

Presentation: “Current Status of Water Management Sector in Arkhangelsk Region
and
Nenets Autonomous Area”

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Water resources are the true wealth of Arkhangelsk Region and Nenets Autonomous Area. The surface water resources in these areas are described by dense river network, multiple lakes and wetlands.

Due to climatic conditions and geographic location of the territory, in particular, Nenets Autonomous Area (vast permafrost, extensive bogginess, sea water effect in coastal areas), drinking water supply appears rather challenging.

Slide No. Hydrographically, Arkhangelsk Region belongs to the White Sea Basin. The Northern Dvina River, the most important in the North of European Russia, is inferior in terms of water content only to the Volga and Pechora. The long-term average annual volume of its runoff is 112 km³, with estuarial flow rate being 3.5 thousand m³/s. The Northern Dvina is 744 km long. Its basin area equals 357 thousand km², which ranks the river the biggest in the European North of Russia. In the place of its confluence to the White Sea, the Northern Dvina forms a delta with multiple river arms. Apart from its forming rivers, the main tributaries include the Vychegda, the Vaga and the Pinega.

Slide No. Nenets Autonomous Area is washed in the west the by the White Sea, in the North – by the Barents and Pechora Seas, in north-east – by the Kara Sea, all forming multiple bays. The Pechora River is the biggest in the north of Russia in terms of water content and the second biggest in terms of water-producing area. It annually brings about 127 km³ of fresh water to the Barents Sea. The Pechora in 1809 km long, with the catchment basin of 322 thousand km². Its main tributaries flowing in the Nenets Autonomous Area include the Kolva, the Shapkino, the Laya.

In 2009, the total volume of **water withdrawn** from the natural water bodies in Arkhangelsk Region amounted to 672.79 mln m³: 91% of which account for the surface water bodies and 9% - for underground sources.

In Arkhangelsk Region, water resources are mainly withdrawn for industrial, domestic and agricultural purposes. In 2009, the main bulk of withdrawn water was used as follows:

- Industrial purposes –82%;
- Utility and drinking purposes – 17%;
- Agricultural water supply – 1%.

Losses in transit account for the average of 5% of the total water withdrawn annually.

Slide No. shows the 2005-2009 data on the water use in the Northern Dvina River, Arkhangelsk Region.

The diagram shows that the total volume of the water used in this period has decreased, which has been caused by reduced consumption by the industry.

In 2009, the total volume of water withdrawn from natural water bodies of Nenets Autonomous Area amounted to 27.94 mln m³: 22% of which account for surface water bodies and 78% - underground water sources.

Water resources are withdrawn for industrial, domestic, agricultural and other purposes.

In 2009, the main bulk of withdrawn water was used as follows:

- Industrial purposes – 14%;
- Utility and drinking purposes – 8%;
- Agricultural water supply – 1%;
- Other (reservoir pressure support) – 77%.

Losses in transit account for the average of 1 % of the total water withdrawn annually.

Slide No. shows the 2005-2009 data on the water use in the Pechora Basin.

The diagram shows the increase in total volume of water used in this period, which, in turn, was caused by the increased demand in technical water (from the underground sources) needed for maintaining reservoir pressure when developing new oil fields.

Slide No. In the Northern Dvina Basin within Arkhangelsk Region, **waste waters are discharged** into surface water bodies and onto local terrain.

In 2009, as compared to 2005, the volume of waste water discharged into surface water bodies has decreased by 42.40 mln m³, of which standard-quality (untreated) waste waters has increased by 17.9 mln m³.

The structure of waste water discharged into natural water bodies included 69% of polluted, 29% of standard-quality (untreated) and 2% of treated-to-standard-quality waters. Among polluted waste waters, 88% are classified as insufficiently treated and only 12% goes untreated.

The capacity of treatment facilities in 2005-2009 has remained practically unchanged and was measured 927.35 mln m³. Only 2% of the total waste waters achieve the regulatory standards. This is caused by inadequate operation of the treatment facilities.

Slide No. The waste waters discharged by Arkhangel'sk businesses are standardized for the total of 29 pollutants. The pollutants list is given in Table: "Pollutants Discharged with Waste Waters Produced by Arkhangelsk Industry in 2009 as compared to 2008".

The 2009 table shows that everywhere in the region the discharge of BOD_C has decreased by 41%, of suspended matter – by 30%, of tannin – by 88 %, of sulphate lignin – by 18 %, of formaldehyde – by 32%, of aluminum – by 11%, of zink – by 64 %, of phenols – by 39 %, of

synthetic surface active substances – by 28 %, of copper – by 43%, of methanol – by 41%, of ferrum – by 34%, of phosphorus – by 19%, of turpentine – by 18%.

Slide No. In Nenets Autonomous Area (NAA), waste waters are discharged into surface water bodies, underground and onto local terrain.

With development of new oil fields, in 2009 the discharged water volume has increased by 0.12 mln m³, as compared to 2005. At the same time, the volume of standard-quality (untreated) waste waters has been reduced by 0.32 mln m³.

The standard-quality (untreated) waters account for 31% in total waste water volume, the polluted – for 69%. All polluted waste waters are classified as insufficiently treated, which, again, is caused by unsatisfactory operation of municipal treatment facilities.

Slide No. The current total capacity of NAO's treatment facilities equals 1.16 mln m³ and has increased, as compared to 2005, only slightly.

In accordance with Article 26 of RF Water Code of 03.06.2006, certain functions in water relations regulation, previously fulfilled by the Russian Federation, are now delegated to state authorities of constituent entities of the Russian Federation, namely to the Government of Arkhangelsk Region. These functions include the power to **lease** the federally-owned **water bodies or the parts thereof** in Arkhangelsk Region and Nenets Autonomous Area. Water bodies can be leased on the basis of water management agreements and respective governmental decisions, except in cases where a water body cannot be leased for the country's safety and defense reasons, in which case a special resolution of the Government of the Russian Federation will be issued. Other restrictions concern leasing seas and water storage reservoirs in the jurisdiction of Dvina-Pechora Basin Water Directorate.

The right stating documents will come into effect always provided that a registration record is made in the State Water Register. It is the Water Resources Department for Arkhangelsk Region and Nenets Autonomous Area (at Dvina-Pechora Basin Water Directorate) that is in charge of state registration of water management agreements, water leasing resolutions, assignment of contracted rights and liabilities and termination of water management agreements valid in Arkhangelsk Region and Nenets Autonomous Area, in the State Water Register.

Slide No. The agreements and resolutions registered are as follows:

As of 24.11.2010, there are 604 water use permits registered for Arkhangelsk Region and Nenets Autonomous Area in the State Water Register. They include:

- 189 agreements, 183 of which are concluded by Arkhangelsk Regional Agency for Natural Resources and Environment (previously referred to as Arkhangelsk Regional Department of Natural Resources until 01.01.2010) and 6 – by Dvina-Pechora BWD;
- 133 addenda, 126 of which concluded with Arkhangelsk Regional Department of Natural Resources and 7 with Dvina-Pechora BWD;

- 282 water body leasing resolutions, 273 of which were issued by Arkhangelsk Regional Department of Natural Resources and 9 by Dvina-Pechora BWD.

Due to incompleteness and inconsistency with legislation, 47 agreements, 34 addenda and 58 resolutions (prepared by Arkhangelsk Regional Agency for Natural Resources and Environment (previously referred to as Arkhangelsk Regional Department of Natural Resources until 01.01.2010), were denied state registration.

Due to incompleteness of documentation, Water Resources Department for Arkhangelsk Region and Nenets Autonomous Area has also rejected applications for title to the use of water bodies filed in 6 agreements and 7 resolutions.

In accordance with RF Water Code of 03.06.2006, water management has not been **licensed** since 2007. The number of water use licenses currently in force is 75 in Arkhangelsk Region and 21 for Nenets Autonomous Area. (see the slide featuring registration data)

Slide No. **The water area** leased under the issued right stating documents **totals**, as of 10.11.2010, **18,9090 km²** and includes 16,4933 km² leased in Arkhangelsk Region (with 2,2056 km² of sea water area) and 2,4157 km² in NAA. The water areas are leased for the purpose of bridge construction, mining operations (extraction of channel sand), vessel and floating craft placement.

The economic regulation of water relations mainly relies on **fee-based water use**, system of water bodies protection and restoration funding and the system of economic incentives for sustainable use, rehabilitation and protection of the water bodies.

Water management and protection activities carried out in Arkhangelsk Region in 2009 are estimated to cost (according to statistical reporting No.2-OC) 350 026 mln RUR, while those carried out in the Nenets Autonomous Area – 10 138 mln RUR.