

## Environmental and Social Data Sheet

### Overview

Project Name:	<i>PORI ENERGIA BIOMASS POWER PLANT</i>
Project Number:	<i>2017-0777</i>
Country:	<i>Finland</i>
Project Description:	<i>The Project is Combined Heat and Power (CHP) biomass-fired plant of capacity 15 MW<sub>e</sub> (electric) and 80 MW<sub>th</sub> (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:	no
Project included in Carbon Footprint Exercise <sup>1</sup> :	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. This project was screened out as a replacement investment within an industrial site. Nonetheless, a lighter environmental study has been conducted, an assessment of soil and groundwater conditions. The environmental permit was issued in November 2017 following public consultation and the appropriate assessment regarding impacts on Natura 2000 areas was integrated in the permit process.

The environmental study was completed in June 2017 and presented for public consultations. It found the plant's impact on environment acceptable. The environmental impacts are mostly positive, resulting from and decreased emissions (e.g., emissions of SO<sub>x</sub> and NO<sub>x</sub> 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 within the boundaries of an existing facility. With the deployment of modern technology based on renewable biomass, the project will eliminate an existing fossil fuel unit bringing significant CO<sub>2</sub> 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 is designed to meet the atmospheric emission limits for NO<sub>x</sub>,

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<sup>1</sup> 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 CO<sub>2</sub>e/year absolute (gross) or 20,000 tons CO<sub>2</sub>e/year relative (net) – both increases and savings.

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SO<sub>x</sub>, 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. Based on the soil contamination survey soil refurbishment must be carried out in the area (approximately 1000 m<sup>3</sup>).

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 80% of the fuel input with peat providing 20% of the fuel. SRF, for the time being, remains an option as the promoter has not yet foreseen to make the additional investment in fuel reception and handling required.

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 CO<sub>2</sub>, emission of CH<sub>4</sub>, and hydrological losses of carbon. The greenhouse gas (GHG) balance of a peatland depends on relative rates of net CO<sub>2</sub> uptake or efflux and CH<sub>4</sub> and N<sub>2</sub>O efflux. Emissions of CH<sub>4</sub> and N<sub>2</sub>O 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 30% 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 CO<sub>2</sub>/kWh.

The annual biomass consumption in the plant will be around 250,000 tons. The feedstock will to a large extent be sourced as sawdust and bark from an one on-site sawmill and another sawmill in the vicinity of the plant. This will be complemented by forest residue from within 100 km of the plant. Over 95% of Finnish forests are certified under Programme for the Endorsement of Forest Certification (PEFC) schemes. The sawmills are operated by Finnish forestry companies that are certified for forests under management, as well as for harvesting, buying/selling and transporting timber.

In addition, 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**

CO<sub>2</sub> emissions from the plant relate to the combustion of peat whereas the combustion of biomass is considered CO<sub>2</sub>-neutral. Consequently, the absolute emissions amount to 36 kT of CO<sub>2</sub>e/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

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will displace existing (grid) and new (CCGT) power generators in Finland. Heat-related baseline emissions of CO<sub>2</sub> are emissions from a gas-fired boiler, the most likely alternative heat generator. Considering these assumptions, result in 81 kT CO<sub>2</sub>e/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'.

### **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 forest biomass, comply with the EU Timber Regulation (995/2010) and/or EU FLEGT (Forest Law Enforcement Governance and Trade) process, where applicable
- manage CO<sub>2</sub> emissions from the plant to align with the Bank's EPS standard.

The Promoter shall also inform the Bank prior to starting to use Solid Recovered Fuels.