European Investment Bank

Luxembourg,21st March 2024

Environmental and Social Data Sheet

Overview

Project Name:	*REN-GAS GREEN LIQUID FUELS PRODUCTION - TAMPERE*
Project Number:	*2023-0868*
Country:	*FINLAND*
Project Description:	*Design, implementation and operation of a renewable hydrogen production facility (40 to 50 MW) for the production of synthetic methane, located next to an existing CHP, close to the city of Tampere, Finland.*
EIA required:	yes
Project included in Carbon Footprint Exercise:	yes

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

Environmental and Social Assessment

The project is a sub-operation and allocation to a Lending Envelope (LE), for which a separate ESDS (2022-0056) has been prepared.

It concerns the development, installation and operation of a large-scale (~40 to 50 MW) renewable hydrogen/synthetic fuel production facility, whereby the hydrogen (H2) would serve as a basis for synthetic fuel ("e-methane") production, similar to natural gas. A fuel loading terminal will be built next to the methanation building, from which the liquified e-methane will be retrieved by tanker trucks for supply to the offtaker, for the use in the transport sector.

The carbon dioxide (CO2) needed for the production of synthetic fuel will be sourced from flue gases of the existing Combined Heat and Power (CHP) plant, operating on the basis of refuse derived fuel (waste). The project site is located in Taraste area of Tampere, ~20 km northeast from the city centre. In the immediate vicinity to the project area (northeast) is the Tarastenjärvi CHP plant, a waste recycling centre, a former landfill and a high voltage transmission line. The site borders in the east to a parking area, and to the south to the highway. The land is owned by the city of Tampere and is currently unoccupied.

Environmental Assessment

Production and storage of H2 falls under item 6a,c of Annex II of EIA Directive 2011/92/EU (as amended by Directive 2014/52/EU), for which Member States shall determine whether the project shall be made subject to a mandatory EIA based on defined criteria. According to the national legislation[1], having transposed EU legislation and governing the EIA procedure, hydrogen production is subject to a legally mandatory EIA.

The competent authorities have granted approval in 2023[2], in form of a Reasoned Conclusion. Part of these conclusions is that residual impacts were classified of small magnitude and low significance.

The main environmental impacts of the project identified in the EIA process comprise temporary, short-term heavy traffic increases, with associated noise, dusting and particulate emissions and temporary decline in groundwater level during the construction period. The effects can be mitigated.

During the operation of the plant, residual impacts on the environment are mainly caused by a small increase of noise emissions levels. The competent authority is of the opinion that the project will have positive climate impacts by replacing the use of fossil fuels in heavy transport with synthetic methane produced by the plant.

[1] Environmental Impact Assessment ("EIA Act" 252/2017), Government Decree on the Environmental Impact Assessment Procedure (EIA Decree 277/2017)

[2] Puhtaiden P2X-kaasupolttoaineiden ja CO2-vapaan kaukolämmön yhteistuotantolaitos, Tampere (ymparisto.fi)

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There is no significant impact on the soil and bedrock. The areas, where endangered species and habitats, listed in Annex IV(a) of the EU Habitats Directive, might occur, are in far distance to the project site and not affected.

Following this EIA, the project requires a separate environmental permit[3] to be issued by a different (permit) authority. The Reasoned Conclusions to the EIA report contain thus recommendations for mitigation measures to be considered for the granting of the permit, such as e.g. stormwater management, precautionary accident and disruption plan to mitigate impacts from hydrogen and methane storage, etc.

EIB Carbon Footprint Exercise

It is calculated for a base case hydrogen production - in accordance with the Bank's current Carbon Footprint methodology - that the expected hydrogen and subsequent synthetic fuel ("e-methane") volumes from the project would avoid natural gas consumption and lead to reduction of CO2 equivalent emissions of ~30 kt CO2e/year, over the lifetime of the project. Furthermore, the excess process heat to be supplied to the existing district heating system in the project's area would avoid an equal share of gas and biomass consumption for domestic heating, leading to the reduction of CO2 equivalent emissions of ~20 kt CO2e/year, over the lifetime of the project.

For the annual accounting purposes of the EIB Carbon Footprint, emissions of allocated projects will be prorated according to the lending amount signed in that year, as a proportion of project cost of actually financed installations.

The competent authority however notes that there is uncertainty about the estimated carbon emission reduction of the use cases for the synthetic fuel produced by the project, as a function and evolution of the assumed specific emission factor in the region. In addition, the climate impact assessment depends on that "fully renewable" electricity is continuously available to the project whilst the EIA report indicates some uncertainty to that for all operational modes of the project.

Social Assessment

The project area is already heavily shaped by human activity. The operation of the project does neither result in significant changes in the landscape or the built cultural environment, nor does the project have significant adverse effects on human health, comfort or living conditions.

The project will create about 200 person-years of temporary employment during implementation. Twelve full time equivalent (FTE) posts are expected to be created for the operational phase of the plant. The employment conditions and the level of inclusion will be in line with national regulations.

Public Consultation and Stakeholder Engagement

Public consultation of EIA programme (Scoping) was undertaken from 11/2022 to 01/2023. The competent authority issued its positive opinion to the scoping report in 02/2023. Subsequently, the promoter has submitted the EIA report in 05/2023 for consideration and a reasoned conclusion by the competent authority. The public had access to the report in the period from 05/2023 to 06/2023, including the opportunity to attend a public hearing in hybrid format. Attendance was reportedly low, and no questions were raised by the public.

Other Environmental and Social Aspects

The national EIA process comprises a scoping exercise ("EIA programme"), defining the framework of the actual environmental impact assessment, to which the competent authorities opine, including the considerations collected through a public consultation/hearing.

[3] Environmental Protection Act (527/2014) and Government Decree on Environmental Protection (713/2014)

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The assessment itself, based on the scoping report, presents the project's characteristics, technical solutions, and the unified assessment of the project's environmental impact. The report of the assessment will be equally subject to public consultations/hearings. The EIA procedure ends when the competent authority issues a Reasoned Conclusion including statements and opinions of other stakeholders. The Reasoned Conclusion forms the basis for a subsequently needed environmental permit to be issued by a different (permit) authority. An environmental permit can only be granted when the EIA procedure is completed. For the permit the project needs to meet the requirements of the Environmental Protection Act and other legislation.

Based on the current generic design for a H2 production plant, it would be considered a facility pursuant to sections 4a and 4b of Appendix 1 of the national Environmental Protection Act, hence requiring an environmental permit. Further necessary permits comprise those required by (a) the national Act on the Safety of the Handling of Hazardous Chemicals and Explosives (390/2005), if the hydrogen production facility would involve large-scale storage of hazardous chemicals; (b) the SEVESO III directive, as a hydrogen production facility is estimated to exceed the threshold for a major accident hazard.

Conclusions and Recommendations

Based on the reporting by the promoter, it is concluded that this project has been found acceptable for the Bank's financing in E&S terms and is considered to be compliant with the relevant EU and national environmental legislative framework by the national competent authorities.

The Bank will require the promoter to undertake:

- to obtain positively granted environmental permits prior to that the Bank's funds will be allocated to a hydrogen production facility;
- to send electronic copies of the facility's EIA programme and report to the Bank for publication on its website;
- to send to the Bank copies of all EIA decisions and environmental permits issued by the competent authorities;
- to provide the competent authorities' decisions concerning the need for an appropriate assessment of potential impacts by a facility on the integrity of Natura 2000 sites;
- to take into account and implement conditions expressed in any screening decision, Opinion, Reasoned Conclusion, or environmental permit granted by the competent authorities for the project;
- to store and keep updated any documents as may be relevant for the project, supporting the compliance with the provisions under the EU Environmental acquis;
- to promptly deliver, upon request, such documents to the Bank.