

**FACT SHEET**  
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A new pellets production factory under construction in 2017 in the Komi Republic. Photo: International Barents Secretariat (IBS).

## Environmental Improvements at Barents Hot Spots

The Barents Environmental Hot Spot List from 2003 consisted of 42 major polluters and severely polluted sites that impose health and environmental hazards on their surrounding communities and nature. The Hot Spots are located in the Russian part of the Barents region; in Murmansk and Arkhangelsk Region, Nenets Autonomous Region and the Republics of Karelia and Komi. Many of the Barents Hot Spots have achieved significant environmental improvements during the recent years, while others remain to be solved. Three Hot Spots were excluded from the Barents Hot Spot list in 2017 and some of their results and environmental improvements are presented here.

### Using wood waste as bioenergy in the Komi Republic has excluded this Hot Spot from the List

The huge amounts of wood waste accumulated from the timber processing industry in Komi for decades has led to environmental pollution. The wood waste has been stored at enterprises and at landfills, which cause risk of fires and leakage of polluting substances to water bodies. The landfills also causes methane emissions, which contributes to climate change. This was the reason why wood waste in Komi became a so-called Barents environmental Hot Spot (Komi Ko7).



The Barents Hot Spot group visiting a pellets production facility in Komi, October 2017. Photo: IBS

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Komi has been supported by experts from Norsk Energi and the Cleaner Production Centre in Moscow since 2013, as a part of the bilateral Russian/Norwegian environmental cooperation on Cleaner Production. The Cleaner Production training programmes and advisory assistance has contributed to capacity building in the bioenergy sector.



Students from a Cleaner Production training course in Korkkeros district in Komi, May 2015. Photo: Press office of the Komi Ministry of Industry.



Experts studying the first boiler house on briquettes in Korkkeros district, October 2014. Photo: Press office of the Komi Ministry of Industry.

In 2013, the Komi Ministry of Industry and Transport took the initiative to start using wood waste as fuel for energy production in a larger scale and the Government started subsidizing production of biofuels. Since then a number of investment projects have been implemented and the use of biofuel is increasing. Four heat and power plants along with several municipal boiler houses have been converted from coal and heavy oil to biofuels. Both newly generated wood waste and also some old wood waste is used.

The development of the bioenergy sector in Komi has led to the creation of over 200 new jobs and extended the domestic market for biofuels and more affordable energy sources.



Alexander Gibezh, Senior Deputy Minister, Ministry of Industry, Natural Resources, Energy and Transport of the Komi Republic. Photo: Norwegian Environment Agency.

-The bioenergy potential of the forest districts in Komi exceeds local energy demands, underlines Senior Deputy Minister Alexander Gibezh.

-Therefore, biofuels can be exported to other regions of North-West Russia and even abroad.

The use of wood waste as fuel gives a significant reduction in greenhouse gas emissions. Both by replacing burning of coal and heavy oil in electricity and heat production, and by avoiding methane emissions from landfilling of wood waste.

The Hot Spot on wood waste in Komi (Komi Ko7) was excluded from the Barents Hot Spot list in 2017.

### ACHIEVED RESULTS IN KOMI

- 4 sites for temporary storage of wood waste.
- 20 production facilities for wood briquettes and pellets in 7 regions.
- 242 new workplaces created.
- 58 boiler houses are converted from coal or heavy oil to biofuel by 01.01.2017.
- Additional 18 boiler houses are expected to be converted during 2017.
- A number of pellet boilers are installed in individual buildings.
- 4 heat and power plants are today using biofuel.
- Increased awareness and knowledge among local students, entrepreneurs, local officials and the general population.

## Reducing dust emissions in Vorkuta, Komi Republic has excluded this Hot Spot from the List



Vorkuta Cement Plant is not on the Barents Hot Spot list anymore. Photo: Press office of the Komi Ministry of Industry.

The city of Vorkuta was earlier exposed to high air contamination from a number of local enterprises. Vorkuta Cement Plant was in 2003 responsible for 25% of the dust emissions in the city of Vorkuta.

In order to reduce the dust emissions and achieve more economic production, the owner installed an electrostatic filter in 2013. This gave a reduction in dust emissions from the plant by 98%.

The Hot Spot on dust emissions to air from the Vorkuta Cement Plant in Komi (Komi Ko2-1) was excluded from the Barents Hot Spot list in 2017 due to the significant reduction in dust emissions from the plant.

Since January 2017, the company is, however, not in operation.

## Arkhangelsk Pulp and Paper Mill in Novodvinsk

The Arkhangelsk Pulp and Paper Mill in Novodvinsk is located upstream Arkhangelsk city. In 2003 the mill was included on the Barents Hot Spot list due to its emissions to air and discharges of insufficiently treated wastewater.

Since then substantial environmental improvements have been achieved by the enterprise through a set of measures including reconstruction of boilers, installation of new filters and promoting efficient production. One of the biggest investments was the reconstruction of mechanical and biological treatment of wastewater. This installation had a significant positive impact on the local environment. In addition to its own wastewater, the mill is also treating the wastewater from the town of Novodvinsk.

Measures to reduce the emissions to air have also been implemented and there are plans for further improvements. The Russian environmental authority



Arkhangelsk Pulp and Paper Mill. Photo: Norwegian Ministry of Climate and Environment

Rosprirodnadzor confirms that the improvements at the Arkhangelsk Pulp and Paper Mill have contributed to a decrease in total discharges of pollutants to water by 54% and a decrease in total air emissions by 20% from 2003 to 2013.

The Hot Spot Arkhangelsk Pulp and Paper Mill, Novodvinsk (Arkhangelsk A4) was excluded from the Barents Hot Spot list in 2017.

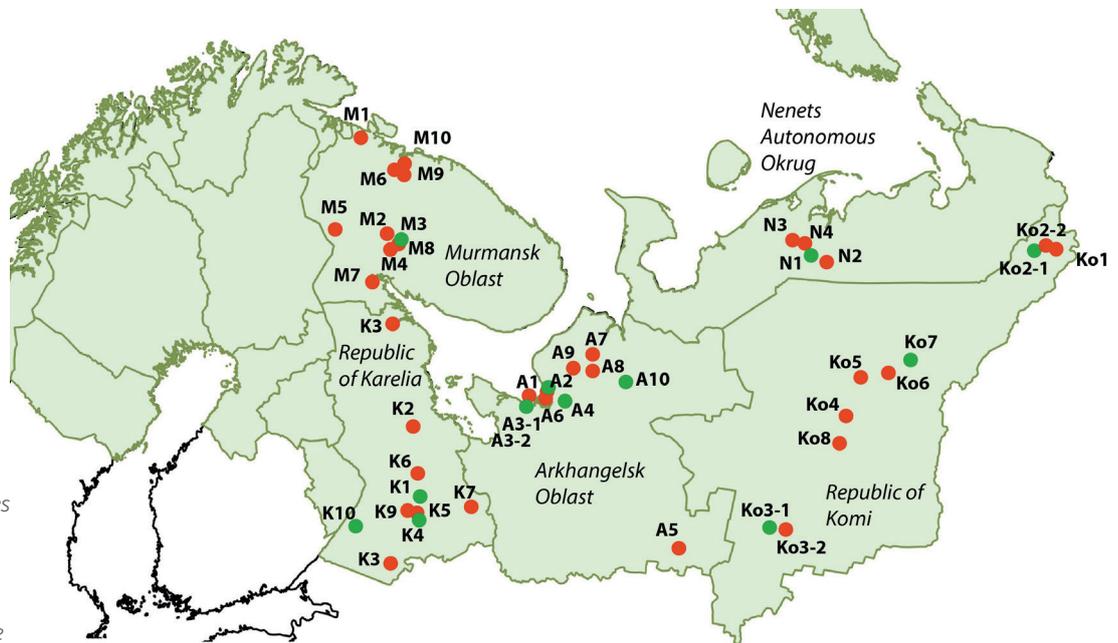
## Mondi Pulp and Paper Mill, Syktyvkar, Komi Republic



Mondi Pulp and Paper Mill, Syktyvkar. Photo: Press office of Mondi Syktyvkar JSC

In 2003, the Mondi Pulp and Paper Mill in Syktyvkar was alone responsible for almost 75% of total industrial emissions to air and also of the largest volumes of polluted wastewater in Syktyvkar. The emissions to air have already been significantly reduced through a large scale reconstruction of soda recovery boiler units, and was therefore removed from the Barents Hot Spot list in 2015 (Komi Ko3-1).

Since then, important work has also been done on the treatment of waste water (Komi Ko3-2). The Mondi Syktyvkar Pulp and Paper Mill is expected to seek exclusion from the Barents Hot Spot list when the modernization of the waste water treatment system is finished.



*Barents  
Environmental Hot  
Spots. Green indicates  
that the Hot Spot is  
excluded from  
the Hot Spot list.  
Map by Arctic Centre*

## The Barents cooperation contributes with capacity building to support environmental improvements at Hot Spots

The Russian legislation on Best Available Techniques (BAT) for the industry was adopted in 2015. The new legislations will introduce a system of state regulation of environmentally hazardous industries, more similar to the Nordic countries. A list of 300 enterprises have been selected as pilots for the new legislation. Some of these enterprises are also on the Barents Hot Spot list, like Kola GMK, owning the nickel producing plants in Nikel (Murmansk M1) and the Arkhangelsk Pulp and Paper Mill in Novodvinsk (Arkhangelsk A4). By 2019, these enterprises will need to have approved plans for fulfilling the BAT demands within their branches.

The Barents cooperation on Hot Spots aims to contribute to capacity building for environmental authorities and Hot Spot owners to make the transition to the new BAT legislation smoother. Hot Spot supporting activities are developed with funding through the Barents Hot Spots Facility, a funding instrument managed by NEFCO, to promote Hot Spot exclusion. The Barents

cooperation has contributed to a seminar aimed at BAT implementation in Pulp and Paper Industry and started competence enhancement projects in the waste management sector.

Through the Barents cooperation on Hot Spots, experts from the environmental authorities of the Barents countries meet and exchange experience and practices on pollution control. Exchange of knowledge and technology between enterprises of different branches of industry in the Barents region is also possible through this cooperation.

### THE BARENTS COOPERATION

The Barents Euro-Arctic Council (BEAC) is a forum for intergovernmental and interregional co-operation in the Barents region. It gathers the Barents countries and regional authorities to promote stability and sustainable development in the Region. The cooperation on Hot Spot exclusion is one of many topics of cooperation.

### NEFCO

The Nordic Environmental Finance Corporation (NEFCO) is an International Financial Institution specialised on financing environmental projects. NEFCO is a possible partner in Financial Solutions for Environmental Action Projects in the Barents Region.

NEFCO has long experience on working with industries and enterprises in the neighbourhood of the Nordic countries. Its green financing is targeted at small and medium-sized projects with demonstration value.

See more information at [www.nefco.org](http://www.nefco.org)

For more information about the Barents cooperation on Hot Spots see the website of the Barents cooperation: [www.barentscooperation.org/en/Working-Groups/](http://www.barentscooperation.org/en/Working-Groups/)

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