European Investment Bank

Environmental and Social Data Sheet

Overview

Project Name:	WACKER ADVANCED POLYSILICON MANUFACTURING
Project Number:	2023-0306
Country:	Germany
Project Description:	The project concerns the construction of a new high-tech advanced manufacturing line to produce the next generation of semiconductor grade polysilicon suitable for future microelectronic device applications.
EIA required:	no
Project included in Carbon Footprint Exercise[1]:	no

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

Environmental and Social Assessment

The manufacturing line will be constructed at the promoter’s existing and authorised industrial site located in Burghausen, Germany. The project concerns the construction of new industrial facilities including a new advanced manufacturing line adding a final surface cleaning step (“etching”) for semiconductor grade polysilicon production. The project will support Europe’s technological leadership and resilience in semiconductor technologies and applications and help to accelerate the digital transition. Start-up is planned for 2025.

Environmental Assessment

Compliance with applicable Environmental Legislation

While the project activities are mentioned in the Annex I of the EIA directive 2011/92/EU amended by Directive 2014/52/EU (‘’Integrated chemical installations’’), the scope of this project concerns the modification of an existing, already authorised site. As such, the project would require a screening decision under the point 13a) – Annex II of the EIA directive 2011/92/EU amended by Directive 2014/52/EU, in case the project is expected to have “adverse effects on the environment”.

In line with national legislation, the Competent Authority Altötting District Office, Germany confirmed on the 06.07.2023 that the project is not expected to result in any significant adverse environmental impacts.

Environmental benefits

The promoter will use a combination of state-of-the-art and innovative technologies with a high degree of automation to achieve hyper purity of polysilicon required for future generations of semiconductor wafers. Individual production process steps for this higher-grade polysilicon will have an improved environmental profile thanks to more efficient valorisation of by-products, waste streams as well as better integration of utilities use in the production cycle. These

[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.

improvements will lead to the reduction of energy consumption, use of chemicals and waste generation when compared to existing technologies.

GHG emissions

The project's absolute annual emissions in a standard year of operation are estimated around 12.5 ktons CO2e per year. These emissions are mainly linked to indirect emissions from energy consumption.

Nevertheless, the project will contribute to a significant decrease of the total CO2 emissions of the Burghausen production site. The new manufacturing line will enable the promoter to switch a significant part of its manufacturing capacity from solar to semiconductor applications. This switch induces a significant decrease of the overall energy consumption/GHG emissions of the site, estimated by the promoter at 150 ktons CO2e per year when compared to 2022[2].

Therefore, the indirect impact of the project on the promoter GHG emissions will be positive and largely contributing to Wacker's decarbonisation commitments.

Paris alignment of the project

The project concerns the production of key material for digital technologies that are essential for electrification of many sectors of economy (e.g., energy, mobility). The project will facilitate the transition towards a decarbonised economy and is assessed not to be exposed to material physical climate hazards. Therefore, the project is considered to be aligned with both low carbon and resilience goals and the policies set out in the Climate Bank Roadmap

EIB Paris Alignment for Counterparties (PATH) Framework

The counterparty Wacker Chemie AG is in scope and screened into the PATH framework, because it is considered high emitting and high vulnerability. The counterparty already meets the requirements of the EIB PATH framework with its existing alignment plans.

Other Environmental and Social Aspects

- The facility is expected to generate 107 Full Time Employments.
- The promoter controls operational processes via internal integrated management system. This system defines uniform standards for quality, energy, environmental protection, and health and safety. The management system is certified by an international certification organization to ensure its compliance with ISO 9001 (quality) and ISO 14001 (environment) and, at German sites, also with ISO 50001 (energy).

Conclusions and Recommendations

The project will enable production of materials essential for microelectronic technologies used in key sectors of economy, contributing to the green and digital transition.

The promoter, a well-experienced and reputable company, is deemed capable to implement this project in line with and fully respecting all EU environmental regulations and applicable EIB standards.

[2] Due to the complexity (closed-loop cycle operation) of the carbon footprint calculation, it is based on the promoter's specific methodology instead of EIB's Carbon Footprint Methodology. Generally, the high degree of match between both methodologies was validated on the absolute emissions calculations.

The promoter, a well-experienced and reputable company, is deemed capable to implement this project in line with and fully respecting all EU environmental regulations and applicable EIB standards.

The Competent Authority Altötting District Office, Germany assessed that the project is not expected to result in any significantly adverse environmental impacts. Therefore, no screening decision was required.

The project is therefore considered to be acceptable for EIB support in terms of its environmental and social impacts.