

EFQM Good Practice Competition 2015

Achieving Sustainable Excellence

Registration form

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The registration form and submission report have to be returned together with the video to Vinciane Beauduin at EFQM (Vinciane.beauduin@efqm.org) by 15 May 2015 at the latest.

Should you have any queries, feel free to contact Vinciane Beauduin via email at Vinciane.beauduin@efqm.org, or by phone on +32 2 775 3510.

Good Practice - Submission Report

Good Practice Title	“Vodokanal St.Petersburg: we are responsible for the Gulf of Finland” (to ensure compliance with the UN Global Compact 7th principle “Businesses should support a precautionary approach to environmental challenges”)
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Link to the video: <https://www.dropbox.com/s/8i51nioo3er1l2n/EFQM-2.mov?dl=0>

Organisation overview

The State Unitary Enterprise “Vodokanal of St. Petersburg” dates back to 1858. Today, Vodokanal supplies potable water to 5 Mio. inhabitants and tens of thousands of enterprises in the second largest city of the Russian Federation, and ensures wastewater collection, transportation and treatment.

Before 1978, wastewater was not treated at all in the then Leningrad. Around 3.5M cubic meters of untreated wastewater were daily discharged into the Neva and the Gulf of Finland.

At that time, the Baltic Marine Environment Protection Commission (HELCOM) regarded Leningrad-Petersburg as one of the major polluters of the Baltic Sea.

The first wastewater treatment plant was put into operation in 1978. Then the first stage of Central WWTP began to function, and 27 % of municipal wastewater was sent to treatment. In 1987, the first stage of Northern WWTP was put into operation. By the early 21st century, 67% of wastewater was treated, but neither percentage of wastewater treated nor wastewater treatment quality complied with HELCOM requirements.

At that time, the wastewater treatment process in St.Petersburg as well as in the whole Russian Federation did not ensure removal of phosphorus and nitrogen (nutrients which initiate growth of blue-green algae in the Gulf of Finland and in the Baltic Sea as a whole) from wastewater. Therefore, the Gulf of Finland and the Baltic Sea were blooming, and odour of decaying blue-green algae reduced considerably the recreational appeal of the coastal area.

On 22 September 2005, South-West WWTP was inaugurated in the presence of the Russian President Vladimir Putin, the Finnish President Tarja Halonen and the Swedish Prime-Minister Göran Persson. The South-West WWTP construction is an example of international environmental and financial cooperation, a large-scale investment project. Dozens of companies were involved in the project implementation. It is here that a public-private partnership scheme was used in Russia for the first time ever. The project was supported by the governments of the Nordic countries, international financial institutions and donor organizations. The level of wastewater treatment reached 85%.

Besides, South-West WWTP was first to implement phosphorus and nitrogen removal technologies.

Later, other St.Petersburg wastewater treatment plants were modernized, and technologies of phosphorus and nitrogen removal were introduced there.

In 2011, St.Petersburg thanks to the work performed by Vodokanal managed to ensure full compliance with HELCOM recommendations: since that year, phosphorus concentration in the effluent has not exceeded 0.5 mg/l; nitrogen concentration - 10 mg/l.

In 2013, Vodokanal completed a huge environmental project directly related to the improvement of the Baltic Sea condition - the Northern Tunnel Collector was built in Petersburg. With the Collector in place, 76 direct discharges were closed and 334,000 m³/day of wastewater were no longer discharged into the Neva and the Gulf of Finland.

Today, no one refers to Petersburg as a polluter. Petersburg and Vodokanal demonstrated a successful solving of environmental problems. As much as 98.5% of the city wastewater undergoes treatment. Vodokanal treats wastewater at 13 WWTPs where the treatment processes fully meet the international requirements. Petersburg complies with the HELCOM Recommendations to the full extent: phosphorus concentrations in the total volume of the city effluent do not exceed 0.5 mg/l, and nitrogen concentrations – 10 mg/l.

Functioning of permanent snow-melting stations also contributes to the improvement of the condition of the Baltic Sea and the Gulf of Finland. In winter Vodokanal uses wastewater heat to melt the snow at snow-melting stations. The melt waters go for treatment at the wastewater treatment plants. In this way, dirty snow and polluted melt waters do not get into water bodies.

Another important element of the wastewater treatment system created in Petersburg is sewage sludge incineration plants. Petersburg is the world's first city to fully solve the sludge disposal problem. There are three sludge incineration plants in the city. In addition to the main task, sewage sludge utilization, the incineration plants produce heat and electricity enabling Vodokanal to reduce its demand for purchased energy.

Traditionally, Vodokanal is strongly focused on social projects aimed to develop careful and responsible attitude to water in the society.

The development of water consumption culture and the preservation of the Baltic Sea basin are inherent in Vodokanal's mission, while responsibility to future generations and to the society is one of its basic values.

Vodokanal has its Youth Environmental Centre (it works to develop skills of careful attitude to water among children, and through them – among their parents) and the Universe of Water museum complex (the museum programmes demonstrating the value of water are targeted to the family audience); the website Da-Voda dedicated to careful water use has been created and is developing with the support from Vodokanal (da-voda.com; Vodokanal could organize interaction with active Internet audience due to this website).

Desired Results

St.Petersburg is the biggest city on the coasts of the Baltic Sea. Therefore, St.Petersburg Vodokanal bears special responsibility for the ecological well-being of the Baltics and the Gulf of Finland.

Conservation of the Baltic Sea basin is the most important mission of St.Petersburg Vodokanal.

Over the last ten years, with the support of the Government of Russia, St.Petersburg authorities and international institutions, Vodokanal has implemented large-scale projects targeted for the reduction of adverse impact on water bodies, first of all, on the Gulf of Finland and the Baltic Sea.

Thanks to the success achieved by St.Petersburg Vodokanal in the field of wastewater treatment, environmental protection and environmental awareness-raising, old ideas about St.Petersburg as the major polluter in the Baltics are sweeping away.

98.5 % of wastewater was treated in St.Petersburg at the beginning of 2015. It is a very high figure for a big city. Vodokanal plans to raise this figure to 100% in the coming years. At the same time, Vodokanal continues to improve wastewater treatment technologies, in particular, by cooperating with the Baltic Marine Environment Protection Commission (HELCOM) to survey the content of microplastics and pharmaceuticals in the effluent.

Approach

Over the last ten years, important events took place in St.Petersburg which facilitated environmental enhancement of the Gulf of Finland.

In 2005, South-West Wastewater Treatment Plant was set into operation. In 2007, Vodokanal together with its Finnish partners launched the implementation of advanced phosphorus and nitrogen removal processes at municipal wastewater treatment plants. In the same year, sludge incineration plants were commissioned at South-West Wastewater Treatment Plant and Northern Wastewater Treatment Plant.

In 2011, reconstruction of Petrodvorets Wastewater Treatment Plant was completed. In the same year, overall results of the Clean Baltic Sea Project were summed up: St.Petersburg began to meet recommendations of the Baltic Marine Environment Protection Commission on a full scale; in particular, the content of phosphorus in total municipal effluent has not exceeded 0.5 mg/l since that moment on. It was achieved thanks to the implementation of nutrient removal systems at wastewater treatment plants.

In 2012, permanent snow-melting stations were set into operation in St.Petersburg. Snow-melting stations utilize sewage heat to melt the snow, and then the produced melt waters are sent to treatment. The snow that earlier was piled in city streets and taken away to suburbs where it melted till midsummer, now is utilized; and melt waters undergo treatment.

In 2013, the largest environmental project – the Northern Tunnel Collector Construction - was finalized. Thanks to that project, 76 untreated wastewater discharges were closed. The Neva River and the Gulf of Finland were released from discharge of 334,000 m³ untreated wastewater per day.

In 2014, upgrading of wastewater treatment plants in the suburbs of St.Petersburg was carried out. Installation of sewerage networks along Petrogradskaya Embankment was completed (19 untreated wastewater discharges were diverted to the sewerage system). In December 2014, the untreated wastewater discharge from Petrovskiy Stadium was eliminated (9 direct discharges equivalent to $\approx 1,000$ m³/day were closed). In 2014, construction of the sewer along Admiralteyskaya Embankment was launched. The construction works were completed in April 2015. Commissioning of the sewer enabled to close six direct discharges in the center of the city (next to the Bronze Horseman). Design works for the construction of the first stage of Okhta Tunnel Collector to close untreated wastewater discharges into the Okhta River and design works for the closure of direct discharges into the Karpovka River have been finalized.

Deployment

Activities, targeted for the environmental enhancement of the Gulf of Finland and implemented over the last ten years, caused a massive public outcry. South-West WWTP was inaugurated in the presence of the heads of the states; the project on the implementation of nutrient removal systems was officially announced completed at the presence of the Finnish President Tarja Halonen.

A remarkable event that involved international partners was the inauguration of the Northern Tunnel Collector Construction Project.

Unfailing interest of the public and mass media is attracted to the operation of permanent snow-melting stations, Help the Pinnipeds Project and activities of the Baltic Seal Friends Fund.

The Youth Environmental Centre (YEC) and the Water Museum, being a part of Vodokanal, have been telling schoolchildren and youth about Vodokanal's operations and impact on the Gulf of Finland for almost 13 years. Participants of the first programmes are now grown-ups. They became aware of their responsibility for the environment in childhood and today, in their adulthood, they make decisions with due regard for these principles.

Schoolchildren – the core group of YEC – took part in signing the Youth Declaration on the Gulf of Finland Protection.

The year 2014 was declared “the Gulf of Finland Year” by the decision of three countries: Russia, Finland and Estonia. The initiative was suggested both by official persons and by the academic community. The curators of the Gulf of Finland Year were: the President of the Russian Federation Vladimir Putin - on the Russian side, the President of the Republic of Finland Sauli Niinistö – on the Finnish side and the President of the Republic of Estonia Toomas Ilves – on the Estonian side.

The citywide festival “Gulf of Finland – Area of Cooperation” took place in St.Petersburg on 19-20 September 2014. Vodokanal actively participated in the organization of that festival.

Information about Vodokanal's production and social projects aimed at the protection of the Gulf of Finland is placed on the Company's web-site. Support is rendered by the Da-Voda portal devoted to solicitous attitude to water (www.da-voda.com) and by its main character – the Neva Crayfish, which has his pages in the social networks (VKontakte, Facebook and Twitter). Vodokanal also has its pages in the social networks, where the Company tells about important events related to the protection of the Gulf of Finland.

Assessment

Today, 98.5% of wastewater undergoes treatment in St.Petersburg and St.Petersburg meets all recommendations of the Baltic Marine Environment Protection Commission.

Satellite observations show that today the Gulf of Finland is almost released from blue-green algae.

In summer 2014, within the frame of the Gulf of Finland Year, a panel discussion devoted to the Baltic Sea was organized in Hamina (Finland). At that panel session the representatives of Finland (the Admiral Juhani Kaskeala, the Chair of the John Nurminen Foundation Juha Nurminen and the expert of the Finnish Environment Institute Seppo Knuuttila) emphasized successful practices of St.Petersburg in solving environmental tasks. The regional Finnish newspaper Kymen Sanomat published the article highlighting that results of wastewater treatment upgrading in St.Petersburg were apparent in the eastern part of the Gulf of Finland, since the reduction of phosphorus discharge cut down the number of blue-green algae.

The Chairman of the Finnish Public Council of the Gulf of Finland Year Matti Vanhanen, who participated in the festival “Gulf of Finland – Area of Cooperation” in St.Petersburg, noted that conditions of the Gulf of Finland, in particular, of its eastern part, became much better when St.Petersburg reached a new level in wastewater treatment.

Refinement

Long-run projects of Vodokanal targeted for further improvement of the situation in the Gulf of Finland were reflected in the St. Petersburg Water and Wastewater Master Plan approved by the city government. According to that document, 100% treatment of wastewater will be ensured in the coming years. In order to get that done, the remaining untreated wastewater discharges including discharges into the Okhta River, the Karpovka River etc. will be closed.

The Company will proceed with improving wastewater treatment technologies taking into account potential toughening of HELCOM Recommendations on phosphorus and nitrogen content.

One of the promising directions for development is the interaction of Vodokanal with industrial companies. Municipal wastewater treatment plants are not designed for the treatment of specific industrial pollutants. Therefore, according to the existing rules, industrial customers are obliged to discharge to municipal sewerage system wastewater that does not contain such specific pollutants. Unfortunately, it is not always the case. To improve on, Vodokanal implements a new system for monitoring the composition of industrial wastewater discharged to municipal sewerage system. At the same time, Vodokanal assists industrial companies in selecting optimal and efficient wastewater treatment technologies to remove specific pollutants. All these measures will contribute to the reduction of pollutants discharge and environmental enhancement of the Gulf of Finland.

Vodokanal will also develop its social and awareness-raising projects in order to get the idea of careful attitude to water bodies and, in particular, to the Gulf of Finland across the widest audience.