

TGF Project Profile : Combined Vodokanal Sludge Incineration Projects, St Petersburg, Russia

The Project Activity

The combined Vodokanal Sludge Incineration Project is a Joint Implementation project developed between the Russian Federation and the investor countries and companies of the Baltic Sea Region Testing Ground Facility (Iceland, Norway, Sweden, Denmark, Finland and Germany, DONG Naturgas, Fortum, Kymppivoima, Kerevan Energia, Gasum, Outukumpu, Vapo and Vattenfall) and the European Bank for Reconstruction and Development (EBRD) for the account of the Netherlands. The JI project was initially prepared by NEFCO on behalf of TGF (in its capacity as Fund Manager to the Facility) but will be jointly purchased by TGF and EBRD.

The project developer and owner is the State Unitary Enterprise Vodokanal of St Petersburg. (the City Owned water company) and the statutory water undertaker in the city.

The project proposes to install two wastewater sludge incineration plants, one at the south west wastewater treatment plant (SW WWTP) and the other at the northern WWTP (NWWTP). The project will reduce GHG emissions by reducing methane releases at two existing sludge lagoons.

Technology

Implementation of the project therefore requires installation of fluidised bed incinerators with heat recovery, electricity generation (from 4MVA steam turbines) and gas cleaning systems. Each unit will consist of two lines of sludge incineration furnaces, heat recovery systems on exhaust gases, two electrostatic precipitators and one line for dust removal.

The system is based on proven technology used extensively in the EU, and will be only the second plant of its kind in the Russian Federation. It will be designed to ensure compliance with EC Directive on Waste Incineration. The projects are being carried out by major international contractors.

Nature of Emission Reductions

The primary source of greenhouse gases is methane released from two existing sludge lagoons under the current business as usual scenario. There are no legal requirements in Russia to collect or combust methane from sludge at WWTPs. Also there is the potential for reduction of GHGs from fossil fuel based electricity that supplies the electricity grid or district heating systems. However, these savings are small or negative since natural gas and electricity are consumed by the incinerators.



Existing Sludge Lagoon for South West WWTP

The investment project is expected to result in an emission reduction of 467,000 tCO₂e over the crediting period. The emission reductions will be purchased jointly by the TGF and the EBRD for the account of the Netherlands.

For a full explanation of the methodology used (CDM approved methodology AM0013) please refer to the Project Design Document.

Other Benefits

An environmental study was carried out by independent consultants, and concluded that the Project will result in considerable environmental benefits, likely to perform well within international

environmental standards, and that it will have no significant adverse environmental impacts. In particular, atmospheric emissions were modelled and were not judged to be significant; and the site is particularly suitable for a development of this type and has no sensitive neighbours.

The investments will also lead to

- a significant reduction in pollution of Neva Bay and the Baltic Sea and improved water quality
- reduced environmental risks from discontinued or reduced land disposal
- Technology transfer and capital investment into the key municipal environmental infrastructure sector
- Improved management through the demonstration of the Public Private Partnership model in the Russian Federation for other municipal and environmental infrastructure projects



Primary Sedimentation Tanks at South West WWTP

Contribution of Carbon Finance

The combined projects represent a major capital investment of €252 million. The projects are financed through a mixture of own equity, loan financing (from NEFCO, Nordic Investment Bank, EBRD and the European Investment Bank) grant funding (EU TACIS and the Northern Dimension Environmental Partnership) and carbon finance contribution from the TGF and EBRD.

The financing of the incinerators foresaw a contribution from the JI mechanism, and the project has been under preparation since 2004 when it was part of the original TGF pipeline.

For Further Information

Ash Sharma

Manager, Testing Ground Facility, Nordic Environment Finance Corporation

ash.sharma@nefco.fi

Friso de Jong, Netherlands Carbon Fund, EBRD

DeJongF@ebrd.com

Dmitry Saltykov, Vodokanal of St Petersburg

saltykov_DN@vodokanal.spb.ru

For General Information on the TGF, visit <http://www.nefco.org/tgf>