

Environmental and Social Data Sheet

Overview

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| Project Name: | AVE MADRID EXTREMADURA |
| Project Number: | 2020-0033 |
| Country: | Spain |
| Project Description: | Construction of a new high speed railway line Talayuela – Plasencia – Cáceres – Mérida - Badajoz (around 260 km). The project is part of the high speed rail line Madrid - Extremadura and will improve cross-border connections with Portugal in the Atlantic TEN-T corridor. |
| 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 included in the Infrastructure, Transport and Housing Master Plan “Plan de Infraestructuras, Transporte y Vivienda PITVI (2012-2024)”, which has been subject of a Strategic Environmental Assessment (SEA) in accordance with Directive 2001/42/EC. It was also included in the earlier strategic plans, such as the “Strategic Plan for Transport Infrastructure 2005-2020”, which was also subject of a SEA.

Most of the project is on new alignment and falls within the scope of Annex I of the Environmental Impact Assessment (EIA) Directive (Directive 2011/92/EU as amended by 2014/52/EU). In particular, the following 4 separate EIA procedures were carried out for the different components of the project with the corresponding public consultation and publication of the environmental consents (*Declaración de Impacto Ambiental, DIA*) in the State Official Bulletin (*Boletín Oficial del Estado, BOE*). The following table summarises the EIA procedures for different sections, which are ordered in the direction from Madrid to the Spanish/Portuguese border.

| Section | Scope of the EIA and comments | Public consultation | Publication of DIA |
|----------------------------|--|---------------------|--------------------|
| <u>Talayuela – Cáceres</u> | The scope of the EIA included 127.5 km of mostly new double track, including a section through the municipality of Naval Moral de la Mata and renewal of an existing station, two electric traction substations, in the municipalities of La Bazagona and Las Capellanías, and their corresponding high voltage (HV) intake lines. The EIA was undertaken in 2001 – 2007 in accordance with Directive 85/337/EC applicable at the time. | May – June 2006 | Dec 2007 |

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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|-------------------------|--|-------------------------|--------------|
| | The EIA does not include the access to the existing Plasencia station nor the urban section in Cáceres, which were subject of a separate procedure. | | |
| <u>Cáceres – Mérida</u> | <p>The scope of the EIA included 40.5 km of new double track, including a technical station in Aldea del Cano, two electric traction substations, one south from Cáceres and the second north from Mérida and their corresponding HV intake lines).</p> <p>The EIA was undertaken in 2001 – 2006 in accordance with Directive 85/337/EC applicable at the time. The EIA does not include the access to the existing Mérida station nor the urban section in Cáceres, which were subject of a separate procedure.</p> | January – February 2003 | June 2006 |
| Mérida by-pass | <p>The scope of the EIA included 17.5 km of new double track.</p> <p>The EIA was undertaken in 2002 – 2012 in accordance with Directive 85/337/EC applicable at the time.</p> <p>The EIA included a solution of the access to the existing Mérida station, which is different from the one that will be implemented as part of this project. The latter was subject of a separate procedure.</p> | April – May 2009 | January 2012 |
| Mérida-Badajoz | <p>The scope of the EIA included the 36.2 km of new double track, including a technical station in Aldea del Cano, an electric traction substation and its corresponding HV intake line.</p> <p>The EIA was undertaken in 2001 – 2006 in accordance with Directive 85/337/EC applicable at the time.</p> <p>The scope of the EIA does not include access to the existing Badajoz station, which was subject of a separate procedure.</p> | January – February 2003 | May 2006 |

The project also includes several components falling under Annex II of the EIA Directive, such as sections on the existing alignment, as well as connections between the new high speed line and these existing lines. The competent authority analysed these components in accordance with the criteria set out in Annex III of the EIA Directive and following a consultation with the relevant stakeholders, including the regional environmental authority, considered that no full EIA was necessary for any of them. The screening out decisions (*Informe de Impact Ambiental, IIA*) were published in the BOE. The following table summarises the EIA screening procedures for different sections, which are ordered in the direction from Madrid to the Spanish/Portuguese border.

| Section | Scope of the EIA screening and comments | Publication of IIA |
|--|---|--------------------|
| Connection to the existing infrastructure for access to Plasencia (direction from Madrid) | The connection consists of a new single track electrified branch of 2.2 km between the new high speed line and the existing conventional line Monfragüe - Plasencia, as well as electrification of 1.5 km of the existing line. | May 2020 |
| Connection to the existing infrastructure for access to Plasencia (direction from Cáceres) | The connection consists of two new single track electrified branches of 2.9 km and 3.8 km between the new high speed line and the existing conventional line Monfragüe - Plasencia. | July 2014 |

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| Section | Scope of the EIA screening and comments | Publication of IIA |
|---|---|--------------------|
| Connection to the existing infrastructure for access to Cáceres | The connection consists of two new single track electrified branches of 2.2 km and 2.3 km, connecting the new high speed line to the conventional infrastructure north and south from Cáceres respectively. | May 2015 |
| Connection to the existing infrastructure for access to Mérida | The connection consists of a new single track electrified branch of 0.5 km between the new high speed line and the existing conventional line Aljucén - Cáceres. | July 2014 |
| Access to Mérida | The access to the existing station in Mérida will be implemented by means of the existing conventional line, which will be renovated, double tracked and electrified between Mérida and Aljucén, and renovated and electrified between Aljucén and La Garrovilla. | February 2019 |
| Access to Badajoz and Spanish/Portuguese border | The access to Badajoz and further on till the border will be implemented by means of connecting the new high speed line to the existing conventional line, which will be electrified along approximately 25 km. | February 2019 |

Finally, some other works included in the scope of this project do not fall in either Annex I or Annex II of the EIA Directive, this concerns the renewal and electrification of the existing line for access to Plasencia and Cáceres stations, as well the works on the associated works on conventional line Humanes – Monfragüe and renewal of the conventional line for access to Badajoz and Spanish/Portuguese border.

The project is located in the Extremadura Autonomous Community, nearly 75% of which is declared as Important Bird's Area. The line crosses or runs in the vicinity of multiple protected areas, in particular the following Natura 2000 sites:

| Sites | Distance to the project |
|---|---|
| Section Talayuela – Cáceres (including the northern connection to Cáceres) | |
| ES0000168 Llanuras de Oropesa, Lagartera y Calera y Chozas | Adjacent to the beginning of the section and to its planned continuation towards Madrid. |
| ES4320062 «Cañada del Venero» | Crossed by the line over 5.4 km. |
| ES0000014 «Monfragüe y las Dehesas del Entorno» | Adjacent for around 5.5 km, and for around 55 km in its vicinity at a distance varying between some hundreds meters and several km. |
| ES0000427 «Río y Pinares del Tiétar» | Crossed by the line |
| ES4320077 «Río Tiétar» | Crossed by the line |
| ES4320060 «Arroyos Barbaón y Calzones» | Crossed by the line several times (several branches of the stream) |
| ES0000434 «Canchos de Ramiro y Ladronera» | The lines runs in the site vicinity for around 3 km at distance varying in the order of 400m - 900m. |
| ES0000415 «Embalse de Alcántara» | Crossed by the line twice (two branches), and for around 2.6 km in its vicinity. |
| ES4320018 «Río Almonte» | Approx. 2 km |
| ES0000356 «Riberos del Almonte» | Approx. 2 km |

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| Sites | Distance to the project |
|--|--|
| Section Cáceres – Mérida (including the southern connection to Cáceres and Merida bypass) | |
| ES000422 «Colonias de cernícalo primilla de la ciudad monumental de Cáceres» | Approx. 1.5 km (within the boundaries of the city of Cáceres) |
| ES0000428 «Colonias de cernícalo primilla de Casas de Enjara» | Approx. 1 km |
| ES0000071 «Llanos de Cáceres y Sierra de Fuentes» | Crossed by the line over 13.7 km. |
| ES0000070 «Sierra de San Pedro» | Approx. 500 m |
| ES4310048 «Corredor del Lácara» | Crossed by the line |
| ES0000395 «Charca la vega del Marchal» | Approx. 800 m |
| ES4310017 «Río Aljucén Bajo» | The lines runs through the site od adjacent to it for around 7.6 km, and for 2.8km at distance in the order of 200m - 600m |
| ES0000069 «Embalse de Cornalvo y Sierra Bermeja» | Approx. 4 km |
| ES0000328 Embalse de Montijo | The lines runs in the site vicinity for around 3 km at distance in the order of 400m - 900m. |
| Section Mérida – Badajoz (including connection and access to Badajoz and ES/PT border) | |
| ES4310032 «Ribera de los Limonetes-Nogales» | Crossed by a HV intake line |
| ES4310062 «Laguna temporal de tres arroyos» | In the vicinity of a HV intake line |
| ES0000393 «Azud de Badajoz» | Crossed by a HV intake line |
| PTCON0030 Caia | Adjacent to the end of the section and crossed by the continuation of the line in Portugal. |
| Connection and access to Plasencia | |
| ES4320060 «Arroyos Barbaón y Calzones» | Crossed by the line |
| ES0000014 «Monfragüe y las Dehesas del Entorno» | In the vicinity of the line and the renovated and electrified section of an existing conventional line running for around 1 km with the site boundaries. |
| Connection and access to Merida | |
| ES0000328 Embalse de Montijo | Crossed by the line, adjacent to it or in the immediate vicinity for around 7 km. |

These sites are home to multiple fauna and flora species, among them several endangered species, such as Iberian lynx (*Lynx pardinus*), red kite (*Milvus milvus*), Spanish imperial eagle (*Aquila adalberti*), Spanish minnowcarp (*Anaecypris hispanica*) and green orchid (*Serapias perez-chiscanoi*).

The potential impact on the sites was assessed as part of the EIA or screening out analysis. With the mitigation measures set out in the DIA and IIA, no significant impacts are expected on these sites.

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The primary mitigation measures set out in the EIAs consist of adopting an alignment and engineering solutions that reduce the environmental impact, such as selecting an alignment alternative that circumvents the site «Monfragüe y las Dehesas del Entorno» (ES0000014), as well as an extension from 450 m to 1,000 m of a tunnel under the San Pedro ridge in order to reduce the severance effect and minimise the impact on the site «Sierra de San Pedro» (ES0000070).

Other measures include special design of civil engineering structures allowing places for nests, fauna crossings, fencing, special design of the drainage, measures to avoid collision of birds with HV lines, measures to mitigate electrical hazards for birds, noise screens, landscape integration of earthworks and civil engineering structures, water collection and treatment to avoid spills, avoidance of noise disturbance during breeding seasons, monitoring during the project implementation and operation.

During construction, the impacts are largely temporary and localised, and are being addressed through an environmental monitoring plan. The main impacts are those corresponding to the green field sections, such as a significant amount of excavated material and its treatment in controlled dumps or assignment to other infrastructures with soil shortfall. There is also significant temporary disruption during construction because of noise, vibration, dust, etc., as well as risk of fires. In addition to standard good practice, the mitigation measures include special water treatment, specific fire prevention measures, and landscape repair after the execution of the works.

In the operation phase, for the green field sections the main impacts are those typical for major linear infrastructure projects, such as change in land use and severance. For sections within the existing railway right of way, there will be additional impacts related to noise and vibration. The mitigation measures include alternative routes for affected roads and drove ways, adequacy of culverts for fauna crossings and landscaping.

The project includes deployment of GSM-R (mobile telecommunications system for railways) on the line. The design of this system and definition of the position of the transmission stations has not been carried out yet. Some of these stations and their masts may need to be installed within the boundaries or in the vicinity of Natura 2000 sites. In these cases, it may be necessary to undertake an EIA or screening procedure, which may set out some additional measures to be implemented.

Overall, the project will have some positive environmental effects in comparison with the current situation, as it will have a significant contribution to increasing the modal share of rail versus road and air transport in the corridor, with environmentally favourable impact related to energy consumption, noise, pollutants and green-house gas emissions.

EIB Carbon Footprint Exercise

The project is included on the following basis:

Estimated annual third party greenhouse gas emissions (vehicular use, from existing and induced demand) from the use of the project in an average year of operation over a 40-year assessment period:

- Forecast absolute (gross) emissions are 40,000 tonnes of CO₂ equivalent; and
- Forecast emissions savings are 49,000 tonnes of CO₂ equivalent.

The project assessment boundaries are:

- In the absolute case:
 - the new high speed railway line Talayuela – Plasencia – Cáceres – Mérida - Badajoz and connection to the Spanish/Portuguese border, totalling

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approximately 235 km of new infrastructure and 65 km on the existing renovated rail infrastructure;

- In the baseline case:
 - the existing railway infrastructure, and road network of approximately the same length.

The forecasts in the baseline and absolute cases are based on Services' project specific assumptions about the workload of rail services (freight and passenger trains) and fuel efficiency of rail operations. In the baseline case, a portion of emissions from cars, buses and trucks is included using project specific emission factors, equivalent to those passenger or freight trips expected to shift from road to rail in the "with project" case.

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 project cost.

These forecasts may differ from those of the Promoter due to different assumptions, boundaries and baselines.

Social Assessment

The project requires expropriation, right of way or temporary occupation of approximately 2,396 ha, 74 ha and 372 ha, respectively, of mostly agricultural or undeveloped land.

The project also requires expropriation of some 15 residential properties, some of them being primary residences.

Land expropriation process is being followed in accordance with the applicable national legislation and is not finished for the parts for which the final design is yet to be completed.

Public Consultation and Stakeholder Engagement

For the components that were subject to EIA, the consultation of the relevant stakeholders and public consultation took place as part of the EIA. For the components that were screened out, consultation of the relevant stakeholders was carried out as part of the screening procedure.

Other Environmental and Social Aspects

In the recent years, the municipality of Navalmoral de la Mata has been requesting a modification of the approved alignment and burying the section of the line through this town. At present, the promoter intends to carry out the project as approved.

Significant archaeological sites, in particular, corresponding to the prehistoric and ancient times, are present in the area. Strict archaeological monitoring has been put in place in accordance with the requirements of the Competent Authority and the Promoter's Good Archaeological Practice Protocol. Relevant inspections are being carried out prior to commencement of major earthworks, so that the works are suspended when necessary and appropriate archaeological heritage preservation actions could be carried out under the supervision of the Competent Authority.

The existing railway stations in Navalmoral de la Mata, Plasencia, Cáceres, Mérida and Badajoz will be renovated and brought into conformity with modern requirements for accessibility for persons with disabilities and persons with reduced mobility. The renewal of the stations will be carried out in accordance with the protected heritage status of some elements of these stations.

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The project will intercept multiple drove ways present in the area. These drove ways will be relocated in accordance with the conditions set out in the DIAs and IIAs.

The Promoter, ADIF Alta Velocidad, has an established environmental policy and operates an Environmental Management System in accordance with ISO 14001:2015.

Conclusions and Recommendations

The project is part of an infrastructure programme, which was subject to a SEA.

Four EIA procedures, including public consultation, have been carried for different sections of the new high speed lines. Several components of the project related to the connection of the line to the existing infrastructure and modernisation of the latter have been screened out by the Competent Authority. The environmental consents set out appropriate mitigation measures for environmental impacts during construction and operations. The potential impact on Natura 2000 sites have been analysed as part of the EIA or screening procedures, and the Competent Authority concluded that the project will have no significant impact on these sites.

The Promoter will undertake to inform the Bank concerning the need of screening or EIA for GSM-R sites; and for the sites where screening or EIA is necessary, submit to the Bank the screening out decision or the EIA report and the environmental consent, as applicable.

The project is expected to contribute to modal shift from road and air to rail. The project is expected to have positive environmental impact in terms of safety, accessibility of transport, energy savings, air pollution, noise and CO2 emissions. The project's residual negative impacts during construction and operation, considering the planned mitigation measures, are acceptable. The impacts during the operation phase are partly offset by the expected modal shift facilitated by the investment.

Under the conditions indicated above the project is acceptable for EIB financing in environmental and social terms.