

Environmental and Social Data Sheet

Overview

Project Name:	AIN SOKHNA GREEN AMMONIA
Project Number:	2022-0666
Country:	Egypt
Project Description:	The project entails the development, implementation and operation of a 100 MW electrolysis plant in Egypt for the production of hydrogen. The produced hydrogen will be used in an ammonia production plant in Ain Sokhna.

E&S Risk Categorisation:	Medium risk
Project included in Carbon Footprint Exercise ¹ :	Yes

Environmental and Social Assessment

Due to its small scale and footprint and as it is taking place within an industrial site, the Project entails limited adverse environmental, climate and/or social impacts and risks that might be addressed through the application of mitigation hierarchy.

Environmental Assessment

The Project entails a 100MW electrolysis plant and its associated grid connection infrastructure. The Project is located in Ain Sokhna, approximately 35km south of Suez City and 8km west of the Suez Gulf. The equipment is deployed on a 4ha plot within an existing industrial parc. The electrolysis plant will connect to a new 220kV/20kV substation under construction, nearby an existing 220kV substation, in the border of the industrial park. This new substation connects to the existing 220kV substation by two overhead towers (2km overhead line). A 6.5km long buried 22kV cable will transport power from the new substation to the electrolysis plant.

The Project will produce hydrogen which will be transported via a short pipeline in the neighbouring existing fertilizer plant. The hydrogen will thereafter be converted to ammonia which will be transported via a 7km existing pipeline in the existing port terminal facilities for offloading in tankers for export. The Project does not entail any investments in the existing ammonia plant nor in the ammonia transportation and storage facilities.

The national environmental permitting framework is established by law 4/1994, Law on Protection of the Environment, its executive regulations and amendments. Projects are classified into four categories in terms of their environmental impacts, as following

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.

- Category A: for the projects with minor/ limited environmental impacts.
- Category B: for the projects which may result in moderate environmental impacts.
- Category Scoped B: for the projects with potential significant environmental impacts due to some components, but not the type of project itself. A Scoped EIA study is prepared for such project with a focus on the major component, but without a public consultation.
- Category C: for the projects with potential significant environmental impacts due to the type of the project itself. This category requires a full EIA study with public consultation as a main component.

The Project was proposed to be categorized as “Scoped B” based on (i) its location which is within the premises of an industrial park and (ii) its location is owned by an existing and operating facility that has already obtained an EIA approval for their processes – and the site was intended to be used for the future expansion of the ammonia plant. A Scoped EIA report has been prepared for the Project and the permitting authority approved this classification and exempted the Project from the full ESIA process. The Project has been approved by the authorities with conditions. The environmental approval also covers the substation, the two overhead towers and the underground 20kV cable.

The implementation of the Project entail limited E&S risks due to its small scale and footprint and as it is taking place within an industrial site.

The operation of the Project requires electrical energy and water for electrolysis, cooling and other uses. The electrical energy will be supplied via the grid from renewable energy plants. The environmental permit of the Project entails also an approval for the abstraction of water from an underlying aquifer and which will be desalinated using reverse osmosis. The concentrate from the desalination will be injected into the underlying aquifer.

The aquifers in the Project area are impacted by nearby injection of brine from other industries and also seawater intrusion of the nearby coastline. Tests carried out indicate that the salinity is already at a high level. The authorities responsible for the industrial activities in the area, have initiated a tender for a large-scale desalination plant in January 2025.

The water supply of the Project (abstraction and brine injection) will entail impacts on an already heavily modified aquifer from historical industrial activity in the region. The impacts of the Project will be of small scale compared to impacts from the other uses in the area (industrial activity).

Climate Assessment

Climate change mitigation:

The project seeks to produce low carbon hydrogen based on renewable energy sources. It contributes 100% to Climate action – mitigation.

Paris Alignment of projects:

The project has been assessed for Paris alignment and is considered to be aligned both for low carbon and resilience goals against the policies set out in the Climate Bank Roadmap and the Bank's Energy Lending Policy.

EIB Carbon Footprint Exercise

Estimated annual emissions related to the project:

- 7 ktonnes of CO2 equivalent per year for absolute emissions.

- -100 ktonnes of CO2 equivalent per year for relative emissions.

In accordance with the Bank's current Carbon Footprint methodology, the net reduction in CO2 equivalent emissions at the point of use of hydrogen is estimated at ~100 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.

Social Assessment

As the Project is implemented in an already industrialised area, it is not expected to entail negative social impacts during implementation or operation.

The employment conditions and occupational and community health and safety will be in line with the standards of the lenders and the EIB.

Given the nature of the Project as a first of a kind low carbon demonstration, it is expected to promote employment, growth and local development in that sector in the region.

Public Consultation and Stakeholder Engagement

The Project is permitted as a Scoped B category, required to perform a Scoped EIA but without the requirement of a public consultation. The Promoter has carried out stakeholder engagement activities locally in the region with the organizations and industries in the area.

Other Environmental and Social Aspects

The Promoter conforms to the Occupational Health and Safety Management System standard ISO 45001:2018, the Quality Management System standard ISO 9001:2015 and the Environmental Management System standard ISO 14001:2015.

The Promoter will establish an E&S team for the construction and operation of the electrolyser including an E&S compliance manager an E&S advisor, a HSSE officer and a community liaison officer. A safety advisor has been hired.

The Promoter will be required to prepare an ESMP indicating also the resources and staffing necessary for its implementation.

Conclusions and Recommendations

The Promoter has identified and assessed individual and cumulative impacts of the project, during the construction and operation phase.

Based on the information provided by the promoter, it is concluded that this project has been found environmentally acceptable and compliant with the relevant national environmental legislative framework by the national competent authorities. Due to the limited nature of the intervention, the Project is acceptable for the Bank's financing in E&S terms.

Environmental and Social Conditions

The Project will be required to implement an environmental and social action plan including also safety measures and measures to minimize water consumption and specific monitoring plan for water abstraction and disposal. The Project promoter will undertake to regularly consult with the permitting authority and consider recommendations from wider groundwater studies and action plans for the sustainability of underlying aquifers in the area and report on this topic.

Based on the information available and with appropriate conditions and monitoring, the project is acceptable for EIB financing in environmental and social terms.