Russian – Finnish Workshop on Best available technologies in waste management

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Memo by SYKE

The workshop was organized as a supporting activity to the Barents co-operation by the AB-Waste project. AB-Waste is a co-operative project between Russia and Finland managed by the Finnish Environment Institute SYKE. The project is funded by Finland.

The workshop brought together 40 experts on waste issues from the Russian Barents regions, the Russian Federal level organisations, Finnish governmental organisations and Finnish companies providing solutions on waste management. The workshop was hosted by the Embassy of Finland in Moscow. The All Russian Research Institute VNII Ecology, the Ministry of Natural Resources and Environment of Russia and the International Barents Secretariat provided indispensable support to workshop arrangements.

The presentations held in the workshop drew a picture of the recently reformed regulatory environment concerning waste management in Russia (legislation, BAT) and the challenges that regions are facing with implementing the new requirements (Arkhangelsk, Karelia, Komi, Murmansk). Descriptions of the Finnish national waste planning and insight from the regional authority highlighted the experiences of implementing the European Union legislation in Finland. The Finnish companies presented their solutions on various waste management issues.

The organisers wish to thank all the workshop participants and contributors. The AB-Waste project will continue in 2018 with a study-tour for the Russian Barents-region waste experts to Finland for sharing information and good practices in concrete waste recovery and treatment facilities.

Short summaries of the presentations

Implementation of the priority federal project “Clean country” in the Barents-region; Pavel Bubnov; VNII Ecology

The project was launched three years ago and will continue for ten years. The general aim is to eliminate emissions and contamination of nature. The project has organized several events and worked with a number of projects e.g. on waste dumping and mercury containing waste. Examples of projects include:

- oil pollution in Arkhangelsk region
  - liquidation of hydrocarbon waste and rehabilitation of living conditions for habitants
- Archipelago of San Joseph
  - removing waste from the archipelago
- Kloskii gulf
  - water territories to be cleared from wastes (prim. vessels causing danger / harm to environment)
  - this project and the experiences can be used for a basis of similar projects in other regions of Russia
- Natural resort of Nenetsky (in 2015)
  - rehabilitation and recultivation of land (83 ha)
Review of the Russian Best Available Techniques (BAT) reference documents (BREFs) related to waste management
Roman Starshinov and Alexander Sanzharovskiy, EIPC

Three BAT reference documents have been prepared related to waste management. They do not include technologies that are covered by other industrial sector BREFs. Data on BAT technologies was collected from Russian operators and the BAT emission levels for various technologies were determined based on this data. The mandatory part of the BAT documents is the BAT emission levels. BAT technologies were not found for all waste fluxed, but the document will be updated in 10 years periods. In 2019 all industrial enterprises that treat hazardous materials of categories 4 or 5 need to have an environmental permit and here BAT has to be implemented.

Modern trends of environmental legislation in waste management in Russian Federation
Olga Tagilova, Deputy Head of Department of State Policy and environmental regulation

The Russian waste legislation has been and is still being renewed to include responsibilities for the regions to take care of waste management and several new principles such as closed cycles of products and materials and producer responsibility. The new legislation introduces the waste hierarchy, which sets waste prevention on the first priority level, with disposal being the least preferable. Sharing of responsibilities has been renewed. Federal level (ministry) is responsible for legislation and norms and Rosprinadzor is responsible for the supervision on federal level. Regional level is responsible for the operation in practice, i.e. treatment of waste, and regional authorities are responsible for the supervision on regional level. The use of various economic instruments has been enabled, both encouraging (if company manages to reduce the hazardousness of waste, it can be exempted from waste fee) and for punishing (if company neglects legislation, waste fee can be raised).

Currently regional operators are being sought for to start organizing waste management in practice.

Presentations from the Barents region representatives

Murmansk region, Elena Makarova
Agreements have been made on disposal and waste management. Waste sorting complex and waste treatment facilities have been planned in co-operation with VNII Ecology and should be finalized by the end of 2017. The reclamation of landfills will become timely after these have been built. But land reclamation is difficult with limited budget.

From the Barents hot spots lists 8 are still on the list from the Murmansk region. One of them is close by drinking water intake (poultry farm, which was removed). The Murmansk waste incineration plant fulfils the requirements of the Russian laws and there are currently no plans of taking it off the list of hot spots.

The Republic of Karelia, Larisa Kolokolnikova
In Karelia, 3 hotspots have already been eliminated. Hotspot K8 is about waste management, it is important to take measures to exclude it from the list. A waste sorting facility is being planned in the region. New waste recovery facilities have started operation e.g. for recovering tyres. A mobile waste collection point, Eco-mobile, collects Hg-containing waste, polyethylene waste, paper waste from inhabitants. Schools and kindergartens have participated in the collection of paper and plastics.

Within Karelia, there is a number of territories, where development of waste management is difficult due to the remoteness of the regions, inadequate roads and transport systems. One problem arises from waste amounts if a waste recovery plant is built, will there be enough waste for the plant to operate. Waste from mining industry is problematic, many enterprises are not taking the most out of the resources, highly dangerous waste is produced, containing a lot of e.g. As.
W.A.S.T.E. & W.A.S.T.E III projects (Swedish-Karelian Business and Information Center), Vera Meshko
Nordic and Russian co-operation projects on waste sorting were carried out in Petrozavodsk and the Kizhi Island. The projects made a study visit to Turku, Finland to learn and adopt good practices on waste sorting. From the Kizhi Island waste has to be transported by water routes. Kizhi is a popular visiting and retreating place for tourists, and waste is a problem for the local people. Incineration is prohibited on the island. In addition, the project worked with e.g. kindergartens and schools. The project had an effect on the attitude of people and increased their willingness to participate, e.g. the mobile collection is supported by people.

The Republic of Komi, Natalia Malyavina
A roadmap has been adopted for developing waste management in Komi. Regional operators will develop the waste logistics plans further. The use of an eco-mobile station has been experimented in Komi, but the collection has been ineffective, the volumes of collected flows have not been large. There is yet no infrastructure for waste recycling. Also, the transportation system needs to be built up, this may increase the waste tariffs.

The Republic of Komi, Tatyana Tyupenko
Hotspot Ko7 on wood waste will be excluded from the hotspot list in 2017. Pellet production from wood waste has started in several facilities, and a number of HPP stations using wood fuel have substituted oil-fueled stations. When a hotspot is removed from the list it does not mean that the hotspot disappears, but further work needs to be proceeded.

Komi has a hotspot on waste management, Ko6. Changes in the legislation need to be put into practice. The question is how to proceed withit. The experiences from Karelia are interesting and important and good practices sharing and co-operation with the Karelian colleagues is wished for.

Presentations from the Finnish environment administration

Waste management planning in Finland, Johanna Laaksonen
According to EU legislation (WFD 2008/98/EC), the national waste management plan is renewed every six years. Waste hierarchy is the cornerstone of planning. Main principles of waste management are waste prevention; producer responsibility; precautionary principle; proximity principle and self-sufficiency. The planning is carried out in several phases and each phase includes consultation with the public and the stakeholders. Municipal and private operators finance waste management; there are different combinations in different regions. When the plan is fulfilled, the future for the planning and for implementing the plan has to be ensured by engaging operators in the planning process. The new Finnish waste management plan is for time period 2017-2023. (The plan has been accepted by the Finnish government on 19.12.2017).

The success and problems of waste management. Finnish experiences and prospects for development, Tatu Turunen
Kainuu is a Finnish region uniting eight municipalities with decreasing population. It is difficult to get investments on new waste management plants. The municipal mixed waste is combusted in Varkaus. A bioethanol factory of St1 Renewable Energy Oy uses saw dust for bioethanol production. Wood waste from demolition is a problem (e.g. painted wood). Power plants do not want to burn it, because it causes heavy metals into ash. The ash will then no longer be utilizable for fertilizers. In the future the solution could be that municipalities take the wood to power plants, who charge for the treatment. This will raise costs of waste management.

Sewage sludge is currently transported to Kuopio biogas plant, which is 400 km away. Local small scale biogas plants should be available for sewage sludge recovery. Farms could start with farm-
scale plants but they don't see it economical. Some of the sewage sludge is being utilized by mining companies, e.g. in Paltamo sewage sludge is composted and used for mining areas landscaping.

**Finnish companies presentations on their solutions for waste recovery and treatment**

**L&T, Sergey Andronov**
L&T presented their solutions for municipal waste management in Dubna, a pilot town. The concept allows reorganizing waste management.

**Woima corporation, Kauko Tanninen, TC Direct**
Woima has developed a flexible, container based waste to energy solution. Facilities do not yet exist in Russia, the first project is in Africa.

**SET Cleantech, Jouni Suomalainen**
SET concentrates on sorting solutions for producing RDF/SRF to be used for energy production, plastics and metals can be separated. The Lahti Ladec sorting facility has been provided by SET.

**Concluding remarks**

The AB-Waste project will continue in 2018 with a study-tour for the Russian Barents-region waste experts to Finland for sharing information and good practices in concrete waste recovery and treatment facilities. The tour will take place in September 2018. The potential participants will be asked for ideas on what they want to see in Finland.

The Ministry of Natural Resources and Timber Industry Sector of the Arkhangelsk region is organizing a waste seminar on 4.-5.12.2017. Themes of the seminar are waste management and separate waste collection.