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Environmental and Social Data Sheet

Overview

Project Name: Energy Dome - Catalyst (IEU GT)
 Project Number: 2023-0127
 Country: Italy
 Project Description: Financing of the company's technology scale-up including First-of-a-kind 20MW-200MWh CO₂Battery installation in Italy.

EIA required: no

Invest EU sustainability proofing required no

Project included in Carbon Footprint Exercise¹: no

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

Environmental and Social Assessment

The project is a long duration energy storage (LDES) system based on a thermodynamic process that stores energy by manipulating CO₂ under different state conditions in a closed thermodynamic transformation. The plant consists of (i) a 25 MW motor-driven compressor, (ii) a series of heat exchangers, (iii) a thermal energy storage module, (iv) a CO₂ gas storage dome, (v) a 20 MW turbine driving a synchronous generator, (vi) a 15/11 kV step-up transformer, and (vii) a 1 km, 15 kV overhead line. The project will provide 10 hours of storage (200 MWh). It will be implemented within an existing industrial site in Ottana, Sardinia, Italy.

Environmental Assessment

Due to its technical characteristics, the Project falls under Annex II of Directive 2014/52/EU amending EIA Directive 2011/92/EU, leaving it to the national competent authority to determine according to Annex III of the said Directive whether an environmental impact assessment is required.

The permitting phase started in September 2022 and is expected to be completed in October 2023. A preliminary Environmental Study was prepared in January 2023 and submitted to the competent authority, the Environmental Impact Evaluation Service (Servizio Valutazioni Impatti e Incidenze Ambientali - Servizio VIA) of the Sardinian Regional Environmental Defence Department, in March 2023.

Referring to the preliminary environmental study:

- The plant will be entirely built within an existing industrial area with existing structures.
- No presence of flora and fauna which may be impacted.
- No impact on the surrounding landscape.

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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- No changes in traffic in the area as the technology does not require a continuous supply of materials.
- No production of waste during normal operation.
- No emissions into the atmosphere as the plant is operating in a closed cycle.
- No wastewater discharges.
- Within noise limits set by law according to the classification of the area.
- Due to the intrinsic characteristics of the technology and the location selected for the construction of the plant, the impact on public health is also expected to be negligible.

The preliminary environmental study has also considered decommissioning in terms of water environment, soil and underwater systems, flora, fauna, and ecosystems, public health, noise, ionising and non-ionising radiation, landscape, and traffic. No significant impact has been identified.

The competent authority transmitted a preliminary investigation report to the Councillor of the Defence of the Environment, containing a reasoned proposal for exclusion from the requirement for an EIA. The Regional Council is in the process of concluding the verification procedure with a final resolution. Although this is still pending, given the analysis performed and the observations received by the competent authority, an Environmental Impact Assessment (EIA) is not expected to be necessary. In that case, a construction permit will need to be requested from the Single Desk for Production and Construction Activities in Sardinia (Sportello Unico per le Attività Produttive e per l'Edilizia in Sardegna - SUAPE), usually granted within 30 days.

This operation intends to bring environmental benefits by supporting an increase in the share of renewable energy in the grid, displacing electricity from fossil fuels and helping to mitigate climate change. Most environmental and social impacts of the Project are expected to be limited, site-specific, and largely reversible with no significant negative residual effects after the implementation of mitigation measures.

Climate Assessment

Physical climate change risks are mitigated in the design stage, by adapting the design of the plant as needed. The plant's operation is independent of ambient temperature, i.e. it is not vulnerable to temperature swings. Furthermore, it has been designed to be resilient to hurricane and storm wind speeds.

Social Assessment

The project does not entail resettlement nor does it affect the livelihood of local population.

Public Consultation and Stakeholder Engagement

The competent authority published the preliminary environmental study on the institutional website², and electronically notified all administrations and potentially interested territorial bodies. The disclosure of the information to the public is sufficiently accurate to describe the environmental and social challenges.

Other Environmental and Social Aspects

N.A

² ["Realizzazione di un impianto per l'accumulo di energia elettrica tramite una batteria a CO2". Comune di Ottana \(NU\). Proponente: Tholos Energia S.r.l. Procedimento di Verifica di assoggettabilità alla valutazione di impatto ambientale \(V.I.A.\). D.Lgs. 152/2006, e s.m.i., e Delib.G.R. 11/75 del 2021. - News Detail Valutazioni Ambientali \(sardegna.sira.it\)](#)



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Conclusions and Recommendations

The Bank reviewed the environmental and social capacity of the promoter including its organisation, process and procedures and deemed them to be good. Based on the information available, and with appropriate conditions (see below) and monitoring in place, the Project is expected to be acceptable for Bank financing in environmental and social terms.

Following the review of both the project selection processes and the project due diligence processes of the promoter, and in view of the conditions proposed below, the operation is considered acceptable for Bank financing from a social and environmental point of view:

- Disbursements will be conditional on the submission to the Bank, and to the Bank's satisfaction, of the relevant EIA and Appropriate Assessment (AA) screening decisions issued by the competent authority.

Undertakings:

- The promoter undertakes to store and keep updated the EIA screening decision concerning the project issued by the competent authority for nature and environment.
- The promoter shall ensure that the Environmental Social Health and Safety management team is adequately staffed with appropriately qualified and experienced staff to meet the E&S requirements of the project.
- The promoter will verify and comply with the relevant EU Directives and national laws. The Promoter will further develop an integrated Environmental Social Management System (ESMS) which will include an occupational health and safety ("OHS") policy and procedures and will be adherent to the EIB's environmental and social requirements.