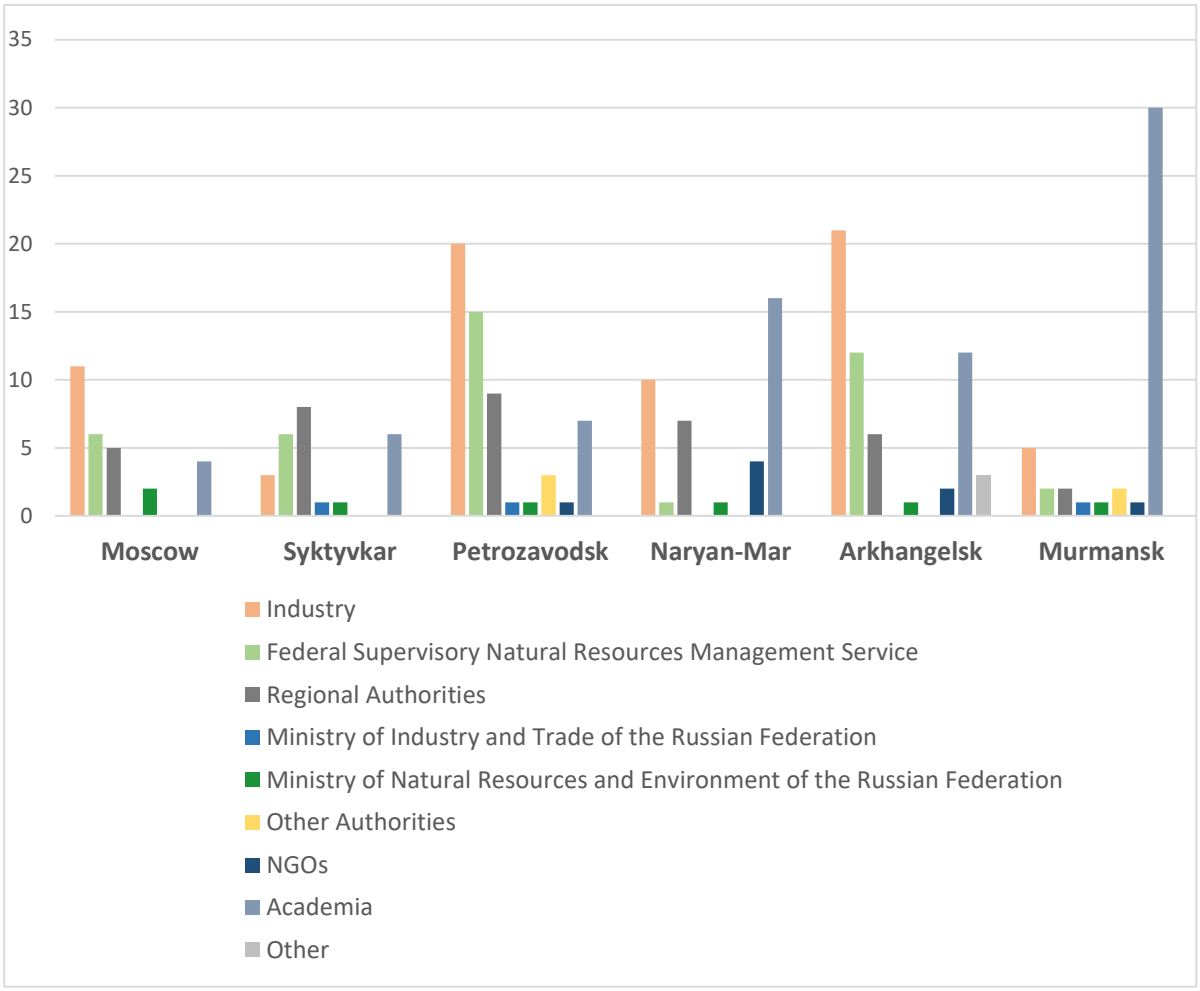

Fig. 2 – Participants of 1a and 1b workshops (per workshop)

Fig 3 – Participants of Arkhangelsk Workshop

Topics. Training programmes

Three types of programmes were developed to run 1a and 1 b workshops:

- The Introductory Workshop programme
- The Intensive Regional Workshop programme (role games included)
- The Smaller Scale Practical Workshop programme (developed upon the request of the Nenets Autonomous Okrug authorities)

The Introductory Workshop attracted attention of 38 participants (including representatives of the Central Office of Rosprirodnadzor). Victoria Venchikova, the Minprirody's Deputy Director of Department for Environmental Protection, State Policy and Regulation described key positions of the Russian BAT/IEP legislation (both acts passed by September 2018 and expected to be introduced). Most discussions were focused on challenges of BAT/IEP legislation and opportunities for the Barents region Hot Spot installations looking for solutions for the exclusion from Hot Spots List.

Several industries and regional authorities expressed their interest in receiving additional information on the Environmental Performance Enhancement Programmes for the industries not fully compliant with sectoral BAT and applications for the financial support of the environmental modernisation by Minpromtorg, and assessing applications for the Integrated Environmental Permits.

It was recommended to perform in-depth workshops for each region taking into the account the specific industrial sites subject to Hot Spot/BAT requirements.

For the practical workshops, the overall training logic followed the 72-hour Model IEP and BAT-related Curriculum (see Annex I) including online and offline sessions. This Programme was developed by EIPC and approved by the Federal Methodological Council of Technical Universities (for the training direction "Rational Use of Natural Resources and Environmental Protection").

Four full days (32 off-line hours) made the core of the programme for each Intensive Regional Workshop. Tailor-made slides and training materials were prepared, used during the Intensive workshop and handed to the participants. In two cities, site visits were paid to the recently reconstructed Environmental Hot Spots ("PKS Vodocanal", "Mondi-Syktyvkar").

For Naryan-Mar workshop the programme was shortened; still, most BAT/IEP/EPEP issues were covered. In addition, Environmental Best Practices applicable to reduce environmental impacts of smaller industries were presented.

The topics of the SA No 1 b workshops covered the following:

- Key information on BAT, BREFs, Environmental Performance Enhancement Programmes (EPEPs) and the Federal Laws FZ-219/FZ-7, Russian BAT/IED legislation
- Principles of Integrated Environmental Permits and requirements of BAT Associated Emission Levels (BAT-AELs); Nordic experience and Russian approaches
- BAT/BREF/EPEP connection to the Barents Environmental Hot Spots
- Detailed consideration of BAT principles (using examples of the municipal wastewater treatment, energy generation, waste management, polluted site management, and mining industry as the priority sectors), the use the Federal Laws FZ-219/FZ-7 and relevant BREFs

- Deep consideration of requirements set by the Russian Government to the Environmental Performance Enhancement Programmes to be developed and implemented by the installations not fully compliant with sectoral BAT (via business games and presentations).

Nordic experts participated actively in most discussions providing very valuable 'reflections', comments and explanations. Richard Almgren prepared also special comments summarising challenges and opportunities for IPPC/IED installations and environmental authorities, which are reflected in this report (please see Lessons learnt chapter).

Fig. 4 – Nordic experts in Syktyvkar, Arkhangelsk, Murmansk and Petrozavodsk

To cover rapidly changing Russian BAT/IEP legislation, special presentations by Victoria Venchikova were recorded, shown to the participants of SA 1b workshops and discussed with them in detail. Attendees formulated a number of questions on Environmental Performance Enhancement Programmes, and Victoria Venchikova answered by phone and in return asked her questions on BAT-AELs (technological parameters of BATs).

BAT/BREF/EPEP/IEP/FZ-219/FZ-7-related presentations were prepared on the basis of EIPC/BAT Bureau materials considering alterations in the legislation, timing and composition of the participant groups.

All Hot Spots-related presentations were prepared in accordance with SHE recommendations. Åke Mikaelsson, Rickard Nätjehall and Ruslan Butovsky described in detail the concept itself, the exclusion procedure and current progress.

Key workshop presentations consisted of two parts: one delivered by Russian experts and another one made by Nordic experts (tailored as either an additional presentation or a comment/reflection of the main material). This helped to explain many difficult points dealing with IEP granting procedure, establishment of BAT-AELs, compliance, reporting, inspections, etc. To provide for active participation of both Russian and English speakers, most PowerPoint presentations of Nordic experts were made bilingual.

Workshop supporting materials (e-learning) including legislative acts, Russian BREFs and BAT-related standards related to priority industrial sectors of the Barents were placed online on www.burondt.ru website.

The Programme included a 'home work'; all participants received access to the necessary training materials; "home works" were prepared and online tests passed by the by the most active trainees (please see Fig. 5). Considering that **117 official certificates** were granted while over 212 people attended practical workshops offline, and about 20-25 people studied training materials online, it is possible to assume that about 50% of trainees were granted official documents confirming their

BAT/IED as well as Hot Spot related knowledge. Official certificates are included in the register managed by the Environmental Auditing and Management Centre (the EIPC partner in the field of training).

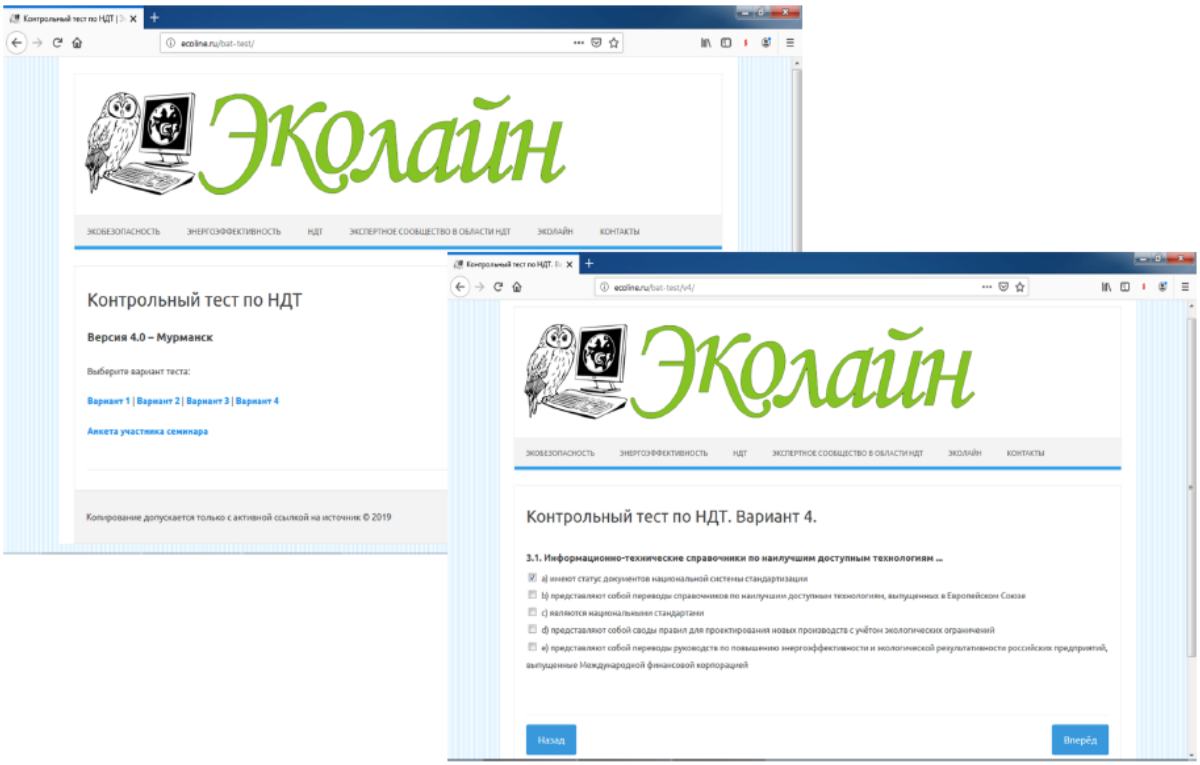

Fig. 5 — Online tests

Special consultations and discussions

Special consultations and discussions became integral parts of several workshops. Trainees expressed their interest to obtain detailed information on such issues as:

- **BAT-related University Training** (Murmansk State Technical University, Murmansk State Arctic University, and Syktyvkar Forest Institute). All workshop materials were handed to the university teachers who were assured that they can use all items to develop training materials for Bachelor and Master training curricula).
- **Collaboration with regional experts**. It was agreed that information on recommended BAT experts should be submitted to EIPC. So far, one expert was recommended and included into the list of BAT experts and trainers (Anatoly Kryazhev, Pulp & Paper Industry).
- **Strengthening collaboration** between Environmental Hot Spot related Supporting Activities and the Federal Project “Best Available Techniques”: Åke Mickaelsson, Raul Mishiev (Minpromtorg) and EIPC staff discussed opportunities for strengthening collaboration in the field of EPEP development, assessment and approval.
- **Obligatory and voluntary aspects of BAT implementation for municipal wastewater treatment facilities**. Andrey Epov provided advice to the Nenets Autonomous Okrug authorities and practitioners and agreed upon further collaboration.
- **Waste management.** Irina Tikhonova provided advice to the Arkhangelsk and Murmansk region authorities and practitioners and explained requirements of the new RF legislation in the field of waste management.

Exit questionnaires

Final questionnaire was offered to the participants of Petrozavodsk, Arkhangelsk, Murmansk and Petrozavodsk workshops. They were asked to assess workshop events and materials using the scale from 1 (very poor) to 5 (excellent).

Workshops were assessed by the following way:

- Timeliness of the workshop and information presented: 4.87 – 4.94
- Coverage of BAT and environmental Hot spots related information: 4.93 –5.00
- Coverage of the international experience: 4.82 – 5.00
- Quality of presentations and handouts: 4.87 – 4.97
- Usefulness for the future practical application: 4.80 – 4.87

Many participants emphasised the high level of presentations made by all experts. Some attendees pointed out that they would love to participate in sector-related training events provided they will be organised for Mining Industries, Large Combustion Plants and Hydrocarbons Exploration Industries. In general, sector-related practical information and information Environmental Performance Enhancement Programmes appeared to be more attractive than descriptions of general (BAT/IED) issues.

Publications

News about all workshops were posted by the Environmental Industrial Policy Centre and Ecoline; some workshops were reflected also in federal (The Federal Supervisory Natural Resources Management Service (Rosprirodnadzor) and regional authorities (Ministry of the Natural Resources and Environment of the Republic of Karelia, The Department for Natural Resources, Environment and Agro-Industrial Complex of the Nenets Autonomous Okrug) and media (The Environmental Performance of Production Processes (Journal of Industrial Ecology), ANO Arkhangelsk Oblast Energy Efficiency Centre).

Partner companies (JSC “PKS Vodocanal”, “Mondi-Syktyvkar”, and VNII Ecologia also posted news on workshops online).

Later on news were posted on the website of Barents Euro-Arctic Cooperation Later on news were posted on the website of Barents Euro-Arctic Cooperation.

Abstracts of two reports were submitted to the Programme Committee of Saint-Petersburg Chemical Forum (Mendeleyev Congress); presentations will be made in September 2019.

Outcomes

Planned	Achieved
One Introductory and four Intensive Regional Workshops conducted	• **One introductory** workshop conducted in Moscow • Five Intensive Regional Workshops conducted in Arkhangelsk, Murmansk, Naryan-Mar (a shorter one, upon the request of the Nenets Autonomous Okrug authorities), Petrozavodsk and Syktyvkar. ○ The total number of workshop participants amounted up to **250 people (including trainers)**
Hand-outs prepared and disseminated among the participants	Hand-outs prepared and disseminated included Workshop supporting materials (e-learning), legislative acts, Russian BREFs and BAT-related standards related to priority industrial sectors of the Barents region. Materials were placed online on http://www.burondt.ru website (in the special section to be opened to the participants with login and password). USBs were offered to all participants; additional copies were provided on request.
Attendees trained in BAT and IEP related issues and given an insight in how the BAT-thinking can be used on the Barents Hot Spots in order to promote appropriate requirements and actions for exclusion.	Trainees actively participated in the workshop and received the necessary information. BAT-related examples were provided for such sectors as Pulp& Paper, Mining Industry, Energy Generation, Municipal Wastewater Treatment and Waste Management. • At two workshops (in Petrozavodsk and Murmansk), Economic instruments applied to stimulate Category I installations to improve their environmental performance and energy efficiency were presented by Minpromtorg and discussed in detail.
Attendees understand the importance of Environmental Performance Enhancement Programmes to (1) achieve requirements set for the exclusion of the List of Hot Spots and (2) to obtain the necessary approval of the Interdepartmental Commission (as a pre-requisite of the Integrated Environmental Permit).	Environmental Performance Enhancement Programme principles, requirements and potential use for excluding industrial installations from the list of the Barents region Hot Spots were discussed both by industrialists and by the representatives of Minpromtorg and Rosprirodnadzor.

Planned	Achieved
	Two key partners representing Environmental Hot Spots agreed to become pilot sites for deeper (sector-based) studies of IEP/EPEP principles and practices (hosts of SA2+3 and – likely – SA 4+5): • "Mondi-Syktyvkar" • JSC "PKS Vodocanal"
Active and successful participants of the Intensive Workshop obtained official documents (certificates) on BAT/IED-related professional qualification enhancement.	Trainees actively participated in the workshop and received the necessary knowledge and skills. • **117 trainees** were handed official documents (certificates) on BAT/IED-related professional qualification enhancement.
Reports on the discussions, conclusions and recommendations of the Intensive workshops, including lessons learnt for SHE about the value/use of the supporting activity as an instrument for enhancing Hot Spot exclusion, prepared.	Reports on all workshops were prepared, submitted to SHE and approved. In addition, a shorter "wrap-up" report was prepared to be wider disseminated in the Barents region.
Rationale for SA 2, 3, 4, and 5 strengthened.	Training programmes for SA 2 and 3 (Pulp & Paper and MWWT sectors) were prepared, discussed with the pilot industries (hosts) and made ready to be implemented in October-December 2019. Preparations for SA 4 and 5 are in progress.
Relevant materials of the Intensive Workshop made available via the Barents co-operation web-pages with more targeted outreach.	EIPC is happy provide relevant materials for the further dissemination via the Barents co-operation web-pages. In September 2019, EIPC is opening a new webpage devoted to the Barents region collaborative projects and would be happy to put the "wrap-up" report online. In September 2019, results of SA 1 will be presented at Moscow Climate Forum and St. Petersburg Chemical Forum (Mendeleev Congress).

Lessons Learnt

- In Russia, Best Available Techniques are identified by the Ministry for Industry and Trade& According to the Government Decree No 1508 of December 28, 2016, Research Institute 'Centre for Environmental Industrial Policy' fulfills functions of the BAT Bureau and exercises powers (*inter alia*):
  - to co-operate with federal authorities in the field of the development and review of BREFs;
  - to provide information and analytical support to the implementation of BATs;
  - to inform federal authorities and other interested parties in issues dealing with BATs and to provide advice to them;
  - to participate in the development of recommendations aimed at improving BAT-related acts and standards.
- According to the Nordic experts, the identification of BATs in 51 Russian Reference books (BREFs) has been made with good quality (according to the samples considered by Nordic experts), and speed. That means that there is a solid basis now available for granting IEPs for Russian industrial installations.
- The BAT approach to environmental permitting is fundamentally different from the current one in Russia. The new one is basically compatible with the OECD Environmental acquis, the EU directives on environmental permitting (IPPC, IED) and the practices in most other countries. But that also implies that the knowledge level in the new system among the concerned people is rather low. Therefore, at least one person from each of the affected 7 300 Industrial facilities need to be trained in the new system. Besides that, environmental officers working at inter-regional units of Rosprirodnadzor need to be trained to consider applications and (later on) to support and inspect IPPC/IED industrial installations.
- In Russia, first IEPs should be issued in 2019. The current IEP granting procedure is being tested; 12-15 installations are preparing the necessary materials to submit them to the Moscow-based Federal Office of Rosprirodnadzor. EIPC is invited to recommend BAT experts who will take part in the State Environmental Expertise Commissions considering documents submitted by pilot installations.
- Barents region Rosprirodnadzor officers expect to receive first applications in 2020-2021. They believe that it would be logical to include BAT experts in the assessment of applications since Barents region industries operate quite complex special technological processes causing environmental impacts and cross-media effects.
- So far, one installation of the sector "Upstream hydrocarbon exploration and production" located in the Nenets Autonomous Okrug expressed its interest to join the list of pilot industries and (possibly) to submit the application in 2019.
- Representatives of industrial facilities agree that the expert assessment of EPEPs opens opportunities for submitting evidences of expected (achieved) environmental performance enhancement to Rosprirodnadzor units responsible for granting IEPs. They emphasise that expert conclusions officially approved by the Interdepartmental Commission on Best Available

Techniques should help to obtain IEPs. EIPC (Russian BAT Bureau) co-ordinates the BAT Expert Society members of which are responsible for the expert assessment of draft EPEPs, and at the same time acts as a back-office of the Interdepartmental Commission on Best Available Techniques.

- Representatives of industrial facilities emphasised that EPEP implementation process requires substantial investments from operators. They appreciate opportunities for obtaining certain financial privileges while purchasing modern (BAT-related) equipment but believe that administrative procedures are too complicated and time consuming.
- It is expected that the new IEP granting procedure will be approved in 2020; beforehand, several changes have to be made to the environmental legislation (the Federal Law No 7-FZ "On Environmental Protection").
- In general, levels of interest and awareness of the Barents region stakeholders vary a lot: from the reluctance to discuss BAT-related issues with Nordic and Russian experts (characteristic for some metallurgical companies) to the preparedness to actively participate in the development and implementation of BAT-related techniques (in industry) and procedures (within federal and regional environmental authorities, Academia and NGOs). International projects are often seen as the platform for open discussions and logical improvement of Russian environmental legislation and practices.

Conclusion and recommendations

Trainees of the Introductory and Intensive Workshops agreed that:

- In Russia, there is an urgent need to build capacity of Category I (IPPC/IED) installations as well as Rosprirodnadzor and other federal and regional authorities in the field of Best Available Techniques and Integrated Environmental Permits.
- Though the new BAT-based IEP granting procedure is being tested, and, according to the targets of the Federal project 'Best Available techniques', 15 Category I installations have to be granted Integrated Environmental Permits in 2019, most stakeholders expect that both the new procedure for IEP granting and practical recommendations will be issued in the near future.
- In 2019, Rosprirodnadzor regional units (there are currently 79 units) have to be restructured to make 31 inter-regional units and one republican — in the Republic of Sakha (Yakutia). Training needs should be both tremendous and urgent. As soon as there is news concerning Rosprirodnadzor structure in the Barents region, it is logical to contact the new management and to establish the necessary contacts.
- Intensive training programmes including e-learning and offline workshops are a very useful form of raising awareness and preparing practitioners and wider stakeholders to the active participation in BAT-based environmental reform.
- Both the 72-hour training programme and methodological materials form a good basis for the development of region- and sector-related training programmes on Best Available Techniques, Integrated Environmental Permits and Environmental Performance Enhancement

Programmes. Such training events could be implemented within the frameworks of both international (for example, PSI or/and BAT-04) project or national initiative (such as training workshops planned to be conducted as a part of the Federal Project 'Best Available Techniques'). Good co-ordination is needed to provide for the synergy of these training programmes and to avoid duplication.

- For the Barents region, Environmental Performance Enhancement Programmes open a unique opportunity to unbiasedly assess improvements achieved by Hot Spot industries and support them both in obtaining Integrated Environmental Permits and in the exclusion process. Lessons learnt by the first (pilot) installations preparing EPEPs need to be promoted and wider disseminated in Russia.
- Involvement of well-known and experienced Nordic and Russian trainers (coming to the workshop and participating online) allows widening the scope of training and discussions, adding 'issues-upon-request' and identifying opportunities for SA 4, 5 and 6.
- Programmes of the sector-oriented training events have to be developed using recommendations of the Barents region practitioners. For sector-related workshops, it is logical to split groups of participants into two parts: the first consisting of industrialists and focusing on technological issues, and the second, consisting of representatives of environmental authorities and focusing on EPEP/IEP assessment procedures. Within the framework of SA 4, 5 and 6 implementation, it is necessary to thoroughly consider difficulties faced by operators obliged to meet both new (BAT) and older (based on sanitary and fishery Maximum Permissible Concentrations) requirements.

Acknowledgements

The Environmental Industrial Policy Centre (Russian BAT Bureau) would like to express deep gratitude to the members of the Working Group on Environment and Subgroup on Hot Spots Exclusion, Nordic Environment Finance Corporation, Nordic Environment Finance Corporation, Nordic experts and staff of the Swedish Environmental Protection Agency, Norwegian Environmental Agency, and Finnish Environment Institute SYKE. We are grateful to the Ministry for Natural Resources and the Ministry for Industry and Trade of the Russian Federation, regional environmental ministries and departments, Rosprirodnadzor and its regional units, Russian experts, all workshop attendees for their openness, great support, competent and resourceful advice and active participation in the event. We would like to thank all regional partners who provided the necessary logistic arrangements, helped to prepare and publish articles and news, who became generous hosts to all experts, trainees and guests of the workshops.

Annex I

General Programme for Supporting Activity 1b Event

PROFESSIONAL COMPETENCE DEVELOPMENT PROGRAMME (72 hrs)

Goal of professional competence development/enhancement:	preparing Hot Spot related industry practitioners, managers and experts in practical aspects of BAT implementation for the purpose of the environmental performance enhancement, integrated environmental permitting as well as with regards to the opportunities of excluding regional industries from the List of Hot Spots.
Participants:	Engineers, managers, environmental specialists and experts
Duration, total:	72 hrs (including 32 hrs using remote connection tools)
Session duration:	8 hrs per day (on-site programme)
Mode of attendance:	Off-the-job

№	Section name	Total hours	Including		Control form
			Theory	Practice	
1.	BAT Principles: International Experience. Russian Initiatives and Pilot Projects	4	2	2	discussion
2.	Russian Legislative and Regulatory Legal Acts on BAT: Main Content, Requirements and Tendencies	10	4	6	quiz
3.	Sector-oriented and Inter-sectoral Russian BREFs: Context Analysis (with primary focus on Russian BREFs applicable to I Category Barents region industries and their environmental impact)	20	10	10	discussion and quiz
4.	BAT as a Mechanism for Continual Improvement of Environmental Performance and Resource Efficiency. BAT Applicability for Barents “Hot Spot” Industries	6	4	2	discussion
5.	Requirements for Integrated Environmental Permit (IEP) applications. Practical exercises for Drawing-up IEP Applications (following current regulatory legal acts and international practices)	10	4	6	discussion
6.	IEP Granting Procedure: Practical Exercises by the means of a Business Game (following current regulatory legal acts and international practices)	10	6	4	business game
7.	Environmental Self-Monitoring and Integrated Environmental Inspections: assessing BAT Compliance	6	4	2	quiz
	Total:	**64**	**32**	**32**	
	Summative assessment	**8**			**examination**
	Total:	**72**			

The participants will use the remote connection tools for several theoretical studies (mastering the requirements of legislative and regulatory legal acts, acquaintance with BREF basic provisions); the documents will be posted on Russian BAT Bureau secured information exchange platform hosted by Environmental Industrial Policy Centre (EIPC).

The Russian BREFs to work with are following:

- BREF 1 - 2015 'Production of cellulose, pulp, paper and board'
- BREF 8-2015 'Waste water treatment at larger industries (manufacturing products, implementing works and rendering services)'
- BREF 10-2015. 'Waste water treatment at centralised systems of waste water treatment of settlements and cities'
- Environmental Industrial Policy Centre (Russian BAT Bureau)
- BREF 15-2015 'Waste management (utilisation and decontamination, excluding incineration)'
- BREF 16-2016 'Mining industry, general processes and methods'
- BREF 22-2016 'Waste gas treatment (removing emissions of harmful substances at larger industries (manufacturing products, implementing works and rendering services))'
- BREF 22.1-2016 'General principles of industrial production, environmental control (monitoring) and its metrological assurance (support)'
- BREF 38-2017. 'Burning fuel at large combustion plants for energy generation purposes'
- BREF 48-2017. 'Enhancing energy efficiency of economic and/or other activities'.

The practical exercises include environmental performance and resource efficiency assessment of Category I industries. The participants prepare course works ('home works') and make presentations of the results of their assessment exercises during the discussion panels included in the Programme.