European Investment Bank

Luxembourg, 21/03/2024

Environmental and Social Data Sheet

Overview

Project Name:	2023-0640
Project Number:	HELEN - GREEN TRANSITION CAPEX
Country:	Finland
Project Description:	Investment in two RE heat generation projects in the district heating sector: (i) heat pump plant and (ii) fuel conversion from coal to biomass pellets.

EIA required: no

Project included in Carbon Footprint Exercise[1]: yes

(details for projects included are provided in section: “EIB Carbon Footprint Exercise”)

Environmental and Social Assessment

The Project concerns the construction of two District Heating (DH) generation units located in Helsinki. The first unit is a heat pump (90 MW of heat and 60 MW of cold) which will use recovered energy from purified sewage water. Purified sewage water or cooling return water can be used as a source of heat production. The second unit is an existing coal-fired boiler commissioned in 1986 to be converted to wood pellets. The related district heating system fulfils the criteria of an efficient network as stipulated by the Energy Efficiency Directive.

The investment's objective is to increase heat production from renewable sources replacing previously used fossil-based plants, thus the project will contribute to reduction of greenhouse gas emissions. It will result in 252 MW of new renewable heat generation capacity (heat pump and biomass boiler) and 1100 GWh of RE heat generated by year.

Environmental Assessment

The investments in heat generation included in the programme fall within Annex II[2] of the EIA Directive 2011/92/EC amended by Directive 2014/52/EU thus requiring the competent authority to decide whether an EIA is required or not. The Regional State Administrative Agency did not request the EIA for the boiler conversion to pellets, however, it decided that the project required an update of the existing environmental permit granted for coal combustion (the relevant decision was granted on 16/6/2023). The Helsinki City Environment Agency did not request an EIA for the heat pump project, the Agency decided also that the project does not require an environmental permit due to its minor environmental impacts.

The heat pump will use the excess heat carried with purified sewage water. The plant will be built underground in an existing tunnel near Munkkisaari’s heating plant. Some excavation

[1] Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20 000 tonnes CO_2e/year absolute (gross) or 20 000 tonnes CO_2e/year relative (net) – both increases and savings.

[2] Industrial installations for the production of electricity, steam and hot water (projects not included in Annex I)

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works are necessary in order to fit the plant onto the premises. The approximate volume to be excavated is about 40 000 m^3. During operations, the sewage will be returned to the sewage tunnel at a temperature of about 5°C. The heat pump plant will use 100 % renewable electricity and HFO-refrigerant R1234ze which has a Global Warming Potential of 7. The average Coefficient of Performance of the heat pump will be 2.6.

The existing coal-fired hot water boiler K7 in Salmisaari A power plant will be converted to use exclusively wood pellets. Following the environmental permit, the boiler will comply with the emission limits below the thresholds established by the Industrial Emissions Directive 2010/75/EU, this includes also regular reporting to competent authorities. The efficiency of the plant will exceed 100% due to the installation of a flue gas condenser. There is already an existing wood-pellet boiler working on site and the current project is an extension of the existing pellet reception and storage system.

The environmental impacts of the projects are expected to be minor and related mainly to noise, vibration, dust, and traffic disruption during the construction and operation (the pellets will be transported by trucks, approximately 18 truckloads per day). No impact on biodiversity and protected areas is expected. The promoter has the capacity and is committed to implement the necessary mitigating measures at the design, construction, and operation stages. They include, for example, an appropriate planning of excavation works and of transportation and deposition of excavated soil and rocks, special construction procedures to minimize damages and disturbance, traffic management measures. Overall, the environmental negative impacts of the project are expected to be negligible. Project's potential positive environmental and social impacts result from advantages of using heat pumps and RE fuel instead of fossil fuels.

The converted boiler will combust around 160 000 t of wood pellets per year. The promoter requires all supplies to have a PEFC, FSC or equivalent certificates. The promoter also complies with the sustainability and minimum greenhouse gas savings requirements of the RE Directive (EU) 2018/2001.

The project has been assessed for Paris alignment and is considered to be aligned against both low carbon and resilience goals set out in the Climate Bank Roadmap (renewable heat generation using sustainable biomass and heat pumps, immaterial physical exposure to climate change).

EIB Carbon Footprint Exercise

Both heat generation assets (heat pump and biomass-fired boiler) are considered as renewable sources of energy, therefore their associated CO_2 emissions are zero. HFO-refrigerant leakage is estimated to contribute to a very minor portion of CO_2 release into the atmosphere. Assuming that the alternative to the project would be a gas-fired boiler, the CO_2 savings reach 237.6 kt CO_{2e}/year. For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

EIB Paris Alignment for Counterparties (PATH) Framework

- The counterparty is in scope and screened into the PATH framework, because it is considered high emitting and high vulnerability.
- The counterparty is deemed to meet the requirements of the PATH framework with its existing alignment plans.

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Public Consultation and Stakeholder Engagement

Public consultations, when necessary, are organised by the competent authority, as part of the permitting process.

Other Environmental and Social Aspects

Helen is an experienced district heating generation and distribution company, with an in-house team responsible for the environmental and social aspects of projects. The company holds ISO 14001 and ISO 45001 certificates.

The Bank reviewed the environmental and social capacity of the Promoter, including its organisation and procedures, and deemed them to be good.

Conclusions and Recommendations

Based on the information available, the Project is expected to have minor negative residual impacts and thus is acceptable for Bank financing from an environmental and social perspective provided the fulfilment of the following undertakings:

- All the biomass sourced as a fuel for the project need to align with the EU biomass sustainability criteria principles as defined in the Directive EU 2018/2001 (Article 29) and with the EU Timber Regulation (EU/995/2010).
- Wood supply chain and the underlying forest management practices are to be certified, or if not yet certified, they have to be aligned with the standards so as to be certifiable by internationally accredited certification schemes (e.g., FSC or PEFC).
- The greenhouse gas emission savings from the use of pellets will comply with the thresholds provided in the Directive EU 2018/2001, Article 29, point 10 (d).
- The Promoter undertakes to take into account and implement conditions expressed in any screening-out decision or EIA consent granted by the competent authority for nature and environment.
- The Promoter undertakes to store and keep updated any documents as may be relevant for the project supporting the compliance with the provisions under the EU Habitats and Birds Directives and shall upon request promptly deliver such documents to the Bank.
- The Borrower undertakes not to engage in investments in incompatible activities, in line with the Bank's PATH Framework requirements.