

Luxembourg, 6th February 2024

Environmental and Social Data Sheet

Overview

Project Name:	<i>SINES GREEN HYDROGEN PRODUCTION</i>
Project Number:	<i>2023-0533</i>
Country:	<i>Portugal</i>
Project Description:	<i>Implementation and operation of a very large-scale, grid-connected electrolyser (100 MW) for renewable hydrogen production to be supplied to a refinery</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

The project concerns the development, implementation and operation of a large-scale (100 MW) hydrogen production plant. The plant is planned to manufacture renewable hydrogen to be supplied to refinery facilities including to a future large-scale Hydrogenated Vegetable Oil (HVO, i.e. biodiesel) plant, outside of the scope of the project. The hydrogen production plant will be equipped with an electrolyser composed of ten arrays, each with ten 1MW stacks, complemented by associated equipment, such as air cooling, connecting internal pipework and other utility networks. Targeted annual average production volume of the renewable hydrogen over the entire envisaged operating period is in the order of ~10 kt/year. The nominal production capacity amounts to ~15 kt/year.

The project's scope will further comprise one new high-voltage substation (150 kV) to connect the electrolyser to the transmission network with a new transmission line of short distance (6km).

The hydrogen production plant will be located in the municipality of Sines, within the district of Setúbal, Portugal.

Environmental Assessment

Production and storage of hydrogen and transmission lines with a voltage lower than 220 kV fall under 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. Further, H₂ production needs to demonstrate compliance with applicable industrial safety regulations related to the handling and storage of chemical products in terms of safety and accident prevention, such as the SEVESO directive.

The competent authorities required to conduct EIAs for the hydrogen production plant and the transmission line separately, given that for each part different authorities are in charge.

The competent authorities have granted approval, containing requirements to mitigate environmental impacts accordingly. Residual impacts were classified of small magnitude and low significance.

For the transmission line, competent authorities concluded that impacts to the environment during the construction phase are temporary, rated minor to medium, and residual impacts during the operation phase are negligible, incl. those on flora and fauna, visual and cultural heritage, provided the identified mitigating measures will be implemented and respected.

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 CO₂e/year absolute (gross) or 20,000 tonnes CO₂e/year relative (net) – both increases and savings.



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The project is considered to be “Paris aligned” as it entails electricity supply from the grid, which is considered to be “fully renewable” according to Annex A.1.5 of Commission Delegated Regulation (EU) 2023/1185, cross-referenced in the Bank’s Energy Lending Policy and the Climate Bank Roadmap.

EIB Carbon Footprint Exercise

In accordance with the Bank’s current Carbon Footprint methodology, the net reduction in CO₂ equivalent emissions at the refinery is estimated at ~98 kt CO₂e/year, based on the expected renewable hydrogen production in relation to the avoided natural gas used for the current conventional production of hydrogen.

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 promoter/counterparty is a corporate (listed) entity in scope under the PATH and screened in for both dimensions, active in a high emitting sector as defined by the PATH and operating in a context of high vulnerability.

The promoter/counterparty is in a transition phase, with a sound managerial awareness on Climate Change objectives. They meet the requirements of the Bank’s PATH framework with its existing alignment plans², establishing long-term objectives towards carbon intensity reduction and aiming at becoming a net zero company by 2050.

The promoter/counterparty is active in activities considered incompatible with the Paris Agreement in the PATH Framework, notably oil production. Based on the conditions set out in paragraph 4.28 of version 1.1 of the PATH framework, the counterparty is deemed to meet the PATH requirements.

In summary, the promoter/counterparty is deemed to meet the requirements of the PATH Framework decarbonisation, physical climate risk and vulnerability.

Social Assessment

The project will create about 800 person-years of temporary employment during implementation. Twenty 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.

Further, this project supports the strengthening of the EU’s economic, social and territorial cohesion, by contributing to the objectives of the Regional Strategy of Smart Specialisation of Alentejo, where the renewable hydrogen sector is referenced in particular. Amongst others, the project is considered to support the structural objective of “Increase the regional human resources qualifications”. Given the project’s location in a rural area, it is expected to promote employment, growth and local development in that area.

Public Consultation and Stakeholder Engagement

Public consultation of environmental documentation for the hydrogen plant was undertaken from 04 to 06/2023. Derived from the environmental permit, provided by the promoter to the Bank, the permit decision taken by the competent authority has considered information of the promoter’s permit application, and further, additional information possibly triggered by requests from the other authorities and public consultees. That information was assumingly subject to an analysis by the relevant experts of the competent authorities to then conclude on granting a permit. The information has to be presented by the promoter/applicant based on national regulations, having transposed the relevant EU Directives into national law.

² [Accelerate decarbonisation across our ecosystem \(galp.com\)](https://galp.com/accelerate-decarbonisation-across-our-ecosystem)



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Conclusions and Recommendations

The EIA study has adequately identified and assessed individual and cumulative impacts of the project, namely, noise, dust and increased traffic during the construction phase and risk assessment, hydrologic cycle and visual impacts during the operation phase. Further, the study has evaluated impacts on biodiversity and ecosystems, loss of habitats, and impacts on cultural and archaeological patrimony. The assessment also determines the significance of identified impacts and proposes measures to avoid, reduce, mitigate and compensate these. Based on the information provided by the promoter, it is concluded that this project has been found environmentally acceptable and compliant with the relevant EU and national environmental legislative framework by the national competent authorities, and thus is acceptable for the Bank's financing in E&S terms.