

Luxembourg, 20th July 2022

Environmental and Social Data Sheet

Overview

Project Name: TAGUS ALLOCATION GREEN ENERGY FL 2022-0085
 Project Number: 2022-0391
 Country: Spain
 Project Description: Financing of the Tagus (200MW) and Almaraz (80MW) solar photovoltaic projects in Extremadura and of the Valdemoro on-shore wind farm (50 MW) in Castile-Léon. Allocation under the framework loan (FL) 2022-0085 IBERDROLA GREEN ENERGY FRAMEWORK LOAN II.

EIA required: yes

Project included in Carbon Footprint Exercise¹: 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 operation IBERDROLA GREEN ENERGY FRAMEWORK LOAN II (2022-0085). The project consists of the construction and operation of six solar photovoltaic (PV) plants organised in two clusters (Almaraz and Tagus), one wind farm (Valdemoro) and other ancillary facilities -such as transmission lines, substations and access roads- for a total capacity of ca. 329 MW_p. The project is located in Spain. Almaraz and Tagus clusters in the region of Extremadura and Valdemoro wind farm in Castile-León. The plants included in the project are identified in the table below:

Cluster	Plant name	Technology	Capacity [MW _p]	Province	Municipality
ALMARAZ	Almaraz I	Solar PV	49.94	Cáceres	Almaraz
	Almaraz II		29.97		
TAGUS	Tagus I		49.98		Alcántara
	Tagus II		49.98		
	Tagus III		49.98		
	Tagus IV		49.98		
VALDEMORO	Valdemoro		Onshore wind		49.5

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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All the PV plants, the wind farm and other grid interconnection infrastructure are included in the Annex II of the EIA Directive and have been screened in by the competent authority, requiring an EIA, including public consultation. The competent authorities considered all the comments presented during the EIA, in line with the relevant legal framework. General quality of the EIA reports, in terms of the impact assessment methodology, studies and fieldwork conducted is considered acceptable. The EIA report of each plant and ancillary facilities such as the transmission lines included a cumulative impacts assessment taking into account the neighbouring (existing and planned) infrastructures, including the plants within the relevant cluster. The plants and associated infrastructure obtained their environmental permits ("Declaración de Impacto Ambiental" - DIA) between February 2020 and March 2022. Some project schemes are currently under construction and the last plants are expected to be operational by Q4 2023.

The closest Natura 2000 sites to the project are listed in the table below:

Cluster	Plant name	Size (ha)	Closest Natura 2000 site to the plants and associated infrastructure - distance (km) and direction
ALMARAZ	Almaraz I	59	2.7km to W SPA ES0000324 "Embalse de Arrocampo", 2.7 km to E SPA ES0000433 "Colonias de Cernícalo Primilla de Belvis de Monroy"
	Almaraz II	40	0.9km to W SPA ES0000324 "Embalse de Arrocampo", 3.2 km to E SPA ES0000433 "Colonias de Cernícalo Primilla de Belvis de Monroy"
TAGUS	Tagus I	53	Inside SPA and SAC ES0000369 "Llanos de Alcántara y Brozas"
	Tagus II	60	
	Tagus III	61	0.2 km to W SAC ES4320002 "Cedillo y Río Tajo Internacional"
			2km to NW SAC ES4320021 "Río Erjas" 6km to SW SAC ES4320074 "Rivera de Membrio" 0.3 km to W SPA ES0000368 "Río Tajo Internacional y Riveros"
Tagus IV	52	Inside SPA and SAC ES0000369 "Llanos de Alcántara y Brozas" (including transmission line) 0.2 km to W SAC ES4320002 "Cedillo y Río Tajo Internacional" 2km to NW SAC ES4320021 "Río Erjas" 6km to SW SAC ES4320074 "Rivera de Membrio" 0.3 km to W SPA ES0000368 "Río Tajo Internacional y Riveros"	
VALDEMORO	Valdemoro		1.2km to E SAC ES4120072 „Riberas del Río Arlanzón y afluentes"

The Spanish EIA process incorporates the Habitats assessment, whereby, for projects subject to an EIA, competent authorities can only issue the environmental permit once the step-by-step procedure for assessing projects that are likely to have impact on Natura 2000 sites has been satisfactorily performed (including screening and appropriate assessment (AA)).

The solar PV and wind plants and its ancillary facilities are expected to generate limited impacts during both construction and operation phases. The project, taking also into account cumulative impacts, entails limited negative impacts in particular on the runoff characteristics of the drainage basin, fauna, landscape and soil.



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During the construction phase, main impacts are associated with the presence of machinery, vehicles, construction workers, and the erection of the PV and wind plants infrastructure. The impacts relate to increase of GHG emissions, dust and noise due to construction related activities, increased wildfire risk, as well as increased traffic in the surrounding areas, soil erosion due to the loss of vegetal cover, visual impacts due to the construction operations 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 and for the wind project).

Specific mitigation measures required for implementation during construction and operation phases, vary per plant 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 lines, the mitigation measures are based on the Royal Decree 1432/2008²;
- In relation to the risk of collision for the wind turbines, the mitigation measures are specific rules to be applied and are included in the environmental permits, including under which circumstances a wind turbine shall be shut off (“protocolo de parada”);
- 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; and
- Landscape integration plans

The EIA reports covers the entire lifecycle of the facilities, including the decommissioning. 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 further amended by RD 27/2021). 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. Despite the lack of legislation regarding the recycling of wind turbine blades, the European wind industry is increasingly developing strategies and tangible commitments to face end-of-life issues of the sector³. The promoter will have to present a decommissioning plan to the competent authority in advance of the planned end of the activities.

The main physical climate change risks of the PV clusters relate to floods and solar irradiation change, and to a lesser extent, to temperature increase, precipitation increase and wind speed increase. The related mitigation measures foresee enhanced drainage systems, the use of equipment suitable for high temperatures, installation of cooling systems or reinforcement of the existing ones and the consideration of local wind conditions as per industry practice. The respective risks of the wind farm relate to floods and wind speed increase, and to a lesser extent, temperature increase, precipitation increase and solar radiation change. The related mitigation measures include enhanced drainage systems, design of WTG suitable for site locations and the use turbines certified for high temperatures.

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 Energy Lending Policy.

² 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.

³ [Wind industry calls for Europe-wide ban on landfilling turbine blades | WindEurope](#)



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A detailed description of the specific issues regarding each cluster is included below:

ALMARAZ

Almaraz cluster occupies a total area of ca. 99 ha and has a total capacity of ca. 80 MWp. It is located in the province of Cáceres in the municipality of Almaraz. It is composed of two PV plants almost adjacent to each other. Almaraz 1 plant includes a 30 kV switching substation from where a ca. 1.9 km underground line in 30 kV will connect to “Almaraz 1 30/132 kV substation”. Similarly, Almaraz 2 plant includes a 30 kV switching substation from where a ca. 0.9 km underground line in 30 kV will connect to “Almaraz 2 30/132 kV substation”. A common 132 kV partially underground line of ca 0.6 km will evacuate the energy from Almaraz 1 and 2 substation to the existing “S.T. Almaraz substation”, owned by Ibedrola the Distribution System Operator (DSO).

The PV plants entail limited negative impacts mainly on landscape, soil and fauna, with the presence in some cases of species like White-rumped Swift (*Apus caffer* – Near Threatened as per the IUCN Red List).

The environmental permits were issued in February 2020 and cover the PV plant, the substations of the PV plants and the transmission lines. The EIA reports include a cumulative study of the cluster along with two additional neighbouring PV plants and associated ancillary infrastructure. The EIA report consider that Natura 2000 sites will not be affected, and conclude that there is no need for an Appropriate Assessment. The competent authority issued the permit on this basis.

The main impacts of the PV plants relate to soil, groundwater, loss or fragmentation of habitats (habitat 6310: “Dehesas with evergreen *Quercus* spp”), landscape integration, dust, noise and cultural heritage. The related mitigation measures include: reforestation plans, planting a five-metre wide perimeter tree barrier using autochthonous species, installing porous fencing to allow passage of fauna among others. In addition, the competent authority requested mitigation measures (habitat improvement for the Iberian Lynx (*Lynx pardinus*⁴), habitat conditioning for reptiles, bats, passerine birds and common kestrels (*falco tinnunculus*)) and environmental monitoring plans during construction and operation.

TAGUS

Tagus cluster occupies a total area of ca. 225 ha and has a total capacity of ca. 199.9 MWp. It is located in Cáceres, in the municipality of Alcántara. It is composed of four PV plants adjacent to each other. Each plant includes a 30 kV switching substation from where it will connect to the common substation SET FV Tagus IV 30/400 kV substation through a 30 kV underground line (3 to 5km length, depending of the plant). This substation is connected through a 400 kV overhead line of ca. 14.2 km to “ICE 400kV substation”, from where a ca. 0.2 km underground line in 400 kV will connect to the existing “Jose María 400 kV Oriol Substation”, owned by the Transmission System Operator (TSO).

The schemes entail limited negative impacts mainly on landscape, soil and fauna, with the presence in some cases of species like Black-bellied Sandgrouse (*Pterocles orientalis* – Endangered), Little Bustard (*Tetrax tetrax* – Vulnerable), Spanish Imperial Eagle (*Aquila adalberti* – Vulnerable), Egyptian Vulture (*Neophron percnopterus* – Vulnerable), Mediterranean Horseshoe Bat (*Rhinolophus euryale*), Mehely's Horseshoe Bat (*Rhinolophus mehelyi* – Vulnerable), Lesser Mouse-eared Myotis (*Myotis blythii* - Near threatened) and Schreiber's Bent-winged Bat (*Miniopterus schreibersii* – Vulnerable).

⁴ Endangered as per the IUCN redlist



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The environmental permits were issued between January and March 2022 and cover the PV plant, the substations of the PV plants and the transmission lines. The EIA reports include a cumulative study of the cluster along with one additional neighbouring PV plant and associated ancillary infrastructure such as the substations and transmission line. The EIA report considers that Natura 2000 sites will not be affected as a result of an Appropriate Assessment. The Appropriate Assessment of the impact on Natura 2000 sites concludes that, although the four PV plants and the transmission lines are located inside SPA and SAC ES0000369 “Llanos de Alcántara y Brozas”, no negative impacts are expected. The transmission line will be parallel to another existing HV line and its layout avoids protected areas. The layout of the PV plants avoids rivers and well preserved areas of the habitats concerned. Besides, the promoter will develop conservation measures in line with the conservation objectives of the Natura 2000 sites affected. The competent authority confirmed in the environmental permits the absence of significant impact on Natura 2000 sites and included additional measures.

The main impacts of the cluster relate to loss or fragmentation of habitats (habitat 6220 “pseudo-steppe with grasses and annuals”), collision risk (for the transmission line), landscape integration, soil, groundwater and cultural heritage. The related mitigation measures include reusing of soil layers for restoration activities, avoiding cutting down vegetation, no construction works during avifauna breeding season, equipping the transmission lines with markers, enhanced monitoring and planting tree barrier. In addition, the competent authority requested additional mitigation measures (research project with the regional university to assess the impact of the various PV plants and transmission lines on the avifauna and habitats, restoration and reconstruction of ecologically equivalent ecosystems, habitat improvement areas for predatory birds, habitat conditioning for reptiles, bats and passerine birds) and reinforced environmental monitoring plans during construction and operation.

VALDEMORO

Valdemoro wind farm includes Wind Turbine Generators (WTGs) for a total capacity of 49.5 MW. The wind farm will be connected to “ST Valdemoro 132/30 kV substation” from where it will connect to a 132 kV overhead line belonging to another promoter.

The wind farm entails limited negative impacts mainly on landscape, cultural heritage, loss of habitats and specially on avifauna and bats. The avifauna and bats studies included in the EIA report was based on bibliography and annual field surveys. The sensitive species observed in the area of the project are, Schreiber's Bent-winged Bat (*Miniopterus schreibersii* – vulnerable), Giant Noctule (*Nyctalus lasiopterus* – Near threatened), European Turtle-dove (*Streptopelia turtur* – vulnerable). With the adequate measures in place as foreseen in the Environmental Management Plans (EMPs), and the permits, no significant impact on those species is expected.

The environmental permit was issued in July 2021 and cover the wind farm and the “ST Valdemoro 132/30 kV substation”. The competent authority confirmed in the environmental permits the absence of significant impact on Natura 2000 sites produced either by the project alone or as a result of a cumulative impact with other projects.

The main impacts of the project relate to loss or fragmentation of habitats, landscape integration and fauna (collision risk, barrier effect). The related mitigation measures include avoiding cutting down vegetation, surveillance of the real mortality rates during the technical life of the wind farm and taking the necessary actions accordingly (from stopping the WTG concerned up to relocation or removal as described in the rules provided in the environmental permits “protocolo de parada”) and equipping the transmission lines with markers. In addition, the competent authority requested environmental monitoring plans, specific bird mortality mitigation systems (using cameras), and reduced WTG speeds to 6m/s during the first four hours at dawn from July to October, to protect bats.



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EIB Paris Alignment for Counterparties (PATH) Framework

Iberdrola S.A. as the head of group for the different Iberdrola subsidiaries is in scope and screened in to the PATH framework, under the low carbon requirements. The counterparty is not involved in incompatible activities and it already meets the requirements of the EIB PATH framework with its existing alignment plan.

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. 200 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

Almaraz cluster (ca. 99 ha) is located on land used for raising cattle and sheep and for agricultural uses. In Tagus cluster (ca. 225 ha), the PV plants and the transmission land are located in land used for raising cattle and sheep. Valdemoro wind farm will be mainly located in non-irrigated agricultural land.

The promoter has engaged with the land owners in order to secure voluntary agreements for the land required by all project infrastructures, mostly in the form of leases with annual payments. Some plots of land been secured through bilateral agreements. If voluntary agreements cannot be reached (which is sometimes the case for small portions of the transmission line), the promoter intends to require expropriation, in line with Spanish legislation. In Spain, all projects required for the implementation of the different activities within the electricity sector, including generation, promoted by public or private companies, are considered public utility, and are subject to urgent forced expropriation to be carried out by the authority in the interest of the promoters.

Recent reports are pointing out the possibility of use of forced labour in the supply chain of solar PV panels. The promoter has a Policy on Respect for Human Rights rejecting the use of any form of forced or compulsory labour. The promoter has reinforced its assessment process on supply chain sustainability, including on key aspects like forced labour and ethical practices. The promoter has performed a supply chain mapping exercise with its suppliers, concluding that it did not find evidence that any of the factories involved in this project are using forced labour. The promoter is committed to continue its engagement with the PV module manufacturers and their sub-suppliers, and review their practices to avoid the use of forced labour in the supply chain. The project will have to comply with the EIB E&S Standards, which foresees a zero tolerance of forced labour, and require promoters to make reasonable efforts to assess if there are labour risks associated with the primary suppliers of goods and materials essential to the core functions of the project.

Public Consultation and Stakeholder Engagement



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The public consultation process was carried out under the EIA process for all project components, as required by EU law and as transposed by national and regional law. The promoter has channels of contact on sustainability and environmental matters. The Promoter has channels of contact on social responsibility, sustainability and environmental matters (responsabilidad_social@iberdrola.es, sostenibilidad@iberdrola.es, medioambiente@iberdrola.es). The promoter has programs to engage with local stakeholders. These include project to combine agriculture, birdlife and photovoltaics, including agrovoltaic tomato crops and beehives in PV.

Other Environmental and Social Aspects

The Promoter is known to the Bank from previous operations and has sufficient E&S capacity to implement the project. The promoter has a solid organisational structure and has certified its management systems (ISO 14001).

Conclusions and Recommendations

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.

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