

Environmental and Social Data Sheet

Overview

Project Name: MATRICA SARDEGNA GREEN CHEMICALS
 Project Number: 2012-0484
 Country: ITALY
 Project Description: Development of a “Green Chemistry” production and R&D site, within the existing petrochemical site of Versalis (ENI Group) in Porto Torres (Sardinia), Italy. It includes: the production plants for biodegradable monomers and lubricant oils (from phase I), bio-fillers (from phase II) and bio-polymers (from phase III); a local R&D centre, focused on product and process technologies enabling to integrate the industrial production with the local agricultural chain.

EIA required: yes

Project included in Carbon Footprint Exercise¹: yes

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

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The project concerns investments in integrated chemical installations for the production of basic organic chemicals. An Environmental Impact Assessment (EIA) is therefore required under Directive 2011/92/EU. For Phase I of the project (plants for biodegradable monomers and lubricant oils) on 23.12.2011, upon completing the environmental protection assessment procedure which included public consultation, *Regione Sardegna* found the project to be acceptable to the environment and approved the implementation. No impact on protected flora and fauna (Habitats 92/43/EEC and Birds 79/409/EEC) has been reported.

It will be made a condition for the disbursement of EIB funds for the corresponding investments the provision to the Bank of evidence of the completion of the EIA process for Phases II and III of the project (Biofillers, Bioplastics, Bio-monomers and Bio-lubricants plants) and of all relevant environmental permits.

Overall, the project residual impacts are well mitigated and the project is considered to be environmentally acceptable. In addition, the project enables the requalification of a previous petrochemical site and its transformation into a “green chemistry” site with the production of bio-based monomers, lubricants and polymers, leading to a significant reduction in CO₂ emissions.

Environmental and Social Assessment

Environmental Assessment

As the project concerns investments in integrated chemical installations for the production of basic organic chemicals, an Environmental Impact Assessment (EIA) has been carried out according to the Italian Law D. Lgs. 152/06, which transposes Directive 2011/92/EU, for Phase I of the project (plants for biodegradable monomers and lubricant oils). The competent

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100 000 tonnes CO₂e/year absolute (gross) or 20 000 tonnes CO₂e/year relative (net) – both increases and savings.

authority for the EIA process is *Regione Sardegna*. The municipality of Porto Torres authorized the project implementation with a final decision dated 22.05.2013; the Province of Sassari issued the IPPC authorization (“AIA, Autorizzazione Integrata Ambientale”) with a decision dated 26.06.2012.

The EIA study has been prepared by considering: (i) the global territorial, environmental and legislative context for the project; (ii) the coherence and consistency of the investment with the EU/national/regional/local operational planning and programmes; (iii) the specific project design aspects, the constraints in the interested area, the environmental interactions of the project both during implementation and operation; (iv) the environmental impacts of the project and its compatibility with the environment; (v) the possible project alternatives (project and technology choices as well as without-project scenario).

The EIA study concluded that no significant impact can be expected during the implementation and operation of the project in relation to the different environmental components and factors (atmosphere, superficial waters, under soil waters, soil and under soil, flora, fauna and ecosystems, noise, anthropic system, landscape and cultural heritage), also due to the mitigation and compensation measures already adopted. The on-going reclamation process of the water layer under the petrochemical site, carried out by Syndial (ENI Group), does not concern the area of the site where the project will be implemented.

Given the location (the closest protected area is located at a distance of 5 kilometres from the site) and type of project activities, it has been concluded that no impact can be expected as a result of the project implementation and operation on protected flora and fauna (Directives Habitats 92/43/EEC and Birds 79/409/EEC).

The EIA study has indicated a number of mitigation and compensation measures to be adopted for the project implementation and operation phase (e.g. measures to limit project-related transport interference with local traffic, measures to limit emissions in the atmosphere and noise from the project construction and operation phases, measures to reuse locally land from excavations, definition of a monitoring and control plan based on the Best Available Technology, etc.).

With regard to the output products of the project, they will feature a reduced carbon footprint vis-à-vis comparable non-biodegradable products obtained from non-renewable sources. This reduction ranges from 90% in the case of monomer (azelaic acid) to 56% in the case of bio-lubricants, to 70% in the case of bio-plastics, to more than 50% in the case of bio-fillers. It has been conservatively assumed that the project output will lead to a reduction of the output specific emissions in the range of 50% vis-à-vis comparable output products obtained from non-renewable sources.

EIB Carbon Footprint Exercise

The annual CO₂ absolute emissions of the project in a standard year of operation after the three project phases are implemented are estimated at about 243 707 CO₂tonne/year (47 475 CO₂tonne/year for the plants started in Phase I, 6 148 CO₂tonne/year for the plant started in Phase II, and 190 084 CO₂tonne/year for the plants started in Phase III). This value appears conservative in view of the expected construction of a new biomass-based plant which would in the future supply electricity to the plant.

The baseline emissions of the project have been calculated by estimating the unitary emissions that comparable final output products (monomer, lubricant oil, carbon black filler and polymers from adipic acid) obtained from non-renewable sources would generate; therefore they account, under conservative assumptions, for about 487 413 CO₂tonne/year.

The project relative emissions are therefore estimated at the level of 243 707 CO₂tonne/year (reduction of emissions), corresponding to 50% of baseline emissions.

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 the project cost.

Social Assessment, where applicable

The project has gained wide support by the region Sardinia and local public administrations due to its expected long-term social and economic benefits. The implementation of this project would enable the requalification of an existing petrochemical site, which would have an uncertain future without the implementation of this project, given the current economic context and its low competitiveness vis-à-vis other larger petrochemical sites in Europe.

The project would therefore support the preservation of employment opportunities in a region (Sardinia) characterized by high levels of unemployment. It would offer the opportunity to accelerate the evolution towards the Green Economy, with the use of feedstock from renewable sources, and potentially locally produced feedstock, with the integration of the local agricultural and industrial value chain, thus also contributing to the revitalization of the local agricultural sector.

Public Consultation and Stakeholder Engagement, where required

A formal public consultation process has been carried out in the context of the EIA process for Phase I of the project (plants for biodegradable monomers and lubricant oils).

A first technical meeting with *Regione Sardegna* was held on 03.08.2011. The public consultation hearing took place on 21.09.2011 at the Municipality of Porto Torres. Some considerations from stakeholders (notably ISDE Italia – Medici per l’Ambiente, and Ordine Medici Chirurghi e Odontoiatri della Provincia di Sassari) have then been formally communicated to the promoter in this context.

In a second technical meeting at Region Sardinia on 20.10.2011, the promoter presented to SAVI (Servizio Sostenibilità Ambientale, valutazione impatti e sistemi informative ambientali of Region Sardinia) his argumentations with reference to the considerations presented and voluntarily provided additional documents to address the issues raised during the public hearing.

On 22.11.2011, a meeting (“Conferenza Istruttoria”) took place at Region Sardinia, involving representatives of the promoter, of SAVI - *Regione Sardegna*, Province of Sassari, ARPAS, Municipality of Porto Torres, LAORE, Servizio Tutela dell’Atmosfera e del Territorio and Consorzio Industriale Provinciale.

Finally, on 02.12.2011, another meeting was held between the promoter and the SAVI - Region Sardinia, following which the promoter has made available all the requested document integrations.

On 23.12.2011, *Regione Sardegna* finally gave a positive opinion about the environmental compliance of the project, recommending the adoption and integration with other specific ones of the mitigation and compensation measures already indicated in the EIA study.