

NEFCO & Barents Hot Spots Facility:

PROGRESS REPORT ON “HOT SPOTS”

for BEAC WGE Meeting

10 April 2008, Tromsø

Short background

NEFCO is international financial institution owned by the Nordic Governments with a special mandate to work with environmental issues and projects in the Barents and Arctic regions.

NEFCO is an observer in the Arctic and the Barents Euro-Arctic Councils (AC/BEAC), and is furthermore active in several other international organs with a focus on the Russian North. The work with the environmental “hot spots” in the Russian Barents Region that were defined by NEFCO in collaboration with the Arctic Monitoring and Assessment Programme (AMAP) in 2003¹ is of particular importance. In this respect, NEFCO reports to the BEAC WGE and strives to coordinate its work also with the RWGE as well as the WGE Sub-groups for Cleaner Production and Environmentally Sound Consumption and Water Issues. The Environmental Hot Spots was a key issue in the Ministerial Declaration of the Eighth Meeting of the BEAC Ministers of the Environment on November 9, 2007, and NEFCO strives to fulfil its duties as outlined in that document.



One of many sunken ships in the Kola Bay - one of 42 environmental hot spots in the Russian Barents Region

/Photo: Vladimir Bakharev, EHEF, Murmansk

¹ The NEFCO/AMAP report can be downloaded in English or Russian at NEFCO’s website: www.nefco.org.



In Karelia and the Komi Republic, special working groups have been organised at the oblast (republic) level to deal with the environmental hot spots on their territories. In February 2008, NEFCO joined the new Norwegian Chair of the WGE to visit Komi and participate in the first meeting of the Komi Working Group. Similar joint visits are foreseen to the other Russian Barents Regions, and the federal Ministry for Natural Resources has stated its intention to support and participate in these visits too.

General - BHSF

NEFCO's most important financial tools for working with the environmental hot spots is the **Barents Hot Spots Facility (BHSF)**, which is managed by NEFCO on behalf of the Governments of Finland, Iceland, Norway and Sweden. The purpose of the BHSF is to contribute to the development of realistic projects related to the 42 "environmental hot spots" defined in the NEFCO/AMAP report, or to issues of a similar dignity in the Russian Barents Region. The nuclear safety sector is not included. The Facility's main task is to provide grants to finance technical assistance, typically key pre-feasibility and feasibility studies, business and financing plans, or environmental impact assessments. BHSF is not as such a source of financing for actual project implementation, although from time to time the Facility may also allocate limited funds for implementation of particularly crucial projects or components.

So far, 43 projects or other specific measures have been considered for allocations from the BHSF. The assets of the BHSF amount to ca 3 MEUR. At present the funds of the BHSF are fully allocated, but certain re-allocations are possible and likely.

Ad-hoc Task Force

As endorsed in the Ministerial Declaration, an **ad-hoc Task Force** will be formed under the WGE to address **proper criteria and procedures for the elimination of environmental hot spots**. NEFCO as manager and co-ordinator of this task force has started to prepare for its work and looks forward to the other involved parties to nominate their candidates. Initially, these are expected to comprise:

- The RF Ministry of Natural Resources
- Rostekhnadzor
- Roshydromet
- Sanepidemnadzor
- The Barents Regions/Countries
- The Norwegian Centre for Cleaner Production in Moscow

The Task Force will report to the WGE, concerning principal issues as well as proposals on concrete procedures and criteria. The Ministers suggested in the November 9 Declaration that a first report be prepared for the next Meeting of Environment Ministers in 2009. The funding of the Task Force's work has not been specified, but the BHSF has made a special allocation to support its practical implementation.

Database for Barents environmental hot spots

A **prototype of a database covering the Barents environmental hot spots** has been developed on NEFCO's behalf. Based on further feedback from the WGE stakeholders, NEFCO will continue to develop the data base and fill it with contents. A selected Barents Energy Efficiency Centre will act as main editor (and translator) of the data base, with each EEC in charge of the data collection and compilation within its region, with the regional environmental authorities as the main sources of input. NEFCO has secured funds for the operation of the data base in the short term. Its long-term funding remains to be addressed by the WGE.

Sector studies

Special sector studies on hot spots issues have been prepared for the **paper & pulp sector**, the **mining & metallurgical sector**, and for the general **potential to develop JI project** in relation to the Barents environmental hot spots. The study on the mining industry includes an investigation of the **Umbozero ore mine** as a potential additional hot spot, and will be complemented by a special study on the **energy efficiency potential** in the sector. A study concerning the large **CHPs in Archangelsk and Severodvinsk (A2 and A3)** and the general energy situation in Archangelsk Oblast has been done, as well as a general study on **waste management issues in Archangelsk Oblast and Nenets AO** that will provide a needed framework for development of waste and landfill management projects in Archangelsk city and other places.

The main purpose of these studies is to serve as a basis for NEFCO's further strategies and priorities in the areas concerned. Only to a certain extent they may also be shared in a wider circle for more general reference.

Major assignments in Karelia

BHSF-funded Nordic consultants are in full progress with three major assignments in Karelia, co-operating with their local counterparties in Petrozavodsk and elsewhere:

- **“Joint Rehabilitation/Upgrading of Water Services and Waste Water Services in Selected Regional Cities in the Republic of Karelia”** - Pöyry Environment Oy of Finland;
- **“Municipal Oil and Coal Boiler Conversion to Natural Gas and Local Biofuels in the Republic of Karelia”** - Norsk Energi together with ECON of Norway. The first stage of this assignment has been approved. It is now under consideration to proceed into a second stage (to be funded by TGF) that will address a revised list of included sub-projects as well as determine all necessary issues to make it eligible for so called “bundling” as a JI project. In this respect it will serve as an important pioneering project as how to in practice make use of the Kyoto flexible mechanism for financing smaller project under JI that might find other applications also in the Russian Barents region. A seminar dedicated to **peat as a source of energy** was arranged in Petrozavodsk in early summer 2007 within the scope of this assignment;

- **“Development of Integrated Waste Management System (IWMS) in the City of Petrozavodsk” - Pöyry Environment Oy** of Finland. The development of this project will build on **methane measurements at the Petrozavodsk Orzega landfill** that were conducted during the winter. The final report is expected within soon and might well serve also as a precedent for other similar projects in the region.

A study on **“Oil Boiler Conversion to Natural Gas at the Central Boiler Plant of the City of Petrozavodsk, Republic of Karelia”** was concluded by **Pöyry Energy Oy** of Finland in early 2008; however, its development as a JI project was halted after a negative determination by TÜV SÜD of Germany that found the project to lack the necessary additionality. In general terms, the determination level for JI projects in Russia and elsewhere have been found to be stricter than anticipated, which means that NEFCO and others that strive to integrate such financing components in their project finance structure will have to be even more considerate in this respect.

The intended project on **“Rehabilitation of the Waste Water Treatment System in the City of Petrozavodsk”** was cancelled, but NEFCO has ongoing negotiations on how best to further investigate and elaborate certain key components of the original assignment/ToR. This will be mostly funded by Finnish consultant funds available to NIB and NEFCO.

Major assignments in Murmansk Oblast

The final report for the **“M6 - Water quality in Kola River and Bolshoye Lake used for drinking water supply of Murmansk city”** was approved with appreciation by NEFCO the local beneficiary, Murmanskvodokanal. The prioritized short-term investment programme will include the connection of the central sewerage area of Murmansk City to the Northern WWTP and provision of disinfection of supplied water and effluents from outlets along the Kola River. Negotiations have started between NEFCO, Murmanskvodokanal, the Oblast and the City on how to proceed with the financing and implementation of these projects. NEFCO will submit an application to the NDEP Support Fund for a grant contribution to the wastewater project.

NEFCO is involved in several important measures to clean up the Kola Bay from sunken vessels and objects that are hazards to the environment as well as to navigation on the Bay (**M9**). The detailed plan concerning the **lifting and environmentally acceptable scrapping of the Teriberka hunting ship**, which stands on the bottom within the Murmansk Seaport boundaries, has been worked out and is awaiting local approval. Agreement concerning the creation of a **data base for environmental hazards and status of the Kola Bay** as well as clean-up measures on the **Lavna and Tri Ruchya ship dumping sites** are imminent. There is an ongoing discussion with NPA-Arctic and other parties concerning co-financing of the additional measures that are in present focus in relation to the clean-up of the Bay.

Other work in progress

The Moscow-based Russian Polar Foundation concluded the initial survey of **Franz Josef Land (A7-2)**, which was carried out in September with the help of helicopters based on the Russian polar ship “Somov”. NEFCO/BHSF co-finances this initiating step during the International Polar Year together with the Foundation. Samples and other findings from the survey will be examined during the following months, and the result will lay the foundations for the actual clean-up actions at Franz Josef Land in the coming years. This is a key priority for the Arctic and Barents environmental efforts as well as in many other fora, and also an important precedent for the general issue of cleaning up contaminated former military sites in Russia.



Scrap and waste left behind in Franz Josef Land
Photo courtesy Russian Polar Foundation

Consultants BioForsk of Norway have finalised a study concerning **small-scale wastewater treatment for Kenozero National Park** in Archangelsk Oblast and other remote settlements in the area. The consultant has compiled an inventory of relevant Nordic technologies in this field for reference, and has proposed a particular wastewater solution for Kenozero that has met with local approval. The proposal is an ecological and sustainable solution based on locally available material only and as it will be very easy to build and maintain it is expected to prove a cost-efficient solution that may serve as a wastewater pilot project for other small communities in the entire region. The project in Kenozero will be carried out in connection to a drinking water programme that is sponsored also by Norway and the regional budget.

Preparations have been made for the pre-feasibility study for **Sustainable Solution for Energy and Related Environmental Issues in the Solovetsky Archipelago (Solovki)**. There is an ever-increasing number of Russian and international stakeholders that wish to proceed with various studies and measures on the Solovki, but an appalling lack of co-ordination between them. As far as we are aware at present, there is no absolute clarity neither on what may or may not be done on the islands given their status as a UNESCO World Heritage site, nor on the future status of the Russian Orthodox Church in the general management of the territory. NEFCO intends not proceed further with this project without a clear mandate from all relevant stakeholders.

ACAP, as represented by DEPA (Denmark), is proceeding with Rostekhnadzor on the **ACAP Demonstration Project on collection, storage and treatment of mercury-containing waste**



(MCW) in the NW Region of the Russian Federation. The Danish assignment is co-financed by BHSF, Norway and Finland and the contracted consultant is COWI. According to the ToR, the consultant should specifically address the Barents hot spots that are related to mercury issues (**M8 & N4**) as part of the assignment.

A consultant has been hired to support Nordic contributions to the new regional strategy and policy for **waste management in Murmansk Oblast**. The consultant has presented his initial inventory of possible Nordic partners in the implementation of the new waste strategy, but since the strategy itself has not yet been presented, this assignment is currently on hold.

Other work currently in preparation

As an immediate outcome of the previously mentioned general study on waste management issues in Archangelsk Oblast and Nenets AO, a particular follow-up study has been initiated to address the handling of **medical waste** in that region. The study raised many important issues for further consideration, but this field stands out as a particularly neglected and acute one.

Terms of Reference are under preparation concerning **spent motor oil and oil contaminated sites in Archangelsk Oblast and NAO (A8)**. The intended assignments concerning **fish processing industry in Murmansk Oblast**, as well as the already mentioned energy efficiency for the mining and metallurgical industry or the **Apatity CHP (M4)** are however put on hold indefinitely. There was no known recent progress concerning the number of potential **projects in the oil waste sector in Murmansk (M10)** that NEFCO in some way is involved in. NEFCO has also no news on **Kondopoga PPM (K1)** or **Nadvoitsy Aluminium Smelter (K2)** in Karelia. There is however an interesting appeal from the Karelian side to address the rehabilitation of municipal small hydropower plants, which is currently under consideration by NEFCO:

ToR for a project at **Kolguev Island** within the ECORA framework that will address energy, water and waste issues in an integrated way are under preparation. This project is supported and developed in co-operation with UNEP and the Swedish EPA.

Other hot spot projects in NEFCO's imminent pipeline include **reforestation of tailings ponds in Murmansk Oblast**, **waste management in Severodvinsk** (initiated by the Russian Cleaner Production and Sustainable Development Centre) and **Syktyvkar (Komi - Ko6)**. For the last one, the intention is to prepare and put the project into a context by an initial **short general study on the waste sector in Komi**.

Approvals and preparatory work are underway concerning an **integrated heat sector project** with conversion to biomass, potential waste incineration and pellets production in **Kostamus** in Karelia, that is part of the regional co-operation between Karelia and Västerbotten.



NEFCO and related fora

NEFCO has the status of Partner Agency in the Russian NPA-Arctic framework, which in several cases overlaps the Barents Environmental Hot Spots. After some organisational turbulence and delays, NPA-Arctic is presently mostly on track - which refers to:

- Strategic Action Programme (SAP): The first official draft of the SAP document is finalised, and already approved by most concerned Arctic Russian regions and agencies.
- Arctic Hot Spots and Pre-Investment Studies (PINS): An update and review of the existing hot spots identified at PDF-B stage in the Russian Arctic has resulted in an updated list of 100 hot spots. During the winter, Russian and international consultant companies submitted bids in a tender to work out so-called PINS for the 30 prioritized hot spots in the western, central and eastern parts of Russian Arctic. NEFCO participates in the Evaluation Committee for the western and central parts (that overlap the Barents region).
- Demonstration and pilot projects: Several demonstration and pilot projects are underway in different stages of implementation. Most of the projects are of some interest as they relate to the Barents Hot Spots, as for instance the US EPA sponsored installation of new electrostatic precipitators at the **Archangelsk PPM (A4)**. Several of them are indeed managed and funded by NEFCO/BHSF (i.e. *Complete data base on abandoned vessels in Murmansk Oblast*, and *Salvation and scrapping of the hunting ship "Teriberka"*), or directly co-funded or co-ordinated with NEFCO (i.e. *Environmental remediation of Decommissioned Military Bases on Franz Josef Land Archipelago*, and *Cleaning of hazardous substances from the bottom sediments of the Kola Bay*).

For the future, a proposal is prepared to prolong the NPA-Arctic programme into 2009.

Related to the Arctic Council, NEFCO continues to press for the activation of the **Project Support Instrument (PSI)**, which is to be administered by NEFCO and will relate to the funding of preparation measures in projects under the aegis of the Arctic Council and ACAP. The latest Russian initiative aims at coupling the PSI to the long over-due implementation of a proper facility for destruction of certain kinds of hazardous waste (notably PCB) in Russia, which is a prioritised ACAP "fast track" project promoted by NEFCO. Such a facility will be important also for some final destruction of hazardous pollutants related to the Barents regions and hot spots. Recent ACAP discussions in Moscow involving the Finance Ministry and Rostekhnadzor raise some hopes that this facility will become operational within soon. Based on these discussions, NEFCO has addressed potential donors for support, and will report on the issue at the AC meeting in Svolvær later in April.

Since late autumn 2007, NEFCO has a seat on the **NDEP** Steering Group. Certain environmental hot spots project may qualify for grants from the NDEP Support Fund that already today has approved contributions to the larger IFIs' water sector projects in Archangelsk and Syktyvkar, and



to a district heating project in Murmansk. As noted above, NEFCO intends to promote the Murmansk wastewater project for NDEP funding, among others.

Together with the Swedish EPA, acting under an ACAP mandate on dioxins, NEFCO is investigating proper way to promote improvements at the **Murmansk Waste Incinerator**, which is considered a major dioxins polluter in the entire region. At present, however, there is little progress to report. NEFCO also plays a role in the modernisation efforts concerning **Pechenga-Nikel** combined smelter (M1), concerning which there is a dialogue on financing between NIB/Norway and the Norilsk-Nickel group. An initiative has been taken to establish a **joint “EcoFund” between Norilsk Nickel and NEFCO** to identify, address and fund small-scale environmental measures and investments within the Norilsk-Nickel group.

Other actors and the hot spots

Needless to say, important actions and investments as well as other contributions towards the elimination of the Barents environmental hot spots are made by actors that are unrelated to NEFCO and its work in this field. Such actors include other bilateral and inter-regional programmes, as well as Russian budget organisations on various levels, and Russian sponsors and project owners. Some of them are related to investments in the private sector companies concerned, in particular in the metallurgical, paper and power industries. Usually, such investments do not have specific environmental targets but provide ecological improvements as a side effect to the economic benefits.

Cleaner production is an particularly important tool in this context that is addressed by a special sub-group under the WGE and therefore not specifically addressed in this progress report - in some cases, such as **Archangelsk PPM (A4)**, cleaner production programmes have been carried out or are planned.

Under ACAP’s dioxins & furans programmes, important measures are planned at **Kotlas PPM (A5)** and the **Vorkuta Cement Plant (Ko2)**. Last but not least, there are some notable successes related to **obsolete toxic pesticides**, particularly pertaining to the ACAP scheme and Finland’s bilateral efforts in this field.

A final note concerns the current plans to develop the gas field at **Kumzha in NAO (N1)**, which will need particular attention also in a hot spot perspective. However, NEFCO will not likely be positioned to play a role in this respect.

Henrik G Forsström
Senior Adviser & BHSF Manager
NEFCO