

Environmental and Social Data Sheet

Overview

Project Name:	BLOMINMÄKI WASTEWATER TREATMENT PLANT
Project Number:	2014-0618
Country:	Finland
Project Description:	Construction of a waste water treatment plant in Espoo, Finland
EIA required:	yes
Project included in Carbon Footprint Exercise ¹ :	no

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The proposed project concerns construction of a new wastewater treatment plant in the bedrock in Blominmäki, Espoo, Helsinki region. The WWTP will replace the old Suomenoja plant whose capacity is becoming insufficient to treat wastewater generated by residents in the Municipalities of Espoo, Kauniainen, Kirkkonummi, Siuntio and Western Vantaa. The WWTP design capacity is 550,000 population equivalents. The project includes inlet and discharge tunnels, and one new water supply main.

The treatment objectives set out by the Promoter are stricter than those imposed by the Urban Wastewater Treatment Directive (91/271/EEC) and the local standards (HELCOM's Recommendation 28E/5, 2007), taking into account the sensitivity of the Baltic Sea ecosystem. Biological secondary and tertiary treatment stages will enhance nutrients removal ensuring effluent concentrations of total nitrogen and phosphorus at exceptionally low levels.

The Blominmäki sanitation component requires a full EIA according to the EU legislation and the Finnish legislation as well. The EIA procedure was successfully completed in November 2008. The final EIA report has been provided to the Bank. The water supply main does not require an EIA nor does it affect protected areas.

Construction of the WWTP requires acquisition of new land. The total area of the WWTP is approximately 13 hectares, of which 10 hectares is underground in the bedrock. The surface area will be fenced. Design documentation will include Land Acquisition Plans. The inlet and discharge tunnels as well as water supply pipe do not require acquisition of new land. After commissioning the new plant the old Suomenoja WWTP will be demolished and the area will be used for other purposes in line with the municipal planning.

The Promoter will ensure that the project is implemented in compliance with the EIB's environmental and social standards, ILO and Finnish labor standards, and with the Environmental and Social Management Plan (ESMP).

With the above environmental and social conditions in place the project is considered to be acceptable for the Bank financing from an environmental and social perspective.

Environmental and Social Assessment

Environmental Assessment

The Promoter is committed to respect the WWTP effluent standards in full compliance with Finnish regulations (see table below). The values proposed for Blominmäki project are lower than required by the Urban Waste Water Treatment Directive (91/271/EC) as amended. The project represents a substantial improvement of treatment process compared with the current situation through application of best available technologies.

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO₂e/year absolute (gross) or 20,000 tons CO₂e/year relative (net) – both increases and savings.

The new WWTP is designed to meet the following effluent quality:

Load factor	treatment objective ¹⁾	current permit condition ²⁾	HSY's proposal for the permit condition ³⁾	HELCOM recommendation	UWWD 91/271/EEC limits ⁴⁾
Phosphorus (P _{tot})	< 0.2 mg/l	< 0.4 mg/l	< 0.3 mg/l	< 0.5 mg/l	1 mg/l
Phosphorus removal efficiency	> 96%	> 93%	> 95%	> 90%	≥ 80%
Nitrogen (N _{tot})	< 5 mg/l	-	-	< 10 mg/l	10 mg/l
Nitrogen removal efficiency	> 90%	> 70%	> 70%	> 70–80%	≥ 70-80%
Biochemical oxygen demand (BOD ₇)	< 8 mg/l	< 10 mg/l	< 10 mg/l	< 15 mg/l	25 mg/l
BOD ₇ removal efficiency	> 96%	> 95%	> 95%	> 90%	≥ 70-90%
COD					125 mg/l
COD removal efficiency					≥ 75%
SS					35 mg/l
SS removal efficiency					≥ 90%

- 1) HSY's own treatment objective, which has been set for the entire influent wastewater volume, including bypass water.
- 2) Current permit condition of the Suomenoja wastewater treatment plant
- 3) Environmental permit application for the Blominmäki wastewater treatment plant on 31 December 2013
- 4) For WWTPs above 100,000 PE discharging into sensitive water bodies. UWWD applies BOD₅ not BOD₇; where BOD₅ = 25 mg/l is proportional to BOD₇ = 28.5 mg/l

The sewage sludge will be digested and dewatered. It will be applied in agriculture after composting. The composting plant is owned and operated by the Promoter. The sewage sludge is expected to be of good quality within the limits for agriculture use. The biogas produced during digestion process will be utilised to produce heat and electricity. It is foreseen that over 50% of the WWTP's energy consumption will be covered by electricity generated from the biogas.

There may be some negative impacts during the construction process, but most of these will remain temporary, and with careful implementation management will be reduced or resolved.

Social Assessment, where applicable

Construction of the WWTP requires acquisition of 3 hectares of land located outside the urban area. The respective Land Acquisition Plan including all necessary access roads, connections etc. has been prepared by the Promoter. No resettlements are needed.

Effective project management and works supervision will be required to minimise negative disturbances, inconveniences and impacts during the construction works on people and nature. The Environmental and Social Management Plan (ESMP) for the WWTP and pipes together with anticipated selection of experienced contractors suggest that adequate mitigation measures will be put in place.

Labour and health and safety standards

The Promoter will ensure that the project is implemented in compliance with the EIB's environmental and social standards, ILO and Finnish labour standards, and with the ESMP.

Public Consultation and Stakeholder Engagement, where required

The EIA procedure was completed in 2008. It followed national regulations, including the public consultation (Act on Environmental Impact Assessment Procedure, 468/1994, section 8a).

Other Environmental and Social Aspects

n/a