

Development of Local Self-Government A Russian-Danish Project

Municipality of Gusev Urban District – Kaliningrad – Russian Federation

Municipality of Odense – Odense Waste Management Company Ltd. – Denmark

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The demand for a clean environment for aesthetic and health reasons is one of the primary concerns of the administration of Gusev District. As acknowledged by residents of neighbouring districts of Kaliningrad Oblast, today Gusev has a wide variety of natural features for visitors and local community to enjoy. To confirm this, Gusev is awarded the Best Outdoor Amenities in Kaliningrad Oblast annual prize for the third time in a row.

According to the Federal Law of 06.10.09 No. 131-FZ “On general principles of the organization of local self-government in the Russian Federation”, the issue of waste management, including the identification of a number, types and locations of waste collection and recycling sites on the territory of the municipality, lies within the competence of local self-government.

Currently, installation and utilization of waste collection sites does not meet environmental and hygienic guidelines which leads to environmental hazard, particularly at weekends and bank holidays.

Reasons for this are wide-ranging and include shortage of waste bins, lavish consumption of food stuffs by the public (especially throughout summer and autumn), and excessive packaging of consumer products. The situation is aggravated with inefficient schedules of personnel and transport engaged in waste collection, low hygiene awareness of a large part of the population, and inefficient location of waste bins and other waste collection sites. Removal services for bulky items and oversized construction waste are not yet in place which makes citizens deposit these wastes at normal waste bins/collection sites, or fly-tip.

Unauthorised waste removal from public buildings, offices, producers and other facilities factors into further solid household waste proliferation. Unreported and uncontrolled, waste streams get fly-tipped, or illegally deposited onto land, i.e. dumped on a site with no license to accept waste. Lack of modern landfill facilities for the disposal of solid household waste, as well as for recycling, is by far the most thorny issue of local significance. All these circumstances call for an urgent action to improve local waste management and establish a cutting-edge waste recycling facility.

Based on the above, it was agreed to close and recultivate the old landfill and to establish a new cutting-edge waste recycling facility.

Co-operation with the municipality of Odense within the project has provided an invaluable opportunity to get abreast of the latest developments in waste management and to visit and closely examine the performance of a full-service municipal waste management facility.

The municipality of Gusev works towards the establishment of a cutting-edge waste management facility which will be achieved through the following targets:

- To develop design specifications and estimates for landfill construction
- To develop authorised sites for the disposal and collection of solid household waste in accordance with hygienic norms in communities with less than three thousand inhabitants linked to the principal transport networks
- To acquire new waste collection vehicles to ensure that waste collection sites comply with hygienic requirements
- To encourage community participation in keeping the local environment clean through the implementation of the All-Russian Days of Environmental Hazard Prevention and other regional and district-level environment related events
- To introduce a system of separate collection of household waste
- To establish a safe reception facility for all types of hazardous waste (including industrial waste, clinical and sanitary waste etc)
- To establish a cutting-edge waste recycling facility

The waste recycling facility will occupy 80 hectares and comprise an entrance checkpoint gate, a weighing station, offices, a processing area, a garage for the waste collection vehicles, a warehouse, an emergency diesel power station, a vehicle washing and disinfection facility, and a waste water and sewage sludge treatment facility. The landfill will be designed and constructed in line with best practice reference and resources provided by the municipality of Odense.

The entrance checkpoint will be equipped with video cameras which will transmit the signal to the security administrator, recording the identity of any arriving vehicle. Weighing and incoming waste registration will be performed at the entrance. These procedures will be monitored by an automated system similar to *Potok* used by the Russian State Traffic Safety Inspectorate. This will facilitate an accurate monitoring and record keeping of waste. Then, waste will be transported to the sorting and recycling facility with a capacity of 40 thousand tonnes per year. Here the waste will be unloaded for the initial sorting where bulky items will be removed. The rest of waste will be transported to the separation belt where the valuable content will be selected, weighed, and pressed into manageable

briquettes. The briquettes will be then conveyed to the storage site where they will be stored before being sent to the recycling facility. Useless content will be likewise briquetted and sent to the landfill.

The key objective of the new landfill is to ensure and sustain safe operation and to prevent spontaneous ignition of waste. The design efforts were also focused on reducing the time of construction and the amount of investments.

In the design of the new landfill an impermeable membrane slid made of geotextile is used to ensure an efficient means of safeguarding against leakage and to increase the landfill storage capacity up to 20%.

Another requirement met in the design of the new landfill was that contaminated water drain be treated to an appropriate safety standard so it can be discharged in the environment. It is also planned to install wells for landfill gas collection in the form of vertical perforated pipeworks built up along the full height of the landfill filled with briquettes.

Particular focus will be placed on introducing waste collection and removal procedures in all rural settlements, which will be achieved through the following activities:

- to agree on waste collection and removal procedures and to give clear information and advice about the new service to residents;
- to agree on standards of waste generation in both modern and ill-equipped households and to estimate the amount of waste generated by each settlement;
- to identify a service provider;
- to introduce obligatory service fees for residents.

The above measures will ensure effective household waste collection in rural areas and prevent fly-tipping.

The newly-established waste management facility equipped with modern selection and initial processing technology will allow to close the old landfill and to start remediation and recultivation measures.

The facility will pay out with revenues from collection service fees and from reselling of briquetted recovered materials. As soon as the facility reaches the planned capacity, measures will be initiated to further extend its capacity to reach the complete recycling of the incoming waste streams, safe incineration of waste residuals and heat/electrical energy recovery.

The waste management facility will likewise include a disposal site for sorted waste accepted from residents. The site will be equipped with containers for

different types of waste and with storage facilities for hazardous waste — such as expired medicines, broken mercurial thermometers and fluorescent tubes, plastic containers with residual chemicals, varnishes, paints, accumulators and batteries — which until recently had been dumped onto the landfill.

The waste management facility also foresees a waste composting site which will become the first facility of the kind in Kaliningrad Oblast.

The waste management facility will also include a site for clinical and sanitary waste disposal.

The facility will cater for the needs of Gusev District, as well as the needs of nearby Ozyorsk, Chernyakhovsk, Nesterov and Krasnoznamyonsk Districts of Kaliningrad Oblast.

A central place in our concept is given to efficient approaches toward allocation of municipal financial resources into waste recycling and capacity building of waste recycling facilities.

Co-operation between our municipalities will be focused on the following key priorities that will guide the future changes to waste management: to raise public awareness on waste issues and encourage behaviour change; to organise effective community-based solid household waste collection and sorting sites in order to improve recycling capacities; to establish relationships with recycling companies and promote relevant enterprises in the city of Kaliningrad.

Working on the project alongside the Danish colleagues allowed us to bring their knowledge, experience and innovations to the Russian realities. Many of Danish developments were used as a reference in waste management concept building for Gusev Urban District, including, first of all, installation of separate waste collection facilities in urban and rural areas and development of a collection site for accepting separate waste from residents which will occupy three hectares as already foreseen in design specifications and estimates.

It was also agreed to foresee a waste composting site which brings an unprecedented waste technology to Russia.

An asbestos containing waste disposal site and an oil-contaminated soil treatment site are likewise included in the project, as suggested by the Danish partners.

A computer registration, monitoring and record keeping system has been put in place.

A hazardous waste reception facility is planned to be installed.

A landfill gas collection system will be foreseen in design specifications.

We have not yet managed to establish co-operation with recycling and recovery of waste materials. We hope, however, to catch up on this towards the end of the project with the assistance of our Danish colleagues.