

Environmental and Social Data Sheet

Overview

Project Name:	LAHTI BIOMASS CHP PLANT
Project Number:	2015-0636
Country:	Finland
Project Description:	Construction of a new biomass based CHP plant for Lahti Energia.
EIA required:	yes
Project included in Carbon Footprint Exercise ¹ :	yes

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

Environmental and Social Assessment

Environmental Assessment

The plant will be located at a brown field site within the boundaries of an existing facility. With the deployment of modern technology based on renewable biomass, the project will eliminate an existing coal-fired unit bringing significant CO₂ savings and decreased pollution. If Phase 2 is implemented, it will also result in more efficient production than separate generation of electricity and heat.

Originally, the project fell under Annex I of the EIA Directive (2011/92/EU) due to projected heat output above 300 MW and has undergone a mandatory environmental impact assessment according to the EU requirements for this type of plant (eventually the feasibility study suggested much lower capacity of around 200 MW). The Environmental Impact Statement was completed in 2014 and presented for public consultations. It found the plant's impact on environment acceptable. The environmental permit for the investment is expected in 2Q 2016. The Natura 2000 authority was consulted during the EIA process.

Based on the outcomes of the environmental assessment process undertaken, the capacity of the project promoter to manage and implement the mitigation measures and the location of the site, the project is acceptable for Bank financing, subject to the conditions and undertakings identified.

The project's main environmental impacts are mostly positive, resulting from elimination of coal-fired unit and decreased emissions (e.g., emissions of SO_x and NO_x will be decreased by 70% in comparison with the coal-fired unit which will be decommissioned). The list of negative impacts includes dust and increased traffic during the construction of the plant, and waste generation (ash), increased traffic, noise, airborne pollutants and discharge of water during its operation. The project complies with the atmospheric emission limits for NO_x, SO_x, particulates and other pollutants defined by the Directive 2010/75/EU on Industrial Emissions. There is no Natura 2000 site in the vicinity of the project. The modelling of noise levels revealed no significant negative impact.

The project promoter is a large energy company in Finland, ISO 14001 certified, and has a high capacity to manage environmental and social impacts and risks and the measures listed above.

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.

EIB Carbon Footprint Exercise

Absolute CO₂ emissions from the plant are close to zero thanks to combustion of biomass. 3 kT of CO₂e/yr are emitted during start-up operations from combustion of natural gas.

The baseline emissions for the plant are calculated assuming that electricity is generated separately from heat. Electricity-related baseline emissions result from the fact that the plant will displace existing (grid) and new (CCGT) power generators in Finland. Heat-related baseline emissions of CO₂ are emissions from a gas-fired boiler, the most likely alternative heat generator. Taking these assumptions into account, baseline emissions are 297 kT CO₂e/yr resulting in 294 kT CO₂e/yr of emission savings.

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.

Public Consultation and Stakeholder Engagement

The project has undergone a public consultation process according to the Finnish legislation. All comments have been satisfactorily addressed.

Other Environmental and Social Aspects

The project will require annually up to 450,000 m³ (solid) of fuel wood which will be sourced locally within a radius of 100 km, and mainly (60%) within 60 km radius from the plant. The fuel wood will be sourced from forests that comply with sustainable forest management standards, stipulated by internationally accredited forest certification systems, such as PEFC and FSC.

Conclusions and Recommendations

The Bank's undertakings will ensure that the fuel wood is sourced from sustainably managed forests that comply with the forest management standards of internationally accredited forest certification systems, such as FSC and PEFC. The relevant contractual conditions will include the following requirements:

The promoter shall

- renew, on an annual basis, contractual agreements for the forest biomass sourcing with the suppliers for quantities corresponding to at least 50% of the annual biomass demanded with contracts that have a quantity weighted average of the remaining duration of at least 3 years, at the satisfaction of the Bank, for the duration of the EIB loan. Each contract has to explicitly define
 - the type and quality of the forest biomass;
 - the terms of delivery with relevant penalty clauses in case of delivery failures;
 - the terms for an option to extend the contract (duration and volumes).
- source forest biomass from forests that are certified by internationally accredited forest certification systems, such as FSC (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forest Certification). The sourcing areas that are not yet certified, have to comply with the same standards so as to be certifiable.
- for the duration of EIB loan, submit annually for the Bank's review an independent external audit report on compliance with the best practices of the forest biomass sourcing areas that are not yet certified.
- exclude sourcing of biomass from areas with natural forest conversion and logging of primary moist and tropical forests.
- comply with the EU FLEGT (Forest Law Enforcement Governance and Trade) Regulation when sourcing of biomass, if applicable.

Besides this, the Promoter will ensure that the cumulative CO₂ emissions over any twelve month period from the plant's operation in a heat-only mode do not exceed 225 g CO₂/kWh_{th} of generated useful heat and, in case such fact occurs or is likely to occur, inform the Bank and present a plan to remedy the situation to the Bank's satisfaction. The Promoter will ensure also that the cumulative CO₂ emissions over any twelve month period from the plant's operation in a cogeneration mode do not exceed 550 g CO₂/kWh_e and, in case such fact

occurs or is likely to occur, inform the Bank and present a plan to remedy the situation to the Bank's satisfaction.

Before the first disbursement the Promoter shall provide to the Bank the following documents:

- an environmental permit for Phase 1 scope of investment (biomass boiler).
- a biomass sustainability policy, satisfactory to the Bank, with terms imposed on forest biomass sourcing, ensuring that the best practices, as defined by the internationally accredited forest certification systems, such as FSC and PEFC, are followed in forest management of the sourcing areas.
- copies of the signed forest biomass sourcing contracts proving the compliance with the undertaking related to biomass contractual agreements.