

Luxembourg, 18<sup>th</sup> May 2022

## Environmental and Social Data Sheet

### Overview

Project Name:	<i>SOLARIA TRILLO TORO PV GREEN LOAN</i>
Project Number:	<i>2021-0632</i>
Country:	<i>Spain</i>
Project Description:	<i>Construction and operation of 15 PV Plants for a peak capacity of 736 MW<sub>p</sub> in the province of Guadalajara, Ciudad Real, Valladolid and Zamora.</i>

EIA required: yes

InvestEU Sustainability Proofing Requirements<sup>1</sup>: yes

Project included in Carbon Footprint Exercise<sup>2</sup>: yes

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

### Environmental and Social Assessment

#### Environmental Assessment

The project is a multi-schemes investment project<sup>3</sup>, and consists of the construction and operation of 15 solar photovoltaic (PV) plants organized in several clusters, for a total capacity of c. 736 MW<sub>p</sub>. The plants are located in the Spanish regions of Castilla y León and Castilla-La Mancha. Out of the fifteen plants, seven are organized in a cluster of 338 MW<sub>p</sub>, three are organized in a cluster of 150 MW<sub>p</sub>, one plant of 38 MW<sub>p</sub> is part of a larger cluster of 138 MW<sub>p</sub>, and the four remaining plants are not part of any cluster, although Delphinus and Hercules are located close to each other. The project scope includes the associated infrastructure, such as substations, and grid interconnections. The PV plants included in the project are identified in the table below:

<sup>1</sup> The information contained in the document reflects the requirement related to the environmental, social and climate information to be provided to Investment Committee as required by the Invest EU Regulation and it represents the equivalent of the information required in the template of the InvestEU sustainability proofing summary

<sup>2</sup> 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 CO<sub>2</sub>e/year absolute (gross) or 20,000 tonnes CO<sub>2</sub>e/year relative (net) – both increases and savings.

<sup>3</sup> Also called “investment programme”

Luxembourg, 18<sup>th</sup> May 2022

Solar PV Plant	Promoter's cluster	Province	Region	Capacity (MW <sub>p</sub> )	% of investment costs
Tethys Solar	Budia (338 MW <sub>p</sub> )	Guadalajara	Castilla-La Mancha	50	78%
Rhea Solar				50	
Telesto Solar				50	
Telesto Solar 7				50	
Thermisto Solar				50	
Telesto Solar 4				50	
Telesto Solar 10				38	
Titan Solar	Peralveche (150 MW <sub>p</sub> )	Ciudad Real	Castilla-La Mancha	50	78%
Mimas Solar				50	
Dione Solar				50	
Telesto Solar 9	Part of San Andres Cluster (138 MW <sub>p</sub> )			38	
FV Solaria-Hinojosas	n.a.	Ciudad Real		50	
Mudarra - Pegaso	n.a.	Valladolid	Castilla y León	80	22%
Delphinus	n.a.	Zamora		50	
Hercules	n.a.			30	
<b>Total</b>				<b>736</b>	

All the PV plants and most of the ancillary infrastructure fall within Annex II of the EIA directive (Directive 2014/52/EU amending the EIA Directive 2011/92/EU) and have been screened in by the competent authority. A combination of four new 220 kV transmission lines will connect the clusters Budia, Peralveche and San Andres mentioned above to the existing network, and fall under Annex I (with a total length of ca. 42 km). For Hercules, a scheme that was potentially subject to a simplified EIA process under the regional legislation, the promoter decided voluntarily to undergo the ordinary EIA process. Therefore, based on national and regional environmental regulations, all the schemes have been screened in by the competent authorities, requiring an EIA process, including public consultation.

The EIA reports are available for all schemes:

- A single EIA report was prepared for the entire Budia cluster, together with the whole interconnection infrastructure until the interconnection with the existing substation of the Transmission System Operator (TSO) in Trillo (REE Trillo Nuclear). This infrastructure includes the El Peral substation, which gathers the electricity from the Budia, Peralveche and San Andres clusters, and from which the electricity of the three clusters will be transported through a common transmission infrastructure (transmission line and substation) until the substation REE Trillo Nuclear.
- The Peralveche and San Andres clusters have each a single EIA report covering all the plants in each cluster, as well as the transmission line to connect to the substation El Peral.
- The EIA reports of Delphinus and Hercules also cover the interconnection facilities until the shared transmission infrastructure (substation and transmission line) Toro Renovables, which will collect the energy from various plants and interconnect with an adjacent substation belonging to the Transmission System Operator (TSO) through a 0.1 km line. This shared infrastructure is subject to a separate authorization process.



Luxembourg, 18<sup>th</sup> May 2022

- The EIA reports for Hinojosas and Mudarra also cover their respective transmission lines to their respective shared infrastructures, being the subject of separate authorization process in the case of Hinojosas.

General quality of the EIA reports, in terms of the impact assessment methodology, desk studies and field work conducted, is considered to be acceptable. Where relevant, the EIA reports of the PV plants included a cumulative impacts assessment taking into account neighbouring (existing and planned) infrastructures, including other PV plants.

The schemes are expected to generate acceptable impacts during both construction and operation phases. The schemes entail limited negative impacts mainly on landscape, soil and fauna. In some of the sites, the EIA reports records the presence of threatened species such as the Egyptian Vulture, the Great Bustard, the Imperial Eagle, the Red Kite, etc.<sup>4</sup> During the construction phase, main impacts are associated with the presence of machinery, vehicles, construction workers, and the erection of the PV plants infrastructures. The impacts relate to increase of dust and noise due to construction related activities, as well as increased traffic in the surrounding areas, soil erosion due to the loss of vegetal cover, and loss of habitats. During the operation phase, given the presence of the PV plants, connection infrastructures and other similar facilities in the surrounding area, the main impacts are related to loss and fragmentation of habitats, barrier effect, visual impacts and birds collision risk with the overhead transmission lines where applicable. Overall, the impact during construction and operation phases are considered to be acceptable.

Specific mitigation measures foreseen in the EIA reports during construction and operation phases, vary per scheme, but overall can be summarised as follows:

- Implementation of general prevention and mitigation measures during construction, in particular for dust and noise emissions, protection of soil and groundwater, and conservation of protected trees and vegetation;
- In relation to the risk of collision and electrocution of birds with the transmission line, mitigation measures based on the Royal Decree 1432/2008<sup>5</sup>
- Use of specific fences to guarantee fauna permeability, mitigating barrier effects;
- Habitat conditioning (e.g. nesting aids, ponds, etc) for certain species (birds, bats, amphibians, reptiles, etc);
- Implementation of fauna monitoring programmes;
- Reuse of soil layers for restoration activities;
- Implementation of restoration and revegetation plans;
- Landscape integration plans;

The mitigation measures foreseen in the EIA reports were further complemented by the competent authority as conditions of the environmental permit (Declaracion de Impacto Ambiental - DIA), and further detailed below.

**The Tethys Solar, Rhea Solar, Telesto Solar, Telesto Solar 7, Thermisto Solar, Telesto Solar 4 and Telesto Solar 10 PV plants** and their interconnection infrastructure are located in the province of Guadalajara (region of Castilla–La Mancha), in the municipalities of Budia, Durón, Cifuentes and Trillo. The plants are adjacent to each other forming the cluster of Budia Norte. The schemes include all the interconnection infrastructure until the 400 kV substation

<sup>4</sup> Binomial denominations and conservation status (IUCN), respectively: *Neophron percnopterus* – Endangered (EN), *Otis tarda* – Vulnerable (VU), *Aquila adalberti* – VU, *Milvus milvus* – Least Concern (LC)

<sup>5</sup> These include i.a. ensuring that the design of pylons and insulating elements minimize the electrocution risk, and that the lines include elements to enhance the visibility of conductors to reduce collision risk.



Luxembourg, 18<sup>th</sup> May 2022

Trillo Nuclear, belonging to the TSO. It consists of the 30/220 kV substation Las Represas, a 220 kV overhead line of ca. 5.4 km to the substation El Peral. The 220/30 kV El Peral substation will be shared with the clusters Peralveche (part of this project) and San Andres (partially part of this project). From there, a ca. 11 km 220 kV overhead line will connect El Peral to the collecting substation Uma 220/400 kV, where the power will be elevated to 400 kV and transported through a ca. 1.7 km overhead line to the existing Trillo Nuclear substation (which belongs to the TSO). The plants will occupy ca. 618 ha overall.

The environmental permit for the whole Budia Norte cluster was issued in July 2021. The EIA report covers the entire development and therefore automatically takes into account the cumulative impact assessment of all the solar PV plants of the cluster. It also includes the cumulative impact assessment of other PV plants within a radius of 10 km (including the San Andres cluster, located at c. 4 km south-west of Budia Norte). The closest Natura 2000 site to the cluster Budia Norte is Quejigares de Barriopedro y Brihuega (SCI ES4240014), at ca. 4 km to the North. The 220 kV transmission line route is at ca. 1.2 km North of the site Alto Tajo (SCI/SPA ES4240016), and ca. 7.4 km North from Sierra de Altomira (SCI/SPA ES4240018). The Alto Tajo site overlaps partially with the Important Birds Area (IBA) Upper sections of the rivers Tajo and Tajuña (ES188), important for the Egyptian Vulture. The Sierra de Altomira overlaps partially with the IBA Entrepeñas and Buendía reservoirs (ES191), important for the Bonelli's Eagle and the Common crane.<sup>6</sup> The EIA report includes an assessment of the impact on the Natura 2000 sites, concluding that impacts are acceptable. The competent authority confirmed that the Natura 2000 sites are not directly impacted; indicating that the main risk for species subject to conservation measures, such as the Golden Eagle and the Peregrine Falcon<sup>7</sup>, is that of collision with the transmission lines. A few plots of the PV plants are of archaeological interest, requiring a specific management plan. The permit required the re-arrangement of the layout to improve the global connectivity, by reducing the barrier effect through the preservation of corridors without fencing. The project will also have to restore steppe habitat for the equivalent of 15% of the fenced area, through agreements with the farmers to set-up an adequate agro-environmental management allowing the use of the area by wild fauna. Furthermore, the project shall increase the sustainability of agricultural crops in the area (e.g. thinning), for the equivalent to 10% of the affected area. In addition, the marking and monitoring of a specimen of Golden Eagle is to be performed.

**The Telesto 9 Solar PV plant** and its interconnection infrastructure is located in the province of Guadalajara (region of Castilla–La Mancha), in the municipalities of San Andres del Rey (PV plant and transmission line) and Budia (transmission line). The plant is part of the San Andres cluster, located ca. 4 km South-west of the Budia Norte cluster presented above. The scope of the operation includes also a 220 kV line of c. 7 km to connect to the substation El Peral, from where it will use the same infrastructure than the Budia Norte cluster and the Peralveche cluster to connect to the existing network. The plant will occupy ca. 80 ha (the San Andres cluster surface is ca. 274 ha).

The environmental permit for the San Andres cluster was issued in May 2021. The EIA report covers the entire development and therefore automatically takes into account the cumulative impact assessment of all the solar PV plants in the cluster. It also includes the cumulative impact assessment of other PV plants within a radius of 10 km (including the Budia Norte cluster, located at c. 4 km north-east of San Andres). The closest Natura 2000 site to the cluster San Andres is Sierra de Altomira, at ca. 6.4 km on the east of the PV plants. The 220 kV transmission line route to El Peral is at ca. 5.8 km South-West of the site Alto Tajo. The EIA

<sup>6</sup> Binomial denominations and conservation status (IUCN), respectively: *Aquila fasciatus*, Least Concern (LC) and *Grus grus* (LC)

<sup>7</sup> Binomial denominations and conservation status (IUCN), respectively: *Aquila chrysaetos*, *Falco peregrinus*, both LC),



Luxembourg, 18<sup>th</sup> May 2022

report includes an appropriate assessment of the impact on the Natura 2000 sites, concluding that impacts are acceptable. The competent authority confirmed that the Natura 2000 sites are not directly impacted, indicating that the main risk for species subject to conservation measures is that of collision with the transmission lines. The environmental permit required additional mitigation measures, such as the GPS marking of a specimen of bird (species to be agreed with the competent authority), additional avifauna monitoring during the first three years of operations, and re-arrangement of the layout to preserve the connectivity of isolated trees and small vegetated areas. Similarly to the Budia Norte cluster, San Andres cluster will also have to restore steppe habitat for the equivalent of 15% of the fenced area, through agreements with the farmers to set-up an adequate agro-environmental management allowing the use of the area by wild fauna. Furthermore, the project shall increase the diversity of agricultural crops in the area, for the equivalent to 10% of the surface occupied by the plants (c. 27 ha).

**The Titan Solar, Mimas Solar and Dione Solar PV plants**, are located in the province of Guadalajara (region of Castilla–La Mancha), in the municipality of Peralveche. The plants are adjacent to each other forming the cluster of Peralveche, which is located at more than 20 km East of the Budia Norte and San Andres clusters. The scope of the operation includes also a 220 kV line of c. 19 km (with less than 1 km underground and the rest being overhead) to connect to the substation El Peral, from where it will use the same infrastructure than the Budia Norte cluster and the San Andres cluster to connect to the existing network. The interconnection line crosses the municipalities of Peralveche, Trillo, Pareja, Mantiel, Chillarón del Rey, Durón y Budia. The three plants will occupy ca. 273 ha overall.

The closest Natura 2000 site to the cluster San Andres is Alto Tajo, at ca. 4 km North of the PV plants. The 220 kV transmission line route to El Peral, crosses the Tajo river in between the Natura 2000 sites Alto Tajo (at 1.9 km) and Sierra de Altomira (at 2.5 km). This river crossing is however within the edge of the IBA Entrepeñas and Buendía reservoirs. This section of the transmission line (c. 0.9 km) will be underground. The EIA report includes an appropriate assessment of the impact on the Natura 2000 sites, concluding that those would not be affected by the project provided that the adequate mitigation measures are put in place. The PV plants are also located 4.7 km South of the Tetas de Viana, a protected area under the local legislation, which area is included in the Alto Tajo site. The EIA process, including the habitat assessment, is ongoing for the solar PV plants and their interconnection facilities, including the 220 kV line.

The **Delphinus Solar and Hercules Solar PV plants** are located in the municipality of Toro (province of Zamora, region of Castilla y León), around one km apart from each other (Delphinus being north of Hercules). Delphinus includes the 30/66 kV substation El Pisón, collecting the power from the two plants, as well as the 66kV line of 6.2 km (6 km underground and 0.2 km overhead) to evacuate the energy and connect to the 30/66/132/400 kV Toro Renovables substation. An overhead line of 0.1 km 400 kV will then connect to the existing Valdecarretas substation that belongs to the TSO. The Toro substation and line are shared among various promoters, are not located within any protected areas and were screened out based on thresholds applicable under the national and regional legislation. The two plants will occupy a total of c. 193 ha.

The plants obtained their environmental permit in June 2021. The closest Natura 2000 site to Delphinus and Hercules is the site Riberas del Río Duero y afluentes (SCI ES4170083), ca. 3 km North of Delphinus. The Important Birds Area Castronuño – Zamora (ES59) is located ca 3 km North of the plant. The environmental permits include the reference to the appropriate assessments that were made by the competent authority, and the confirmation that the plants are not expected to adversely affect the integrity of the sites concerned. Regarding the impact on steppe birds, the promoter will establish an area dedicated to their habitat improvement, for a surface equivalent to 10% of the occupied area.



Luxembourg, 18<sup>th</sup> May 2022

The **FV Solaria-Hinojosas Solar PV plant** and its interconnection infrastructure is located in the municipalities of Puertollano, Brazatortas and Almodovar del Campo (province of Ciudad Real, region of Castilla y León). The project includes a c. 9 km 30 kV underground line, which will connect the plant to a common infrastructure shared among various promoters. This shared infrastructure is common to 6 solar PV plants and includes the 30/220 kV substation SE Colectora Brazatortas and a 220 kV line of 0.4 km to connect in a new position in the existing substation SE REE Brazatortas 220 kV (which belongs to the TSO). This shared infrastructure is part of the EIA process of one of the other five PV plants (FV Elawan III), such process being currently on-going. The plant will occupy an area of c. 158 ha.

The plant obtained its environmental permit in February 2021. The closest Natura 2000 site to is the site Valle de Alcudia y Sierra Madrona (SCI ES4170083), ca. 7.6 km South of the plant. The project is also located 2.2 km North of the IBA Valle y Sierra de Alcudia (ES207). The EIA report also includes the cumulative impact assessment of other PV plants within a radius of 10km. The environmental permit include the reference to the appropriate assessment that were made by the competent authority, and the confirmation that the plants are not expected to adversely affect the integrity of protected areas. It however concluded that the transmission line could affect some components of the habitat of common interest (Annex I of the habitats directive) “Southern riparian galleries and thickets - 92D0” (Nerio-Tamaricetea and Securinegion tinctoriae). The environmental permit added additional mitigation measures, such as additional avifauna monitoring, the conservation of grassland for approx. 25% of the fenced area (c. 39 ha), the restauration of the vegetation on 500 m of the riverbank of the Ojailen river, and the silvicultural treatment of 15 ha in forest in the vicinity of the project. Considering the cumulative impact of the various projects in the area, the competent authority also required the promoter to develop a proposal for an ecological corridor and to part-finance the development of a plan for a regional green infrastructure for transport.

The **Pegaso solar PV plant** and its interconnection infrastructure is located in the municipalities of Valladolid and La Mudarra (province of Valladolid, region of Castilla y León). The plant includes the 30/66kV substation Pegaso to elevate the power and a 66 kV underground line of 4 km to evacuate the energy, connecting to the 66/400 kV substation SET Oliva. This substation will be connected through a 0.3 km 400 kV underground line to the existing 400 kV substation SET Mudarra, which belongs to TSO. The SET Oliva substation and line is a common infrastructure shared among various promoters. The plant will occupy an area of c.180 ha, divided in two plots of 103 ha and 77 ha each, located 1.2 km from each other.

The plant, including the common infrastructure, obtained its environmental permit in November 2021. The closest Natura 2000 site is Montes Torozos y Páramos de Torquemada-Astudillo (SCI ES4140129) at 0.4 km East of the plant, the next one being the site La Nava-Campos Sur (SPA ES0000216) at c. 6 km North of the project, which overlaps with the IBA Tierra de Campos steppes (ES038). The promoter also presented a cumulative impact assessment study as an addenda to the EIA report, which cover other PV plants and wind farms within a radius of 10km. The environmental permit include the confirmation that the project is not expected to adversely affect the conservation objectives of the Natura 2000 sites. The environmental permit added additional mitigation measures, such as additional avifauna monitoring and the dedication of an area equivalent to at least 5% of the occupied area as fallow land without cultivation.

The EIA reports cover the entire lifecycle of the facilities, including the decommissioning, foreseeing restoration activities to reinstate the sites in their original states after the operational phase. Waste produced during decommissioning is classified following the European List of Waste. The Directive for electrical and electronic equipment waste (Directive 2012/19/EU, further amended by Directive 2018/849) is transposed by national law (RD 110/2015 further amended by RD 27/2021). PV panels contains a complex mixture of materials, some of which



Luxembourg, 18<sup>th</sup> May 2022

are hazardous, that need to undergo waste management operations. National legislation describes the treatment this type of waste needs at the end of the life, including preparation prior to recovery (such as recycling) or disposal. The promoter will have to present a decommissioning plan to the competent authority in advance of the planned end of the activities.

### **Climate Assessment**

The EIA reports include climate vulnerability assessments based on the projects' preliminary design, with no significant vulnerability identified for any of the project. The PV plants are not located within flood zones, typical components have large operating conditions, and the detailed design will be based on local site conditions and adequate studies, in-line with industry practice.

The project is fully aligned to the goals and principles of the Paris Agreement as set out in the Bank's Climate Bank Roadmap and the Bank's Energy Lending Policy.

### **EIB Paris Alignment for Counterparties (PATH) framework**

Solaria, the counterparty head of group, is fully dedicated to the development, construction and operations of solar PV plants. It is in scope and screened out of the EIB Paris alignment for counterparties framework (PATH), because it is neither a high emitting counterparty, nor operating in a context of high vulnerability to physical climate risks.

### **EIB Carbon Footprint Exercise**

In accordance with the Bank's current Carbon Footprint methodology it is calculated that, based on the avoidance of electricity generation from a combination of existing and new power plants in Spain (combined margin for intermittent generation), the total relative effect of the project is a net reduction in CO<sub>2</sub> equivalent emissions by ca. 440 kt CO<sub>2</sub>-eq/yr.

For the annual accounting purposes, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

### **Social Assessment**

The promoter has engaged with the landowners and, for the vast majority of the plots, has reached voluntary agreements in the form of leases or surface rights or rights of way. All the privately owned land for the PV plants has been bilaterally agreed, but the plots of land needed for the power line have not yet been all secured. The promoter is expecting to negotiate with the related landowners to secure this land. In parallel, the promoter applied or is planning to apply for the public utility declaration where applicable, and will only resort to launching expropriation procedures in the case where a voluntary agreement cannot be reached. In Spain, all projects considered of public utility, can be subject to expropriation, to be carried out by the relevant authorities in the interest of the promoters.

### **Public Consultation and Stakeholder Engagement**

Public consultations are carried out under the EIA process, as required by the EIA Directive, and as transposed into national and regional law. The promoter has not developed further stakeholder engagement activities. The Promoter has a direct channel of contact on sustainability matters ([greenmatters@solariaenergia.com](mailto:greenmatters@solariaenergia.com)). The Promoter has also a



Luxembourg, 18<sup>th</sup> May 2022

communication channel ([canalcompliance@solariaenergja.com](mailto:canalcompliance@solariaenergja.com)) to which both employees and third parties can address any kind of complaint, claim or inform any breach. This channel can also be used to raise any doubt, questions or make any suggestion on ethics, compliance and Environmental Social and Governance matters (ESG). The promoter has reported no complaint so far for the project.

### **Other Environmental and Social Aspects**

The environmental capacity of the promoter is deemed to be adequate. It has the experience and the capacity to appropriately manage this project. The Promoter is known to the Bank from previous operations and has experience in the construction and operation of solar PV plants in Spain.

Recent reports are pointing out the possibility of use of forced labour in the supply chain of solar PV panels. The promoter has a Human Rights Policy and a Suppliers' Code of Conduct in place, rejecting the use of any form of forced or compulsory labour, which are also applicable to the EPC contractor, being an affiliate of the promoter. The promoter confirmed that each PV module supply contract contains a specific obligation for the relevant supplier to comply with this Code of Conduct. The project will have to comply with the EIB E&S Standards, which foresees to avoid the use of forced labour, and envisages additional due diligence further down the supply chain in case of concerns.

### **Conclusions and Recommendations**

As a condition for disbursement against Titan, Mimas and Dione Solar PV plants and their related interconnection infrastructure (being subject to EIA processes), the promoter shall provide for each scheme (PV plants and associated facilities as described above):

- Electronic copy of the final EIA report (including appropriate assessment, if required, and information on the public consultation process), approved or endorsed by the competent authority and satisfactory to the Bank.
- Electronic copy of the environmental consent (Declaracion de Impacto Ambiental)
- The evidence of no negative impact on Natura 2000 sites (form A or equivalent declaration by the competent authority, e.g. an explicit statement of no negative impact from the competent authority in the environmental permit)

As a condition for disbursement against Hinojasas, the promoter shall provide the final EIA report and environmental consent for the shared interconnection infrastructure.

The promoter undertakes not to allocate EIB's funds to components until the EIA process and/or the necessary supporting documentation (e.g appropriate assessment), have been finalised and approved or endorsed by the relevant competent authorities and satisfactory to the EIB.

As a project undertaking, the promoter will have to demonstrate that the measures foreseen in the EIA reports and the permits, including measures to avoid, reduce and mitigate the impact, as well as monitoring indicators, were put in place during the construction and operational phases.

The promoter will undertake to carry out appropriate due diligence throughout its supply chain, with the aim of avoiding the use of forced labour in the supply chains of the solar panels that will be used for this project.

Under these conditions, the operation is acceptable in Environmental, Climate and Social terms.