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Public

Environmental and Social Data Sheet

Overview

Project Name:	EXTREMADURA ALLOCATION GREEN ENERGY FL 2019-0811
Project Number:	2020-0896
Country:	Spain
Project Description:	Financing of seven solar PV farms in the Spanish region of Extremadura. Allocation under Framework Loan (FL) 2019-0811

EIA required: yes

Project included in Carbon Footprint Exercise[1]: yes

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

Environmental and Social Assessment

Environmental Assessment

The Project is an allocation under the framework loan (FL) 2019-0811 IBERDROLA SPAIN GREEN ENERGY FRAMEWORK LOAN. The Project consists of the construction and operation of seven ground-mounted solar photovoltaic (PV) plants and associated infrastructure in the Spanish region of Extremadura with a total capacity of 980 MWp. The PV plants included in the Project are listed below, and organized in five schemes (or clusters) considering that some plants are adjacent to each other.

PV Plants	Capacity (MWp)	Size (ha)	Closest Natura 2000 sites to PV plants and associated infrastructure
Arenales	150	375	Embalse de Lancho at ca. 0.4 km (SPA ES4320064). Complejo de los Arenales at ca. 1.9 km (SPA ES0000410) Sierra de San Pedro at ca. 3.5 km (SPA and SAC ES0000070), Llanos de Cáceres y Sierra de Fuentes at ca.3 km (SPA ES0000071) and Río Salor at ca. 5 km (SAC ES4320030)
Campo Arañuelo I & II (Almaraz I and II)	100 (2 x 50)	148 (78+70)	Embalse de Arrocampo at ca. 1.5 km (SPA ES0000324), Colonias de Cernicalo Primilla de Velvis de Monroy at ca. 1.5 km (SPA ES0000433) and Embalse de Valdecañas at ca. 1.5 km (SPA ES0000329)

[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.

Campo Arañuelo III	40	52	Embalse de Arrocampo at ca. 0.3 km ((SPA ES0000324), Monfragüe y Dehesas del Entorno at ca 0.6 km (SPA ES0000014) and Embalse de Valdecañas at ca. 0.5 km (SPA ES0000329)
Cedillo (Majada Alta and San Antonio)	100 (2 X 50)	186 (96+90)	Inside Cedillo y Río Tajo Internacional (SAC ES4320002) and Río Tajo Internacional y Riberos (SPA ES0000368)
Pizarro	590	1,078	Riberos del Almonte at ca. 0.1 km (SPA ES0000356). The line run across Río Almonte (SAC ES4320018), Riberos del Almonte (SPA ES0000356), Monfragüe (SAC ES4320077), Monfragüe y las Dehesas del Entorno (SPA ES0000014) and the connection to the grid is at ca. 0.1 km (SPA Embalse de Arrocampo)

The transmission line for Pizarro is included in the Annex I of the EIA Directive (Directive 2014/52/EU amending the EIA Directive 2011/92/EU), being 32km in 400 kV. All the PV plants and other grid connection facilities fall under Annex II of the EIA Directive, leaving it to the national competent authority to determine according to Annex III of the said Directive whether an environmental impact assessment is required. Based on national and regional environmental regulations, all solar PV plants and grid connection facilities falling under Annex II have been screened in for EIA process. Therefore, all solar PV plants and their grid connection facilities underwent an EIA process ("*EIA ordinaria*"), including public consultation.

General quality of the Environmental Impact Studies (EIS) is considered acceptable. Where relevant, the EIS of the PV plant included a cumulative impact assessment taking into account the neighbouring (existing and planned) infrastructures, including other PV plants. The environmental permits (Declaración de Impacto Ambiental) have been granted for all the PV plants and associated infrastructure between May and November 2020.

With regard to schemes subject to the requirements of the Habitats Directive 92/43/EEC and/or Birds Directive 2009/147/EC and according to environmental permits, none of the PV plants and associated grid connection facilities will have significant impacts on Natura 2000 sites. The Spanish EIA process incorporates the Habitats assessment, whereby competent authorities can only issue the environmental permit once the appropriate assessment has been satisfactorily performed.

The schemes entail limited negative impacts mainly on landscape, soil and fauna, with the presence in some cases of species like the Iberian Lynx (Lynx perdinus – Endangered as per the IUCN Red List) Red Kite (Milvus Milvus – Near Threaten), the Little Bustard (Tetrax Tetrax – Vulnerable), the Spainsh Imperial Eagle (Aquila adalberti – Vulnerable) or the Montagu's Harrier (Circus Pyragus – Least Concern).

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 or fragmentation of habitats. During the operation phase, the main impacts are related to loss and fragmentation of habitats, barrier effect, visual impacts and collision risk (for the transmission lines).

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

- 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 for the transmission line, the mitigation measures are based on the Royal Decree 1432/2008
- Use of specific fences to guarantee fauna permeability, mitigating barrier effects;
- Habitat conditioning (e.g. nesting aids) of certain bird and bat species;
- Implementation of fauna monitoring programmes
- Reuse of soil layers for restoration activities;
- Implementation of restoration and revegetation plans;
- Landscape integration plans;

Overall, the impact during construction and operation phases are considered to be acceptable.

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, acquisition and operation of a large portfolio power generation, with a combined installed capacity of about 55 GW globally and 27 GW is in Spain, of which ca 17 GW is renewable. The Promoter has a solid organisational structure and is also ISO 14001 and OSHAS 18001 certified.

A detailed description of each scheme is included below:

The **150 MWp Arenales PV plant** is located in the province of Cáceres (Extremadura) near Malpartida de Cáceres. The scheme includes 30 kV underground lines from the plant to a 220/30 kV substation from which a ca. 13km a 220kV overhead line will connect to a 220kV interconnected substation. This interconnected substation is connected through a 220 kV underground line of ca. 0.2 km to the substation ST Arenales 220 kV.

The environmental permit was issued in July 2020 and covers the PV plant, the 220/30 kV substation, the overhead line, the 220kV interconnected substation and the 220 kV underground line. The EIS includes a cumulative impact study in a radius of 5 km around five neighboring PV plants and associated infrastructure. The EIS includes an assessment of the impact on Natura 2000 sites concluding that no negative impacts are expected. The competent authority confirmed the absence of significant impact and included additional measures, such as reinforced signalization, design modifications of the lines to avoid collisions for the avifauna, enhanced monitoring programs (e.g. a 10-year specific avifauna study), increased restoration and habitat improvement areas to be rented and maintained.

The **2 x 50 MWp Campo Arañuelo PV plants I and II** scheme is located in Bellvis de Monroy (Cáceres). The scheme includes 30 kV underground lines from each plant to a 132/30 kV substation from where a 132 kV line (ca. 2.4 km overhead and ca. 0.6 km underground) will connect to the existing ST Almaraz 132 kV substation.

The environmental permits were issued in July 2020 and covers both PV plants and the 132 kV line. The EISs include a cumulative impact study covering both PV plants and associated infrastructure. The EISs include the assessments of the impact on Natura 2000 sites concluding that no negative impacts are expected. The competent authority confirmed the absence of significant impact on Natura 2000 sites and included additional measures. These include a habitat improvement area to be rented and maintained, livestock fences dividing the plant in two areas allowing two sheep per hectare and support services for the protected site “El Sierro”.

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The **40 MWp Campo Arañuelo III PV plant** is located in Romangordo (Cáceres). The scheme includes a 132/30 kV 55 MVA substation from where a ca. 7 km overhead line will connect to 30/132 kV SET Almaraz substation of Campo Arañuelo PV plants I and II. The 132 kV line (2.4 km overhead and 0.6 underground) mentioned above for Campo Arañuelo PV plants I and II will connect the three plants to the existing distribution network.

The environmental permit was issued in July 2020 and covers the PV plant, storage facilities (batteries) and the ca. 7 km overhead line. The EIS includes a cumulative impact study including Campo Arañuelo PV plant I and II, Belvis PV plant and the associated infrastructure. The EIS includes an assessment of the impact on Natura 2000 sites concluding that no negative impacts are expected. The competent authority confirmed the absence of significant impact and included additional measures. These cover lighting pollution, habitat improvements for rabbits, and thus for the Iberian Lynx, and habitat improvement areas to be rented and maintained.

The **100 MWp Cedillo PV scheme** is located in Cedillo (Cáceres) and composed of Majada Alta (50 MWp) and San Antonio (50 MWp) PV plants, adjacent to each other. The scheme includes 30 kV underground lines from each plant to the substation SET FV Cedillo 30/400 kV, from where a 400 kV line (ca. 4.8 km overhead and ca. 3 km underground) will connect to a substation shared with Cedillo Hydroelectric power plant. A 400 kV overhead line of ca. 0.2 km evacuates the energy from this last substation to the existing SET Cedillo 400 kV substation.

The environmental permits were issued in May 2020 and cover both PV plants and the associated infrastructure. The EISs include a cumulative study for both Majada Alta and San Antonio PV Plants and associated infrastructure. The EISs include an assessment of the impact on the Natura 2000 sites where the PV plants are located, concluding that two habitats will be impacted. However, these two habitats are widely distributed beyond the PV plants. Additionally, the other alternatives considered, despite not being within any Natura 2000 site, host a larger number of species and avifauna, with a better conservation status than the area selected for the project. The competent authority confirmed the absence of significant impact and included additional measures. These include specific 10-year fauna studies and enhanced habitats improvements, such as the construction of a dovecote or a trough for livestock, that will be covered in a program for habitat improvement to be submitted to the competent authority for approval. To be approved, this program must clearly improve the habitats concerned.

The **590 MWp Pizarro PV plant** is located in Torrecilla de la Tiesa (Cáceres). The scheme includes 30 kV underground line connecting the plant to a 30/400 kV substation, from where a 400 kV overhead line of ca. 32 km will evacuate the energy the existing 400kV substation Almaraz.

The environmental permit was issued in November 2020 and covers the PV plant and the associated infrastructure. The EIS includes a cumulative impact study in a radius of 5 km around four additional neighboring PV plants and associated infrastructure. The EIS includes an assessment of the impact on Natura 2000 sites concluding that, although the transmission lines run across several Natura 2000 sites, no negative impacts are expected. For half its length, including for the crossing of the Monfragüe SAC/SPA, the transmission line will be parallel to three other existing HV lines. For the crossing of the Tagus River, the conductors will be installed at the same level as the existing lines to minimize the collision risk. The competent authority confirmed the absence of significant impact. The permit included additional measures, such as additional restoration and habitat improvement in areas to be rented and maintained, reinforced measures to prevent fires -since it is a high risk area-, reinforced signalisation, design modifications, habitat improvements for rabbits and thus for

the Iberian Lynx, and restriction for the installation of panels in an area inside the PV plant where antiquities have been discovered.

The environmental impact studies covers 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. Waste electrical and electronic equipment Directive ((Directive 2018/849 amending Directive 2012/19/EU) is transposed by national law RD 110/2015. PV panels contains a complex mixture of materials, some of which are hazardous, that need to undergo waste management operations. RD 110/2015 describes the treatment this type of waste needs at the end of the life, including preparation prior to recovery (such are 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.

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 CO2 equivalent emissions by ca. 571 kt CO2e/yr.

For the annual accounting purposes, if the project is included in 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, where applicable

The implementation of the project will not lead to involuntary physical or economic displacement or resettlement. Arenales (375 ha) is located in land mainly used for raising cattle and sheep (agricultural production), especially in the northern part of the land. Animal production is decreasing in the area due to climate change and industrialisation. A cumulative study concluded that only 9.6% of agricultural land in the area will be affected. Campo Arañuelo I and II (148 ha) are located in irrigated agricultural land for rice production (agricultural production), close to a motorway and a nuclear power plant which negatively impacts the existing environmental value of the land. Campo Arañuelo III (52 ha) is located in land for both forestry and agricultural uses (agroforestry), but woodland density at the site is considered low. Majada Alta (96 ha) and San Antonio (90 ha) are located in agricultural land (agroforestry) within a Natura 2000 site, however, due to slope, agricultural use is limited by 5% in the affected area. Pizarro (1,078 ha) is located 44% in non-irrigated agricultural land (474 ha) and 56% (604 ha) in forestry land without woodland. In the area (74,681 ha), there is 7,042 ha of non-irrigated agricultural land, which means that Pizarro occupies 6.7%. In the area, there are 18,376 ha of forestry land, meaning that Pizarro only occupies 3.3%. The current use of the lands is mostly for agriculture, and, according to the respective cumulative studies for each PV plant, such activity will continue to be carried out in the area (outside the plant perimeter) with the normal safeguards.

The promoter has engaged with the landowners and, for some of the plots of land, has reached voluntary agreements for the project infrastructures, in the form of leases and / or surface rights or rights of way. For the pieces of land where a voluntary agreement cannot be reached, mainly the HV lines; the promoter intends to require expropriation, in line with Spanish legislation. In Spain, all projects required for the implementation of different activities

within the electric sector, including generation, promoted by public or private companies, are considered of public utility, and are subject to urgent expropriation.

Public Consultation and Stakeholder Engagement

The public consultation was carried out under the EIA process, as required by the EU, and as transposed by national law. The declaration of public utility process has its own public information phase. The promoter has not developed further stakeholder engagement activities related to the project. The Promoter has an overall Stakeholder Relations Policy. In particular, it provides an email mailbox (medioambiente@iberdrola.es – available on the main website of the Promoter) as a channel of communication with its stakeholders, offering the ability to ask questions, provide suggestions, place concerns or make complaints. The mailbox is included in the Environmental Management System of the company, and is certified under the ISO 14001 standard.

Conclusions and Recommendations

As a project undertaking, the promoter will have to demonstrate that the measures foreseen in the EISs 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.

Under these conditions, the operation is acceptable in E&S terms.