

Environmental and Social Data Sheet

Overview

Project Name:	<i>OULUN ENERGIA CHP PLANT</i>
Project Number:	<i>2017-0803</i>
Country:	<i>FINLAND</i>
Project Description:	<i>The Project is Combined Heat and Power (CHP) biomass-fired plant of capacity 70 MWe (electric) and 175 MWth (heat and steam) to replace an existing solid fuel (peat and biomass) plant in order to meet the requirements of the Industrial Emissions Directive.</i>
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

With a thermal capacity of less than 300 MW, the project falls under Annex II of the EIA Directive (2014/52/EU amending Directive 2011/92/EU) leaving it to the competent authority to determine if an EIA is to be conducted. However, the plant was originally planned with a thermal capacity over 300 MW and integrating a biorefinery and thus a full EIA process was conducted. The EIA was presented in November 2014 and environmental permit was issued in December 2017 following public consultation and the appropriate assessment regarding impacts on Natura 2000 areas was integrated in the permit process.

The environmental impacts, as presented in the EIA, are mostly positive, resulting from the decreased emissions (e.g., emissions of SO_x and NO_x will be decreased by 70% in comparison with the old unit which will be decommissioned). The plant will be located at a brown field site in an industrial area within city limits. With the deployment of modern technology based on renewable biomass, the project will eliminate an existing fossil fuel unit bringing significant CO₂ savings and decreased pollution. As a high efficiency CHP plant it will also result in more efficient production than separate generation of electricity and heat.

Negative impacts include 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

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.

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revealed no significant negative impact. Before construction can start, the site has to be cleared from deposits of soot and other power plant wastes and soil cleaned.

The plant is designed to meet the requirements of the Commission's Implementing Decision (EU) 2017/1442 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants. The emissions levels in line with BAT is also conditions in the environmental permit.

The Project is designed as a multi-fuel power plant running on biomass, peat and Solid Recovered Fuels (SRF). The promoter's base assumption is that it will use biomass to at least 70% of the fuel input with peat providing 15% of the fuel and SRF another 15 %. The amount of SRF is restricted by the environmental permit that also limits the various waste origins according to the BREF document.

Peat is not considered a renewable but treated as a fossil fuel with specific carbon emissions comparable to coal. However, it is a local and available fuel in Finland and as such provides a good backup for the promoter in case of disruptions in the biomass supply. Peatlands represent globally significant stores of soil C that have been accumulating for millennia and currently, peatlands globally represent a major store of soil carbon, sink for carbon dioxide and source of atmospheric methane. Losses of peatland C from storage result from changes in the balance between net exchange of CO₂, emission of CH₄, and hydrological losses of carbon. The greenhouse gas (GHG) balance of a peatland depends on relative rates of net CO₂ uptake or efflux and CH₄ and N₂O efflux. Emissions of CH₄ and N₂O are similarly variable in space and time. In the process of peat extraction, the GHG sink function of the peatland is lost. Combustion accounts for more than 90% of the greenhouse gas emissions.

The Project aims to on average base about 15% of its fuel intake on peat. This contributes to a significant reduction in peat use by the promoter. This will be sourced from existing excavation areas and no new areas will be opened. Given the low share of the fuel supply, the project would remain well below the Banks Emissions Performance Standard of 550 g CO₂/kWh_e.

The annual biomass consumption in the plant will be around 500,000 tons. The feedstock will be sourced as forest residue and young thinning from within 100 km of the plant. Over 95% of Finnish forests are certified under Forest Stewardship Council (FSC) and/or Programme for the Endorsement of Forest Certification (PEFC) schemes. In accordance with the EU Timber Regulation, the promoter has implemented a Due Diligence System to guarantee that wood and products made from wood have a legal provenience.

EIB Carbon Footprint Exercise

CO₂ emissions from the plant relate to the combustion of peat and non-renewable SRF whereas the combustion of biomass is considered CO₂-neutral. Consequently, the absolute emissions amount to 112 kT of CO₂e/yr.

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. Considering these assumptions, result in 325 kT CO₂e/yr of emission savings.

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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'.

Other Environmental and Social Aspects

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 measures.

Conclusions and Recommendations

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 promoter shall:

- 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.
- submit regular monitoring reports in accordance with, and as prescribed by, Bank requirements.
- exclude sourcing of biomass from areas with natural forest conversion and logging of primary moist and tropical forests.
- when sourcing of biomass, comply with the EU Timber Regulation (995/2010) and/or EU FLEGT (Forest Law Enforcement Governance and Trade) process, if applicable.
- manage CO₂ emissions from the plant to align with the Bank's EPS standard.