

Green Financing Framework

August 2022



1. PRESENTATION

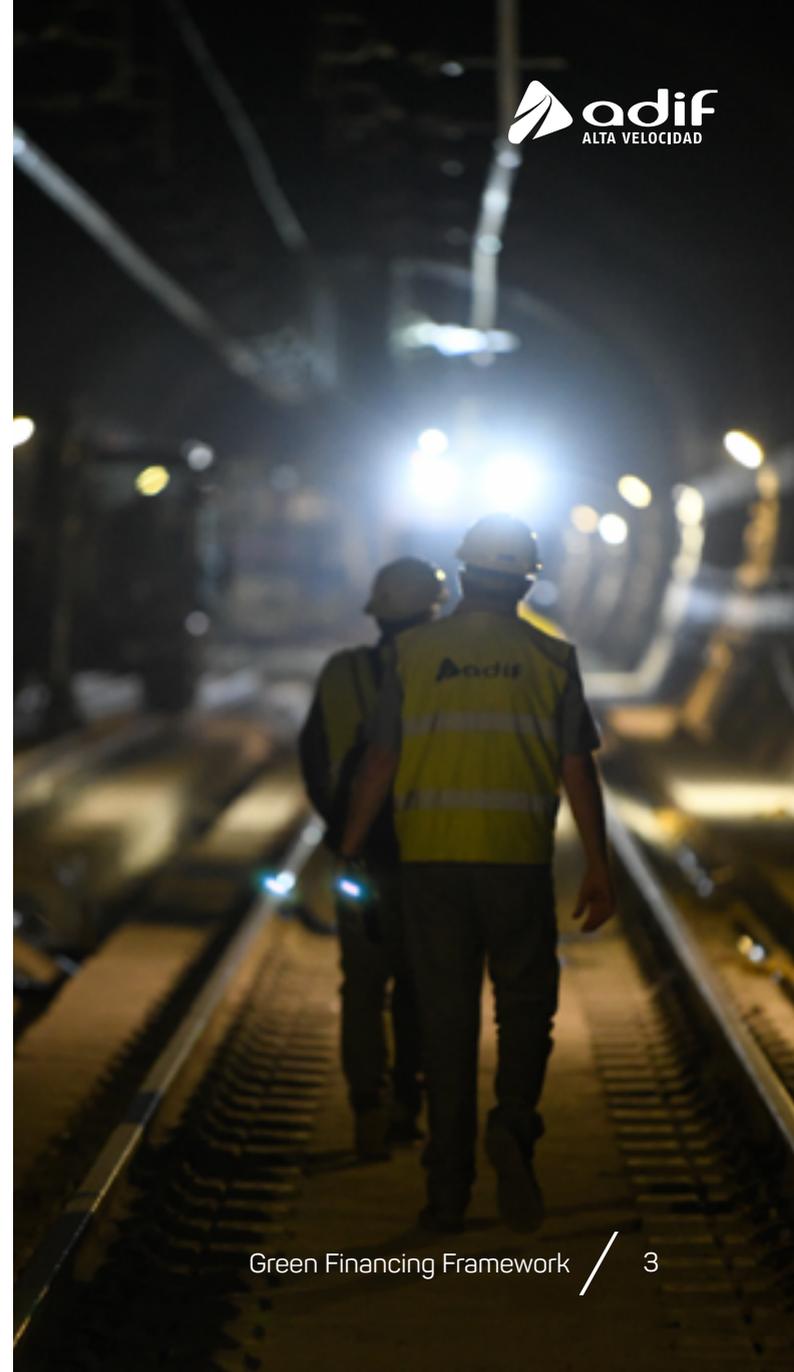
1.1 OVERVIEW OF ADIF ALTA VELOCIDAD

Adif Alta Velocidad is a state-owned public corporate entity (“entidad pública empresarial”) with legal personality, management autonomy and its own resources, operating under the supervision of the Ministry of Transports, Mobility and Urban Agenda (“Ministerio de Transportes, Movilidad y Agenda Urbana”) of the Spanish Government. It was created after the split of Adif (Administrador de Infraestructuras Ferroviarias) into two separate entities.

Adif Alta Velocidad is responsible for the construction and management of Spain’s high speed rail network, as well as other activities such as management of the high-speed stations and the supply of energy.

This separation, due to its respective main activity and the significant differences that are presented from a technical, economic and financing point of view, has been approved by Royal Decree-Law 15/2013 of 13 December on restructuring of the public corporate entity Adif and other urgent measures in the economic order.

It responds, among others, to the criteria to deepen the rationalization of the railway sector in the field of state competence, to achieve the maximum efficiency of services in a scenario of progressive liberalization and to achieve budgetary stability.



Following the different EU Directives on train transportation, in 2003 the Spanish Parliament approved Law 39/2003 of the Railway Sector (amended by Law 38/2015 of the Railway Sector), opening the sector to competition in transport activities and enforcing the separation between operators and managers of the railway infrastructure.

1941 > 1998 > 2005 > 2013



RENFE creation

Compliant with European guidelines (Directive 91/440)

Law 39/2003 of the Railway Sector establishing the separation between operators and the manager of the railway Infrastructure in Spain

Adif was split into two entities:
- Adif AV
- Adif

1.2 MAIN FIGURES OF ADIF ALTA VELOCIDAD

(Data as of 31 December 2021)

High speed lines in operation:	2,926 km (*)
No. Railway stations:	46
No. Train circulations (year 2021):	285,854
Train-kilometers (millions in a year):	46.8
Fixed assets:	47,844 million €
Net equity:	25,091 million €

(*) Spain is the first country in Europe and the second in the world, after China, in the number of km of high-speed lines in operation.



1.3 COMMITMENT OF ADIF ALTA VELOCIDAD

As a public service entity, Adif Alta Velocidad works at the service of society as a whole. For this reason, our strategy seeks that our results and impacts contribute, to the greatest extent possible, to improving people's lives. That is our ultimate purpose and our fundamental commitment as managers and administrators of the high-speed rail network.

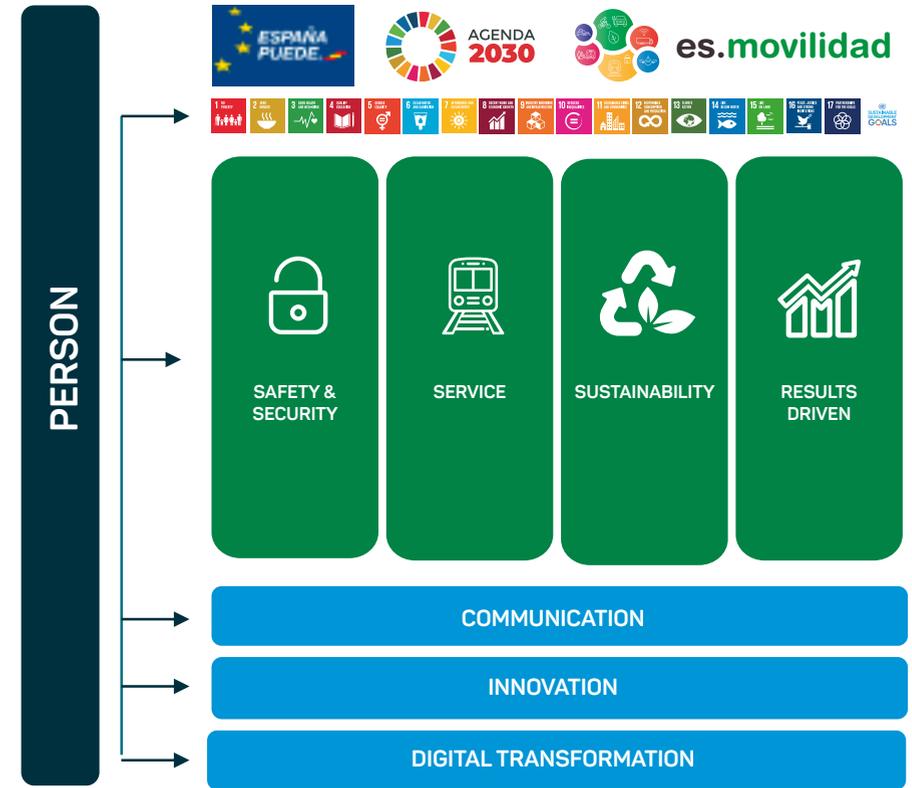
This spirit is reflected in a decalogue of commitments in line with the **Sustainable Development Goals (SDG) of the 2030² Agenda of the United Nations (UN)**, especially with those that are most relevant to our organization, considering the contribution that we can do to them according to our nature and activity:

1. The well-being of people, betting on an inclusive and sustainable socio-economic development of the country.
2. A safe service that guarantees social cohesion by promoting connectivity and mobility, reliable and of quality.
3. A comprehensive and transparent management that is responsible and efficient with natural and economic resources.
4. The defense of actions that reinforce the path to gender equality.

5. Comprehensive management of business risks.
6. Collaboration with our stakeholders.
7. Innovation, the circular economy and technological modernization.
8. The generation of value and trust for society.
9. The development of a diverse and global world.
10. The well-being and professional development of Adif and Adif Alta Velocidad staff.

In addition, we must be aligned with the national policies and strategies that mark the path to follow in the coming years, such as the Spanish Recovery, Transformation and Resilience Plan¹ or the **Secure, Sustainable and Connected Mobility Strategy 2030² of the Ministry of Transports, Mobility and Urban Agenda**.

In this context, Adif Alta Velocidad in its **Strategic Plan 2030 (PE2030)³** has aligned the strategic lines of the entity to the great environmental, social, operational, and business challenges that it must face, with the purpose of being a benchmark as an organization focused on the management of resilient, sustainable, safe and intelligent infrastructures that contribute to the new ecological transition model.



¹ <https://planderecuperacion.gob.es/>
² <https://esmovilidad.mitma.es/ejes-estrategicos>
³ <https://www.adif.es/plan-estrat%C3%A9gico-2030>



The PE2030 is based on four pillars: **Safety, Service, Sustainability and Results Orientation**. Likewise, it has three levers to accelerate the transformation process: **Communication, Innovation and Digital Transformation**.

In the PE2030, Adif Alta Velocidad has the ambition to operate, manage and build an intelligent railway network adapted to the new technological, competitive and sustainable ecosystem, thus contributing to the SDGs. With this, it maintains and reinforces its strong commitment to sustainability⁴ by establishing lines of action and specific strategic objectives that seek to improve our impact on society from an economic, social, environmental and good governance point of view.

Thereby, in the Sustainability pillar, the following strategic objectives have been established:

1. To be a reference in the contribution to the energy transition.
2. Fight climate change (achieve net zero emissions by 2050).
3. Recover nature and biodiversity.
4. Promote a culture of awareness of climate change.
5. Generate a positive social impact in favor of social cohesion and inclusion.
6. Reach new lines of income through the opportunities of the energy transition - contribute to the development of sustainable finances.

⁴ <https://www.adifaltavelocidad.es/sostenibilidad1>

The PE2030 monitors our contribution to the SDGs. **The construction and maintenance of highspeed lines, as well as the projects aimed at improving the energy efficiency of the railway system and promoting its sustainability**, have a positive impact on the following Sustainable Development Goals and Targets of the UN 2030 Agenda:



“Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”.

Target 9.1: “Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with focus on affordable and equitable access for all”. High-speed rail lines are built to the highest quality standards to ensure their resilience and reliability. Likewise, strict criteria of sustainability and respect for the environment are applied for its construction and maintenance, establishing environmental surveillance measures that guarantee the preservation of the natural, cultural and archaeological heritage.



“Make cities and human settlements inclusive, safe, resilient and sustainable”.

Target 11.a: “Support positive economic, social, and environmental links between urban, periurban, and rural areas by strengthening national and regional development planning”. High-speed rail lines substantially improve, in a planned manner, the connection between urban, peri-urban and rural areas, facilitating the generation of economic and social links, thereby generating opportunities for growth and well-being. On the other hand, projects aimed at improving the environmental sustainability of infrastructures, such as those that contribute to minimizing the impact of noise in inhabited areas, also make it possible to contribute to achieving this SDG.



“Take urgent action to combat climate change and its impacts”.

Target 13.1: “Strengthen resilience and adaptive capacity to climate-related risks and natural disasters in all countries.” Since 2020, the new railway infrastructure projects that require European funding are being prepared including an analysis of the risk and adaptation to the effects of climate change, thereby improving the resilience of the highspeed infrastructures that are being built.

Target 13.2: “Integrate climate change measures into national policies, strategies and planning”. The development of the high-speed network will cause significant amounts of traffic from road transport and air transport to be transferred to the railway, this being the mode of transport that generates the least CO₂ emissions and other greenhouse gases, thus combating climate change through a better contribution of the transport sector to the fight against this phenomenon. Likewise, projects aimed at improving energy efficiency are associated with a reduction in CO₂ emissions, so that they are also a tool for the fight against climate change.

In a next step within this strategic approach, Adif Alta Velocidad has approved the **PLAN TO COMBAT CLIMATE CHANGE 2018-2030 (PLCCC)**⁵ jointly with Adif, as a strategic initiative of the PE2030 Sustainability pillar whose main objective is to increase the contribution of the entity to this environmental challenge, as well as that of the railway system within the national transport sector.

In this way, the main milestones to be achieved with the Plan are reflected in three areas:

- In the area of mitigation, with the main objective of improving energy efficiency and reducing greenhouse gas (GHG) emissions:
 - » Our commitment is to achieve carbon neutrality by 2050 as the maximum horizon.
- In the field of adaptation, to improve the resilience of railway infrastructures:
 - » Include the assessment of vulnerability to the adverse effects of climate change in 100% of large railway projects from 2020.
- In the field of culture and awareness, seeking to increase the awareness of internal and external stakeholders through various actions, such as:
 - » Include clauses related to climate change in 100% of contract documents from 2025.

To achieve these goals, the Plan is structured around five main lines of action: energy management; energy efficiency; decarbonization and renewable energies; improvement of resilience, and culture and awareness which, in turn, are deployed in different programs and specific projects with different scopes. It is a living document that will be reviewed periodically to update its content and adjust the established goals.

⁵ https://www.adif.es/documents/20124/1809001/PLCCC_publicacion.pdf/972137a7-0407-2f05-4164-3934fe12c0a0?t=1620648275372

1.4 ADIF ALTA VELOCIDAD RATIONALE TO RAISE GREEN FINANCING

Consistent with the values mentioned above, the protection of the environment is developed in three lines of action.

Firstly, the environmental protection is aligned with the fundamental purpose of the entity. The greater environmental efficiency of rail transport compared to air transport and road transport is well known. This increased efficiency is particularly remarkable in terms of energy consumption and its derived atmospheric emissions, on a local, regional and global level, through the greenhouse gas emissions.

International experience in the last decades has clearly demonstrated that the quality of highspeed rail systems is such that they can capture customers and users from other modes of transport. Such capture produces a modal shift of traffic from less environmentally efficient means of transport to the railway, a phenomenon based on free choice mechanisms, and which has as its main consequence a reduction of environmental impacts on the transport corridors in which it occurs, as well as greenhouse emissions at global level.

Based on the foregoing, as the high-speed rail network is developed, the positive effect on the environment will continue to increase as significant amounts of traffic from road transport and air transport shift to the railway.

Secondly, it is clear that it is not possible to obtain the aforementioned development of the network if appropriate measures are not taken so that its design and construction minimizes the environmental impacts resulting from its execution.

In this case, the objective is to obtain the maximum degree of environmental integration of the new lines, starting from - as a minimum - compliance with the specifications contained in the resolutions of the Ministry for the Ecological Transition and the Demographic Challenge and relating to both natural heritage and cultural, archaeological and paleontological heritage.

Finally, once the new lines are in operation, it is necessary to continue to deepen the process of environmental integration, in this case during the maintenance operations. The objectives are to continue guaranteeing the viability of the corrective and compensatory measures adopted during the construction phase, as well as to minimize as much as possible the new environmental impacts that can occur during the maintenance of the lines. Again, it is necessary to act at the level of the design and the construction works that constitute these operations.

Some figures can help to better understand these three lines of action:

GREEN ENVIRONMENTAL EFFICIENCY

- While transporting 2.8% of travelers in Spain, in all modes, in 2019, Adif Alta Velocidad only used 0.3% of the final energy consumed by the transport sector as a whole, producing greenhouse gas emissions of around 0.2% of the total transport sector.
- In terms of specific energy consumption, in order to transport a transport unit (passenger-Km.), Adif Alta Velocidad railway system required in 2019 a consumption of 5.2 times less than if the transport were by road, and 4.6 times less than if it had been made by air.

These data imply that, in terms of their greenhouse gas emissions, each passenger-Km. moved by the infrastructures managed by Adif Alta Velocidad in 2019 emitted 7.6 times less than if it had used road transport and up to 7.1 times less than if it had used air transport. In other words, every traveler who travels using the infrastructures of Adif Alta Velocidad, instead of using the road or air, prevents 107 gr. CO₂ equivalent for each kilometer traveled. In total in 2020 these travelers avoided the consumption of 91,000 tons of oil equivalent and the emission of 0.44 million tons of

CO₂ equivalent. If on top of energy consumption and its greenhouse gas emissions, we add the effects on local and regional air pollution, noise, nature and landscape, biodiversity, water and soil pollution, accidents, etc., and we value economically the set of impacts in terms of externalities, we obtain the following results:

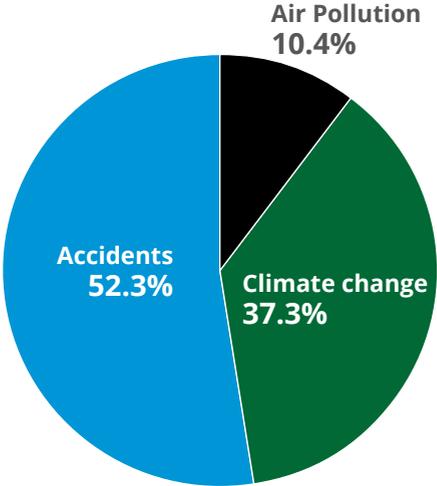
» The total external costs of transport in Spain, in 2019, exceeded 41,000 million euro, which represents a 3.34% of GDP. 73.5% of them were due to the transport of passengers.

All this without considering the costs of congestion, which in the case of road transport have exceeded 20 billion euros during the same period, which represents 1.7% of additional GDP.

With regards to the previous amount, the total external costs generated in the railway transport system managed by Adif Alta Velocidad in 2019 amounted to 349.6 million euro. However, given that externalities per unit of traffic (passenger-kilometer) are lower in the railway than in other modes of transport, when analyzing the total net saving represented by the mentioned system for society, we obtain a value that oscillates between 119.24 million and 230.23 million euro per year (if the effects of congestion are also considered). As new lines come into service, these savings will increase.

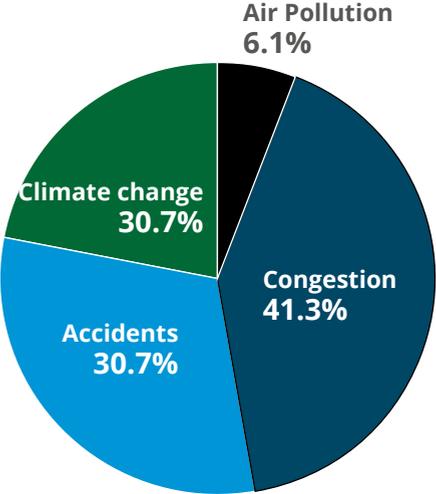
Distribution of external cost savings in the railway transport system managed by Adif Alta velocidad.

Total savings for externalities without considering management costs: 119.24 MM€ (year 2020).

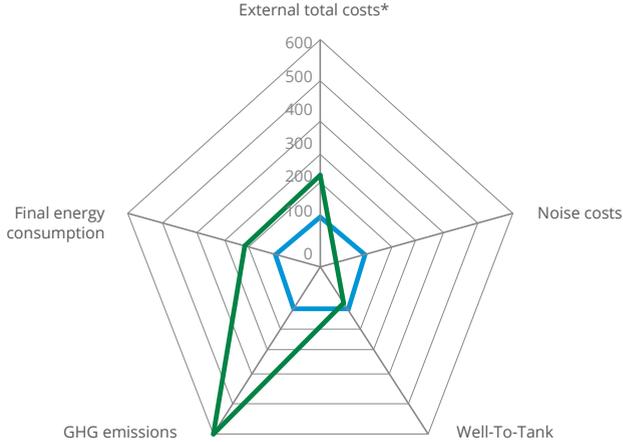


Distribution of external cost savings in the railway transport system managed by Adif Alta Velocidad.

Total savings for externalities considering congestion costs in all scenarios of modal shifting: 230.32 MM€ (year 2020).



Relative ecoefficiency of the railway transport system infrastructure managed by Adif Alta Velocidad, considering all scenarios of modal shifting **.



— Railway transport system infrastructure managed by Adif Alta Velocidad
 — Modal shifting scenario

*: Without considering congestions costs.
 **: Own source, based on methodology of "Handbook on external costs of transport", DE Delft, 2019.

ENVIRONMENTAL INTEGRATION OF NEW LINES

- In 2005 Adif developed an environmental management system that would ensure, not only compliance with the specific resolutions of the Ministry of Environment for each informative study of a new line (Environmental Impact Statement or DIA) and the relevant environmental legislation, but also their full environmental integration. The environmental management system was used during the drafting stages of basic and constructive projects, which display such informative studies, as well as during all the works that constitute the construction process of the lines (platform, track assembly, electrification, facilities, etc.) and for a period after they have been put into service of between 1 and 3 years..

This system is essential because Adif Alta Velocidad not only has the status of promoter of these actions, but also the status of a substantial entity, which entails specific responsibilities in Spanish environmental legislation on environmental impact assessment. Since 2005, this management system has evolved to the point where, in 2010, AENOR certified its compliance with the ISO: 14001 standard in the field of platform projects and the environmental management of the works. In 2015, this scope has been extended to all the projects that integrate the development and maintenance of high-speed lines.

ENVIRONMENTAL INTEGRATION OF MAINTENANCE OPERATIONS

- Currently, in addition to what is reflected in the previous section regarding the projects of these operations, there is an environmental management system for works and railway installations inherent to the maintenance of high-speed infrastructure, also certified according to ISO: 14001 standard from 2011.

All the actions described are part of the development of the Adif Alta Velocidad Environment Policy, which was approved by its President in February 2019.

More information on the environmental management of Adif Alta Velocidad can be found in its Environmental Report, which, on an annual basis, has been published since the creation of Adif in 2005 and the establishment of Adif Alta Velocidad in 2013.

https://www.adifaltavelocidad.es/documents/34745/4851605/M_MAMB_ADIF_AV_2020.pdf/544f307a-24b8-57ff-688f-120f969e2be2?t=1637662824477&download=true

All data included in this framework can be verified in the report for the year 2020.



2. GREEN FINANCING FRAMEWORK

This Green Financing Framework has been created in alignment with the Green Bond Principles (GBP) 2021 from ICMA (International Capital Market Association) and the Green Loan Principles (GLP) 2021 from LMA (Loan Market Association), in order to facilitate transparency, disclosure and integrity of Adif Alta Velocidad Green Financing instruments.

Green Financing Instruments include green bonds, green loans, green project finance and any other financial instrument to which an eligible green asset or project is allocated.

The five components included in the GBP/GLP are described below:

- Use of proceeds: Eligible Green Projects.
- Process for project evaluation and selection.
- Management of proceeds.
- Reporting.
- External review.

On the other hand, it seeks to align this framework with the achievement of the **United Nations Sustainable Development Goals**, as well as with the main sustainability objectives defined at the community level, in particular the sustainable activities and the relevant Technical Screening Criteria of the **EU Taxonomy's Climate Delegated Acts**⁶.

Likewise, once all the elements of the **EU Green Bond Standard**⁷ have been published and developed, we will look for the best way to incorporate its content into this framework.

⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2139>.

⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0391>.



2.1 USE OF PROCEEDS: ELIGIBLE GREEN PROJECTS

An amount equal to the net proceeds will be allocated for investments in one or more of the “Eligible Green Projects”.

Eligible Green Projects include new and ongoing projects with disbursements up to 2 years prior to the Notes issuance and up to 36 months since launching date.

The “Eligible Green Projects” can be ordered in the two following categories, in alignment with the GBP/GLP project category ‘Clean Transportation’:

ELIGIBLE GREEN PROJECT CATEGORIES	DESCRIPTION	ALIGNMENT WITH THE EU TAXONOMY'S CLIMATE DELEGATED ACTS
Investments related to new rail lines and rail lines extensions	This category includes projects for the construction of high-speed lines that are already being executed or are expected to be executed, as well as the lines already put into service	6.14. Infrastructure for Rail Transport
Investments related to maintenance, upgrades and energy efficiency of the rail system	This category includes projects aimed to improving the efficiency of the rail system and promoting sustainable transport. The actions can be related to infrastructure and superstructure (signaling system, electrification of a railway line, capacity improvement...)	6.14. Infrastructure for Rail Transport

Adif Alta Velocidad Eligible Green Projects contribute to the following UN SDGs:



TARGET 9.1

Build resilient infrastructure, promote sustainable industrialization and foster innovation.



TARGET 11.a

Make cities and human settlements inclusive, safe, resilient and sustainable.



TARGET 13.1 and 13.2

Take urgent action to combat climate change and its impacts.

2.2 PROCESS FOR PROJECT EVALUATION AND SELECTION

The Adif Economic Management and Financing Department, in coordination with the Financial Planning and Budget Department⁸ and the Environmental Management Department, will review the allocation of the projects annually. Additionally, the missions of those departments will be as follows:

- To review and monitor the allocation of the proceeds of any Green Financing Instrument for the lifetime of any Financing Instrument.
- To replace any Eligible Green Project which is no longer eligible with another eligible green project.
- To monitor and treat potential environmental or social controversies associated with Eligible Green Projects, until any Green Financing Instrument is outstanding. Any project associated with such controversy will be excluded from the eligible project list and Adif Alta Velocidad commit to substitute it with another Eligible Green Project as soon as feasible. In this sense, the Environmental Management Department has the power to indicate the environmental controversies that may imply the exclusion of a project.
- To review, and if required, update the Framework .

Projects included in the categories indicated in section 2.1 above may be considered eligible for Green Financing proceeds allocation.

The aforementioned departments will complete the annual reporting, which will be published on Adif Alta Velocidad website (<http://www.adifaltavelocidad.es>).

⁸ Adif Alta Velocidad delegates the activities of the Economic Management and Financing Department and the Financial Planning and Budget Department to Adif. A resolution dated 28 January 2014 was passed by the Secretary of State for Infrastructure, Transport and Housing, who authorized publication of the resolutions of Adif Alta Velocidad's Board of Directors dated 17 January 2014, which permit Adif Alta Velocidad to delegate these activities to Adif.



2.3 MANAGEMENT OF PROCEEDS

Until the total allocation of an amount equal to the net proceeds from the Green Financing instruments to Eligible Green Projects, Adif Alta Velocidad will temporarily invest an amount equal to the unallocated net proceeds from the Green Financing Instruments in monetary funds managed following a responsible investment approach, in bank deposits, cash, or equivalents.

Payment of principal and interest of the Green Financing Instruments will be made from Adif Alta Velocidad general funds and will not be directly linked to the performance of the Eligible Green Projects.

Auditors or any other third party appointed by Adif Alta Velocidad will verify the internal tracking method and the allocation of funds from the Green Financing proceeds to the Eligible Green Projects.



2.4 REPORTING

Within one year of the issuance of Adif Alta Velocidad Green Bonds and until the full allocation of an amount equal to the net proceeds of the Green Bonds issued, Adif Alta Velocidad will annually publish on its website (<http://www.adifaltavelocidad.es>) the information below:

1. Annual updates on the amounts allocated to the Eligible Green Projects.
2. Relevant expected impact metrics and where feasible actual impact metrics, related to the Eligible Green Projects.
3. Annual report from auditors or any other third party appointed by Adif Alta Velocidad, that will verify the internal tracking method and the allocation of funds from the Green Bond proceeds to the Eligible Green Projects.

Some examples of relevant metrics are:

- **Investments related to new lines and rail line extensions.**
 - » Estimated average time saving because of the project: minutes.
 - » Modal shift: Number of passenger-Km. and/or CO₂ tons-Km.
 - » GHG emissions avoided: Ton. CO₂ equivalent.
 - » Savings in external costs: Euro.
- **Investments related to maintenance, upgrades and energy efficiency of the Adif Alta Velocidad rail system.**
 - » Reduction of energy consumption: GWh equivalents.
 - » Reduction of CO₂ emissions: Kton. CO₂.

Regarding green loans, Adif Alta Velocidad will elaborate a report with a similar scope to the aforementioned one which will be provided to the lenders, given the bilateral nature of the contract in this kind of financial instrument.

3. EXTERNAL REVIEW: SECOND PARTY OPINION

The objective of the Second Party Opinion is to provide investors an independent assessment on the alignment of this framework with the green financing principles.

Adif Alta Velocidad has appointed Sustainable Fitch to provide a Second Party Opinion on this Green Financing Framework, confirming the alignment with the Green Bond Principles published by ICMA, as well as the Green Loan Principles published by LMA.

This Second Party Opinion is available on Adif Alta Velocidad website.

AMENDMENT TO THIS FRAMEWORK

Adif Alta Velocidad will review this framework from time to time, including its alignment to updated versions of the relevant principles as and when they are released, with the aim of adhering to best practices in the market.

The updates, if not minor in nature, will be subject to the prior approval of the qualified provider of the Second Party Opinion.

Any future updated version of this framework that may exist will either keep or improve the current levels of transparency and reporting disclosures, including the corresponding review by an External Verifier.

The updated framework, if any, will be published on Adif Alta Velocidad website and it will replace this framework.

Updated versions of the framework will only apply to issues after their publication unless the update itself specifies otherwise.

