



KINGDOM OF SPAIN'S GREEN BOND PROGRAM

ALLOCATION OF FUNDS ISSUED IN 2022

INDEX

1. EXECUTIVE SUMMARY	3
2. THE GREEN BOND PROGRAM OF THE KINGDOM OF SPAIN.....	4
2.1. THE GREEN BOND FRAMEWORK	4
2.2. VOLUMES ISSUED UNDER THE PROGRAM	7
2.3. THE ALLOCATION MECHANISM OF THE GREEN BOND PROGRAM.....	9
3. ANALYSIS OF THE ALLOCATION IN 2022	10
3.1. MOTIVATION OF THE PROPOSAL: FOCUS ON SUSTAINABLE TRANSPORTATION.....	10
3.2. ALLOCATION OF FUNDS ASSOCIATED WITH 2022 EMISSIONS.....	12
3.3. ANALYSIS BY EXPENDITURE ITEM.....	13
3.3.1. THE RAIL INFRASTRUCTURE MANAGER: ADIF AND ADIF AV.....	13
3.3.2. RENFE THE RAIL OPERATOR: RENFE	17
4. ANALYSIS OF ELIGIBLE EXPENDITURE AND ITS EVOLUTION.....	20
4.1. ANALYSIS OF ALLOCATION UNDER THE PROGRAM (2021-2022)	20
4.2. IMPACT OF THE ALLOCATION ON FUTURE ELIGIBLE EXPENDITURES	21

1. EXECUTIVE SUMMARY

Following the issuance of its first green bond in September 2021, **Spain is required to submit an allocation report** every year to inform investors about the eligible expenditure items to which the funds resulting from the issuance have been allocated under the program. Therefore, this report contributes, together with the impact report, to increase transparency and provide information to investors on the nature of the expenditures associated with the Kingdom of Spain's green bond issuances.

After issuing 5,000 million euros by syndication in 2021, the auction system was chosen to issue **3,207.1 million euros** in 2022, through reopenings of the green bond issued in 2021 and maturing in July 2042. This way, the bond reached an outstanding volume of 8,207.1 million euros on December 31st 2022.

Thus, out of the 9,793.1 million euros identified as eligible expenditure for emissions in 2022, 3,207.1 million euros are allocated to the clean transportation category. As established in the Kingdom of Spain's Green Bond Framework, this category also contributes to climate change mitigation and pollution prevention and control objectives. As was done for the 2021 emissions, it has been decided to allocate these amounts to the State transfers in favor of the infrastructure managers and administrators (Adif and Adif AV) and the operator (Renfe Viajeros, Sociedad Mercantil Estatal, S.A., hereinafter Renfe) of those services classified as Public Service Obligation by the competent authorities, and which are provided on the Spanish railway network.

Out of the funds allocated to the 2022 issuances, 1,620.3 million euros are assigned to the railway operator, **Renfe**, for the financing of the **Public Service Obligations**, whose operating deficit is compensated through the General State Budget and essentially affects the commuter and conventional medium distance network. The allocation is completed with 1,156.4 million euros assigned to **Adif** and another 430.4 million euros allocated to **Adif Alta Velocidad**. Both concepts refer to transfers aimed at the **development and sustainability of the railway infrastructure** to promote **modal transfer**. From these amounts, 29.7% correspond to programs included in the General State Budget for the year 2022 and the remaining 70.3% to the period 2020-2021.

The choice of the **railway transport sector** is due to its great importance within the economy, as well as its role in supporting the ecological transition. It is a key sector for achieving the electrification of economic activity and the modal shift to less polluting means. On the other hand, from the investor's perspective, the concentration of spending on rail transport offers some advantages, as it is a sector with an important track record in terms of contributions to sustainability and impact measurement. This makes it easier for investors to analyze and aggregate the information published by the different issuers that make up their portfolio.

Together with this allocation report, a favorable report by the General State Administration Auditor's Office is also submitted. This second report certifies that the expenditures are aligned with the provisions of the Green Bond Framework of the Kingdom of Spain. Thus, it is guaranteed that the expenditures fall within the categories defined by the Framework and contribute to the objectives of the program.

2. THE GREEN BOND PROGRAM OF THE KINGDOM OF SPAIN

2.1. THE GREEN BOND FRAMEWORK

The development of the sustainable finance market has become one of the priorities of Spanish financial policy following the **2015 Paris Agreement**, as reflected in the **Declaration of Climate and Environmental Emergency in Spain**, approved in January 2020. In line with this objective, the **Public Treasury Strategy for 2021** included the issuance of green bonds as a structural element of its financing policy, in order to boost the ecological transition and the development of the sustainable finance market in Spain.

Also, given the **horizontal nature of environmental policy** and its relevance for economic, financial, environmental and climate policy, the need to establish a coordination group was identified. The purpose of this group would be to facilitate the provision of information and support to the Public Treasury by the ministerial departments of the Administration and their management centers involved. Thus, in March 2021, there was an agreement to create the **Working Group for the Structuring of the Sovereign Green Bond Issuances of the Kingdom of Spain and the Promotion of Sustainable Finance**.

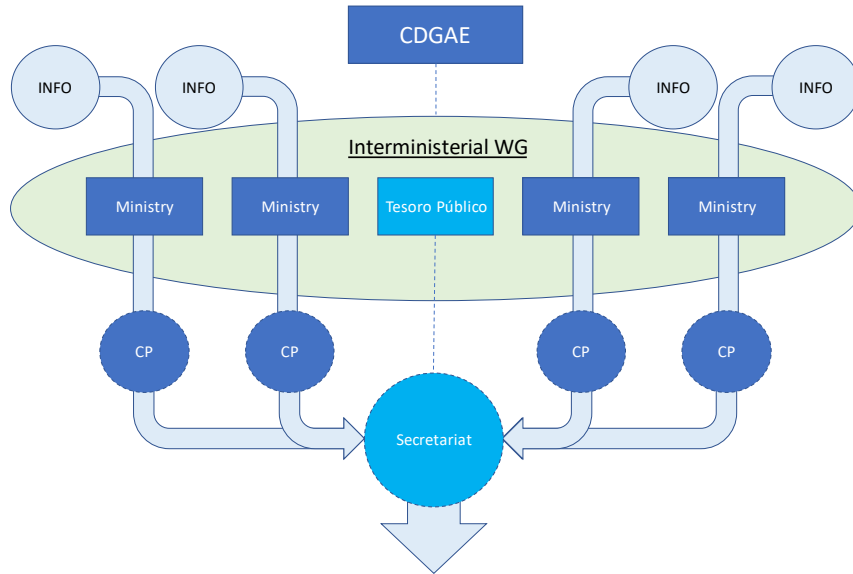
Regarding the green bond program, it was decided that the Working Group would be structured around **three important objectives**:

- Promote **transparency in Spain's environmental objectives and policy**.
- Promote the **development of the sustainable financing market in Spain**.
- Respond to the **demands of the domestic and international investment community** regarding the issuance of sustainable assets.

In line with the recommendations and principles of the International Capital Market Association (ICMA), the main objective of the Working Group was to design a green bond framework, defining the main elements of green bond issuance by the Treasury. However, prior to the development of the green bond framework, the work focused on defining the main elements of the program from an institutional perspective.

In this regard, great importance was attached to the **governance elements** from the outset, defining responsibilities and contact points within each ministry. These **contact points** (CP), responsible for structuring the flow of information necessary for decision-making and the provision of eligible expenditure amounts and indicators, have been configured as a key element (see diagram 1) in the program's functioning.

Diagram 1: Governance of the green bond program of the Kingdom of Spain



One of the main challenges inherent to the implementation of a green bond program is the processing of **information**. Traditionally, the departments in charge of public debt management lack specialized energy and climate staff trained to handle all the information. It is therefore necessary to rely on a wide **network of sectoral specialists** to provide the necessary technical support in the many areas concerned.

Once the main elements of this **governance** were defined and adapted to meet the needs of the program, the two major tasks required to issue under a green bond program were initiated: the drafting of a green bond framework, aligned with international best market practices, and the determination of eligible expenditure, both of which are closely linked.

Thus, on 26 July 2021, the **Kingdom of Spain's Green Bond Framework** was presented to the public, along with an eligible expenditure, determined as set out in the framework, in excess of 13 billion euros for the period 2018-2021. This framework is aligned with the **Green Bond Principles of the** International Capital Markets Association (ICMA), published in June 2021, as well as with the achievement of the **United Nations Sustainable Development Goals**. Specifically, in the definition of its objectives, alignment has been sought with the main sustainability objectives defined at the European level, in particular the objectives of the **European Union's Taxonomy of Sustainable Finance**:

1. Climate change **mitigation**.
2. Climate change **daptation**.
3. Sustainable use and protection of **water and maritime resources**.
4. Transition to a **circular economy**.
5. **Pollution** prevention and control.
6. Protection and restoration of **biodiversity and ecosystems**.

Therefore, the categories defined in the Green Bond Framework consider the thresholds of the **technical requirements established by the delegated acts of the Taxonomy related to the mitigation and adaptation objectives**, whose content was public at the date of publication of the framework. Thus, the Treasury's objective is that all allocated amounts respect these thresholds, contributing to the objectives of the Taxonomy, as was the case for the first

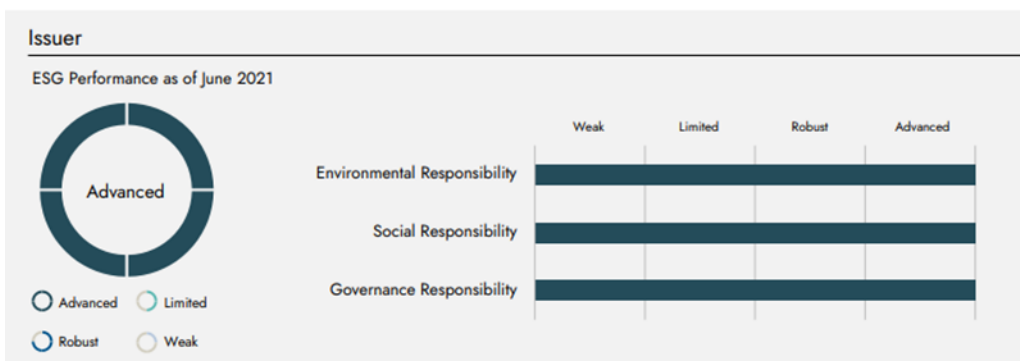
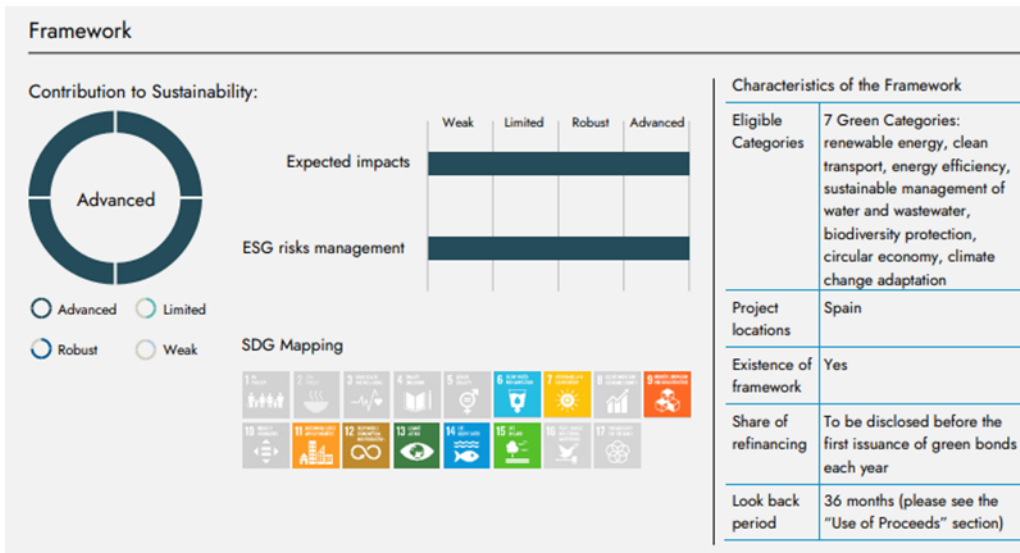
allocation. In any case, demonstrating full alignment with the Taxonomy, including the "do no significant harm" principle, implies a degree of detail that currently does not occur in national expenditure budgeting.

Progress is being made both at the European level and, above all, at the national level, to design a **green budgeting framework** that facilitates the classification and identification of expenditure items aligned with the Sustainable Development Goals and the European Union's Taxonomy of Sustainable Finance. Thus, the draft General State Budget Law for 2023 already includes a first report on alignment with the ecological transition. This offers a first approximation of the State's contribution to the fight against climate change and the achievement of other environmental objectives, which will evolve to align with the new sustainable finance framework of the European Union.

On the other hand, the framework defines the main elements of sovereign green bond issuance in Spain, including the **nature of the programs** to which the funds will be allocated, the **process of evaluation and selection** of eligible items, the mechanism for **managing the proceeds** and the **reporting obligations** to investors and the public, which is the subject of this report. In short, it is a comprehensive framework that addresses all these areas in accordance with international best practices.

Proof of this is the **second opinion report prepared by the independent evaluator Vigeo Eiris** and published together with the Green Bond Framework (see diagram 2). This report highlights the high environmental credentials of the framework. The Spanish framework received the **best rating awarded to a European sovereign issuer to date by that agency**, including relevant players such as France, Italy, the United Kingdom, and the European Commission itself.

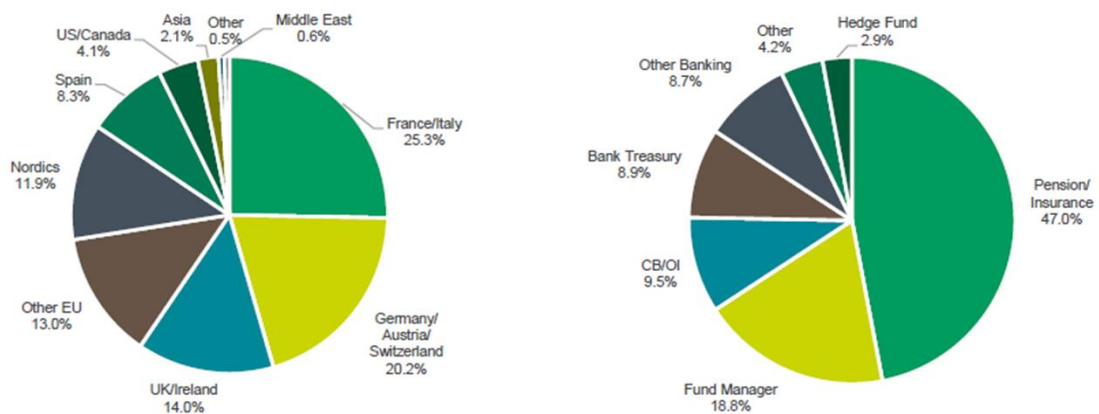
Diagram 2: Summary of Vigeo Eiris' SPO assessment of the Kingdom of Spain's Green Bond Framework



2.2. VOLUMES ISSUED UNDER THE PROGRAM

Based on the Green Bond Framework and the published eligible expenditure, the Treasury executed the first issuance of the program on the 7 September 2021, with the syndication of a **new bond, maturing in July 2042**, for an amount of **5 billion euros**. The **high quality of the demand**, which exceeded **60 billion euros**, and its good geographic diversification (see diagram 3), made it possible to allocate this amount among high quality accounts.

Diagram 3: Statistics of the inaugural issuance in September 2021



It is worth mentioning that **two thirds** of the issuance was allocated to **investors categorized as green**, which shows the **trust of the international investment community in Spain's environmental agenda**. In addition, the quality of the demand was noteworthy, with a large participation from pension funds and insurance companies, which traditionally behave as long-term investors. All these elements show how the program has already made a substantial contribution to the objective of diversifying the Treasury's investor base.

The bond has also had an excellent performance in the **secondary market**, evidencing the trust that investors maintain in the program. In this regard, it is key to point out the importance of continuing to provide liquidity to the market through the issuance of sovereign green bonds in 2022, contributing in this way to the development of the sustainable finance market, as well as to the good performance of the program.

Thus, in February 2023, the Treasury updated the presentation of the green bond program and included the eligible expenditure figures for the 2022 issuances, with 11,612.4 million euros for the 2020-2022 period. With certain minor adjustments¹ and after discounting the budget for 2020 and 2021 which, according to the 2022 allocation report, was allocated to the 5 billion euros issued in 2021², the net eligible expenditure for 2022 issuances amounted to 9,793.1 million euros.

Diagram 4: Net eligible expenditure available for 2022 issuances (millions of euros)

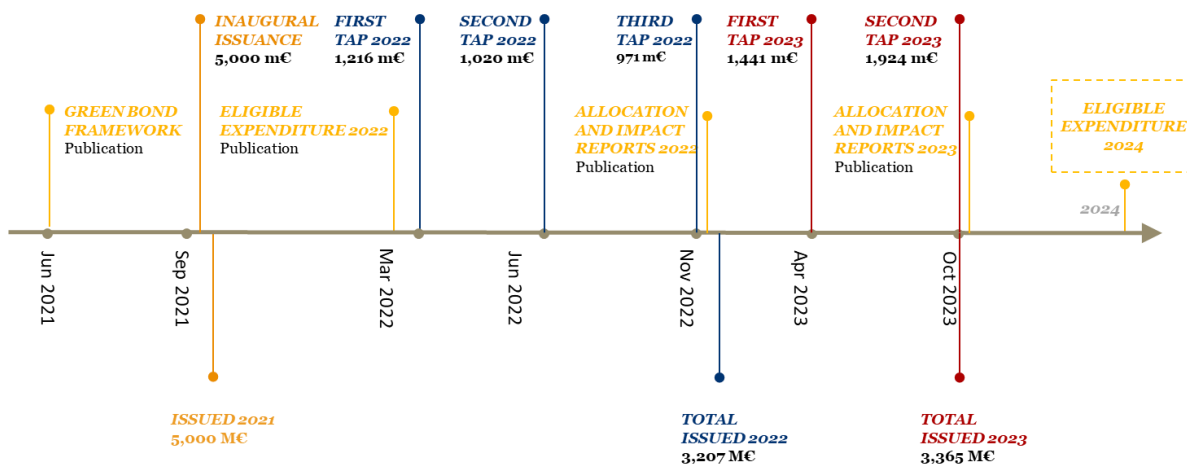
	2020	2021	2022	TOTAL
Ministry for the Ecological Transition & Demographic Challenge	597.81	586.42	817.34	2,001.57
Ministry of Economic Affairs & Digital Transition	43.32	24.00	43.71	111.03
Ministry of Transport, Mobility and Urban Agenda	1,740.80	1,632.85	2,748.42	6,122.08
Ministry of Science and Innovation	260.32	239.44	310.03	809.79
Ministry of Industry, Trade and Tourism	0.12	0.12	0.12	0.35
Ministry of Agriculture, Fisheries and Food	239.11	235.43	273.76	748.29
Total	2,881.48	2,718.26	4,193.37	9,793.11

On this basis, during 2022, three reopenings of the green bond maturing in July 2042 were carried out by auction, so that at the end of the year, the outstanding volume of this bond amounted to 8,207.1 million euros. All the auctions were met with significant demand, bringing the average bid-to-cover ratio to 1.49.

Diagram 5: Treasury issuances under the green bond program

¹ 37.8 million euros upward adjustments were made, due to wrong accounting for certain items.

² A total of 1,857.1 million euros, with 588.4 million euros corresponding to the General State Budget for 2020 and 1,268.7 million euros corresponding to the General State Budget for 2021.



As stated in the **Strategy of the Public Treasury for 2023**, the objective for this year is to reopen the green bond through ordinary Treasury auctions, just as it was done in 2022. This strategy will continue until the bond reaches an outstanding volume similar to that of other Treasury benchmarks.

2.3. THE ALLOCATION MECHANISM OF THE GREEN BOND PROGRAM

In accordance with the provisions of the **Green Bond Framework**, the Treasury will allocate an amount equivalent to the funds obtained through the issuance of green bonds to expenditure aligned with the **environmental objectives** and **eligibility criteria** defined in this document. Eligible expenditure is included in the Laws of the General State Budget and exclude the expenditure financed by other administrations, as in the case of funds coming from the European Union, as well as those financed by finalist revenues that are specifically earmarked for this purpose.

In addition, the **time horizon** considered will depend on the nature of the issuance. Thus, in the case of **new benchmarks**, as in 2021, eligible expenditure can be obtained from the current year's budget or those of the previous three years. However, when **reopening an existing benchmark**, the time horizon considered for the allocation will only look back up to the two previous fiscal years, i.e. the period 2020-2022 in this case.

In this way, the eligible expenditure of fiscal years outside of the time horizon defined for each issuance will not be available for allocation. Therefore, eligible expenditure that has already been allocated to a previous issuance **will not be available for allocation** of future issuance. The same applies for spending in fiscal years that fall outside of the time horizon defined for each issuance. In this regard, it should be noted that the Treasury's intention is to **leave a significant portion of eligible expenditure unallocated**, so that reallocations can be made if deemed necessary. This responds to the commitment assumed in the Green Bond Framework and seeks to ensure the quality of the eligible expenditure associated with the program in the event of unforeseen contingencies.

The Working Group **monitors eligible items** to ensure that they always comply with the eligibility criteria prevailing at the time of issuance. If, for any reason, such items cease to contribute to the objectives reflected in the Green Bond Framework or to meet the established eligibility criteria, new items will be selected, in accordance with the **eligibility criteria prevailing at the time of issuance** of the green bond to which these items were linked.

The Working Group will also consider **possible disputes related to environmental, social or governance aspects** that could call into question the quality of the allocated expenditure, if they come to light. For example, legal proceedings brought up due to non-compliance with public procurement regulations. If such controversies are detected, the same procedure described in the previous paragraph will be followed, selecting new eligible items, that are applicable to the part of the expenditure that was the object of the controversy.

In the event of a reallocation, the allocation report for the fiscal year in which it takes place will include a **section dedicated to reporting on the reallocations**, explaining the reason for the changes, the items to be eliminated and those to be added, the impact of the reallocation on the distribution of funds by eligible categories and type of expenditure, as well as any other relevant information. In the present report, this section is not included as there is nothing remarkable in this regard. However, it will be included whenever necessary.

Finally, as on this occasion, all allocation reports will be accompanied by **verification by an independent third party**, as reflected in the Green Bond Framework. In addition, with each allocation, the Treasury will seek to publish an **impact report referring to the amounts allocated**, although information relating to more recent years may not be available at the time the report is published. In these cases, the additional information will be updated in the next edition of the report, providing all the information available at each moment.

In 2022, an external entity to the General State Administration was hired to carry out the verification of the reports associated with the issuances done in 2021. Nevertheless, after the experience of the previous year, it has been considered that the agent best placed to certify the alignment of the allocation of funds with the provisions of the Green Bonds Framework in terms of the effective execution of these expenses and their correspondence with the revenues of the program in each fiscal year, is the the General State Administration Auditor's Office. This is the auditor of public accounts in Spain, which in fact was already heavily involved in the preparatory work of the previous allocation report.

The General State Administration Auditor's Office is the internal control body of the state public sector and the governing and managing center of public accounting. As a control body, this Office is in charge of verifying, through the prior control of legality, permanent financial control, public audit and financial control of subsidies, that the economic-financial activity of the state public sector complies with the principles of legality, economy, efficiency and effectiveness. In addition, successive drafts of the European Union Green Bond Standard have recognized the role of public auditors in this task.

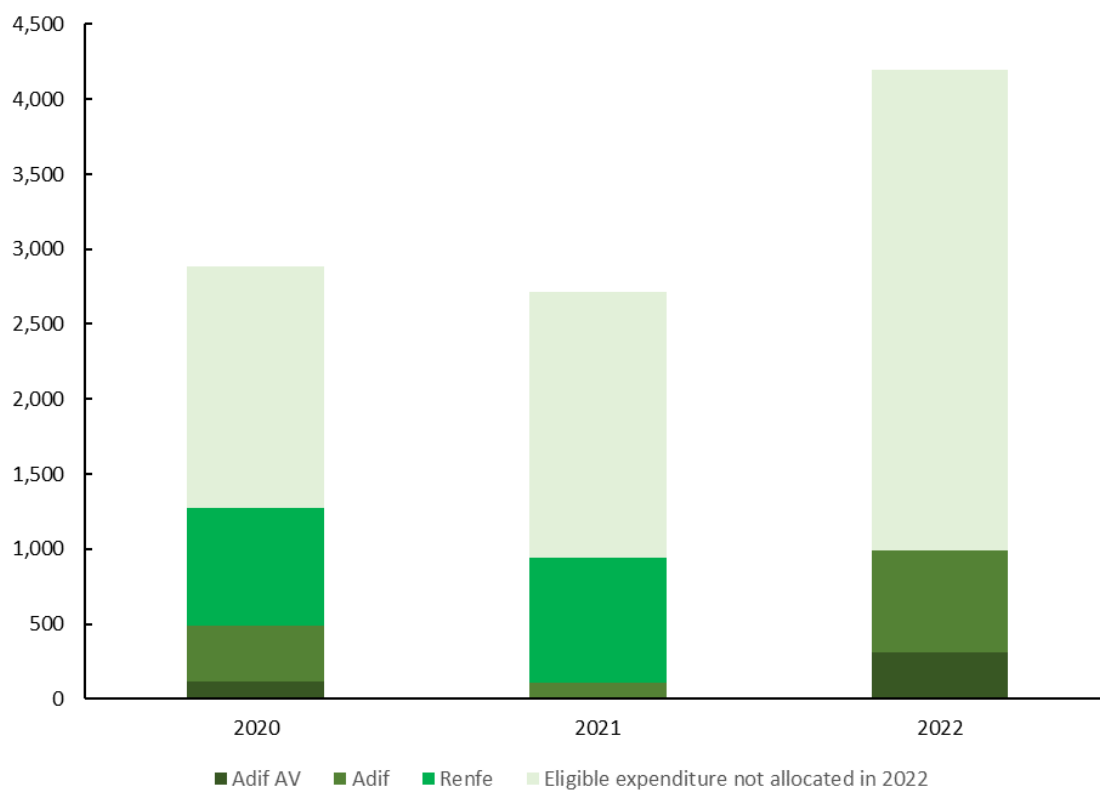
3. ANALYSIS OF THE ALLOCATION IN 2022

3.1. MOTIVATION OF THE PROPOSAL: FOCUS ON SUSTAINABLE TRANSPORTATION

The funds obtained through the issuance of the green bond in 2022 are allocated to expenses of the Ministry of Transport and Sustainable Mobility. Specifically, large groups of transfers made in favor of entities associated with this ministry have been chosen (see diagram 6), which seek to **promote rail as a mean of transport**. This is done by supporting, on the one hand, the deployment and maintenance of the railway infrastructure (Adif and Adif AV) and, on the other hand, the railway transport activity linked to Public Service Obligations (Renfe).

In accordance with the provisions of the Spanish Green Bond Framework, and in line with the ICMA Green Bond Principles, the items chosen for allocation fall within the category of clean transport. In addition, as stated in the impact report, these programs also contribute to the objectives of climate change mitigation and pollution prevention and control.

Diagram 6: Allocation of eligible expenditure for 2022 emissions (millions of euros)



	2020	2021	2022	Total
Renfe	781.85	838.47	0.00	1,620.31
Adif	372.98	106.14	677.24	1,156.36
Adif AV	118.85	0.00	311.57	430.42
Eligible expenditure allocated in 2022	1,273.68	944.61	988.81	3,207.10
Eligible expenditure not allocated in 2022	1,607.80	1,773.65	3,204.56	6,586.01
Eligible expenditure	2,881.48	2,718.26	4,193.37	9,793.11

By selecting these programs in the clean transportation category, the aim is to comply with the environmental criteria established for eligible expenditure, but also to maximize the value offered to investors through clear and simple reporting. Thus, the decision to allocate funds to rail transport facilitates the technical analysis, since:

- Transport is a **key sector for the decarbonization of the economy** and plays a central role in the Spanish strategy³. Railroad is one of the most efficient means for the electrification of the economic activity, and is fundamental to achieve a **modal transfer** to less polluting means, given, for example, the scarcity of navigable rivers in Spain.

³ In this regard, the Ministry of Transport has approved the Safe, Sustainable and Connected Mobility Strategy, which includes sustainable mobility as one of its core principles, with the aim of prioritizing energy efficiency and the fight against climate change by promoting clean modes of transport that minimize the carbon footprint of the transport sector.

- The selection criteria associated with the clean transport category were established **in line with the technical selection criteria associated with the mitigation objective defined in the Taxonomy**, although they do not consider the principle of “Do No Significant Harm” to other objectives. This does not imply non-compliance with this principle, but rather the difficulty in testing the alignment of programs that were put in place prior to the existence of the Taxonomy. Therefore, the regulation at the time could not consider it.
- By concentrating all spending on the rail transportation sector, it makes it easier for investors to **aggregate all the information** contained in the reports associated with the green bonds in their portfolio.
- The rail transport sector has **methodologies and indicators that are commonly accepted both nationally and internationally**. In the case of Spain, both the Ministry of Transport and Sustainable Mobility and its affiliated entities have **extensive experience in measuring environmental impacts and providing indicators**. Adif AV has its **own green bond program**⁴ and is a consolidated issuer in this market.

3.2. ALLOCATION OF FUNDS ASSOCIATED WITH 2022 EMISSIONS

The following is a detail of the amounts allocated to the budgetary programs covered by this report, the execution of which has been certified by the General State Administration Auditor's Office:

Diagram 7: Allocation distribution by budgetary programs

⁴ A great deal of work has been done to avoid any double-counting problems. Thus, neither ADIF AV can use expenses financed by State transfers, nor can the State use spending that is not financed through these transfers.

Denominación	Tipo de gasto	Programa	Cuantía (€)	Asignación 2022 (€)
PGE 2020			1.273.679.232,38 €	1.273.679.232,38 €
Renfe Viajeros, S.M.E., S.A. para la compensación de las Obligaciones de Servicio Público	Gasto corriente	441M	781.847.248,00 €	781.847.248,00 €
A ADIF para inversiones en la red convencional	Inversión	453A	204.550.000,00 €	204.550.000,00 €
A ADIF AV para la financiación de inversiones en corredores de la red transeuropea de transportes	Inversión	453A	118.847.259,38 €	118.847.259,38 €
Aportación patrimonial a ADIF	Inversión	451N	168.434.725,00 €	168.434.725,00 €
PGE 2021			944.605.400,00 €	944.605.400,00 €
Renfe Viajeros, S.M.E., S.A. para la compensación de las Obligaciones de Servicio Público	Gasto corriente	441M	838.467.400,00 €	838.467.400,00 €
A ADIF para administración de red	Gasto corriente	453A	106.138.000,00 €	106.138.000,00 €
PGE 2022			1.053.561.000,00 €	988.814.367,62 €
ADIF para compensación del segmento de administración de red	Gasto corriente	453A	153.807.000,00 €	89.060.367,62 €
Aportación patrimonial a ADIF AV	Inversión	453A	311.574.000,00 €	311.574.000,00 €
Aportación patrimonial a ADIF para inversiones	Inversión	453A	588.180.000,00 €	588.180.000,00 €

As can be seen in the table, the allocation of funds associated with emissions in fiscal year 2022 has been focused on programs related to rail transport. Specifically with expenditure programs destined to Adif, Adif Alta Velocidad and Renfe. These programs are analyzed in detail in the following section of this report.

Disaggregating by organization associated to the programs, Renfe accumulates 50.5% of the total expenditure allocated in 2022, Adif 36.1% and Adif AV 13.4%. If the breakdown is made by fiscal year, 39.7% of the allocation corresponds to the General State Budget for 2020, 29.5% to the General State Budget for 2021 and 30.8% to the General State Budget for 2022.

3.3. ANALYSIS BY EXPENDITURE ITEM

3.3.1. THE RAIL INFRASTRUCTURE MANAGER: ADIF AND ADIF AV

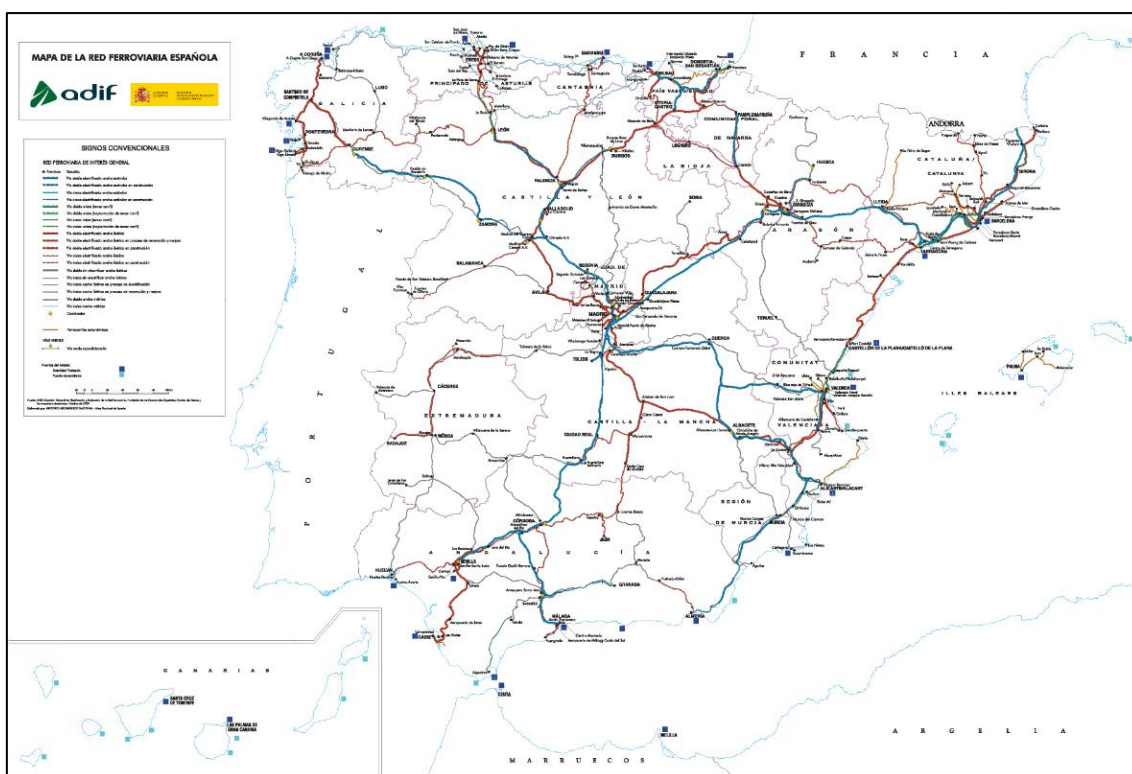
3.3.1.1. INTRODUCTION OF THE ENTITIES

In 2005⁵, the Spanish **Railway Infrastructure Administrator (Administrador de Infraestructuras Ferroviarias, Adif)** was created in Spain, taking over the competencies of the public business entity **Red Nacional de los Ferrocarriles Españoles (Renfe)** as regards the administration of the railway infrastructure. In this way, the separation between both entities was established and Renfe, under the name of **Renfe-Operadora**, now only manages the operation of the tracks, an activity that has been progressively opened to competition.

⁵ Translated with www.DeepL.com/Translator (free version)

Later, in 2013⁶, the public business entity **Adif Alta Velocidad (Adif AV)** was created, through the spin-off of the branch of activity of **construction and administration of high-speed railway infrastructures** and others attributed to it⁷. From then on, Adif AV assumed the competences of construction and administration of high-speed railway infrastructures, as well as other functions such as the management of high-speed stations business or Adif's telecommunications and energy activities.

Diagram nº8: Map of the Spanish rail network (2020)



In figures, **Adif AV** manages non-current assets worth **48,866 million euros** (2022), which include a high-speed network of more than **3,926 kilometers and 46 stations**. **Adif** manages non-current assets worth **16,105 million euros** (2022), which include a network of **more than 11,870 kilometers, 1,451 passenger stations and 38 main freight terminals**. In addition, Adif manages Spain's participation in two European Rail Freight Corridors: the Mediterranean⁸ and the Atlantic⁹, as well as participating in Rail Net Europe (RNE) and other international cooperations.

Both entities have a **Strategic Plan 2030** (PE 2030), aligned both with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, and with the national policies and strategies that set the path to be followed in the coming years, such as the **Recovery**,

⁶ Royal Decree 1044/2013, of December 27, 2013, approving the Statute of the Public Business Entity Adif-Alta Velocidad.

⁷ The part of the network managed by each of these entities can be consulted in the Network Statements prepared annually.

⁸ Adif, together with 7 other partners from 5 countries, is part of this corridor, which connects Madrid, Algeciras and the main ports of the Spanish East coast with Europe through France, with more than 7,000 km of tracks along the European Mediterranean coast up to Mannheim (Germany).

⁹ Adif and the Infrastructure Managers of Portugal (IP), France (SNCF Réseau) and Germany (DB Netz) make up this corridor, which totals more than 6,200 km of track along the Atlantic coast.

Transformation and Resilience Plan of Spain or the **Safe, Sustainable and Connected Mobility Strategy** of the Ministry of Transport and Sustainable Mobility.

Adif and Adif AV's PE 2030 establish the strategic lines to be followed to respond to the major environmental, social, operational and business challenges they must face in order to become a benchmark in the management of resilient, sustainable, safe and intelligent infrastructures that contribute to the new model of ecological transition. PE 2030 is based on four pillars and three levers, with people as the driving force. Sustainability is one of these pillars, understood from all areas: social, economic, environmental and good governance. Adif and Adif AV's commitment to sustainability is embodied in several **strategic objectives**:

- To be a **leader** in contributing to the energy transition.
- Fight against climate change (achieving **zero net emissions** by 2050).
- Recover **nature and biodiversity**.
- Promote a **culture of awareness** of climate change.
- Generate a positive social impact in favor of **social cohesion and inclusion**.
- Reach new revenue streams through energy transition opportunities - contribute to the **development of sustainable finance**.

From the perspective of sustainability, **environmental protection has always been a priority for Adif and Adif AV**, and it represents a very relevant part of the technical and economic effort they are making and will make, to adapt their management and railway services to the new needs and demands with environmental quality and excellence criteria. In this line, the entities approved, in March 2019, the **Plan to Combat Climate Change 2018-2030 of Adif and Adif AV**, which aims to increase the contribution of railroads to combat this major environmental challenge with the development of actions in the field of mitigation, aimed at reducing energy consumption and greenhouse gas emissions by improving energy efficiency, promoting modal shift and boosting decarbonization and use of renewable energies. The Plan also establishes actions in the area of adaptation with the aim of improving the resilience of infrastructures, as well as culture and awareness of our main stakeholders.

With this Plan, Adif and Adif AV are aligned with the main existing international commitments in the fight against climate change, such as SDG No. 9 (Industry, innovation and infrastructure), SDG No. 11 (smart cities and communities) and SDG No. 13 (climate action), as well as with the goals set in the Paris Agreement. It is also in line with existing European and national policies aimed at achieving climate neutrality by 2050, as set out in the European Commission's Green Pact and Spain's National Integrated Energy and Climate Plan and Climate Change and Energy Transition Law.

In order to reflect this commitment, Adif AV also launched, in 2017, its own **green bond program**¹⁰. Since then, it has issued every year, for a total amount of **4,000 million euros**, with their respective allocation and impact reports. Thus, it is a major player in the sustainable finance market in Spain, both for its track record and for the quality of the eligible expenditure associated with its program.

¹⁰ Adif AV has a green bond framework certified by CICERO (Center for International Climate Research), as well as an ESG rating granted by Sustainalytics.

As regards Adif, the entity is currently responsible for the management of a significant part of the investments in railway infrastructures and the administration of the **State's General Interest Railway Network**¹¹. Thus, Adif plays a major role as a driving force in the railway sector, facilitating access to the infrastructure under equal conditions. Its objective is to promote Spanish rail transport through the development and management of a safe, efficient and environmentally sustainable infrastructure system with high quality standards.

3.3.1.2. ANALYSIS OF THE ITEMS ASSOCIATED WITH THE SOVEREIGN GREEN BOND

Within the framework of the issuance of green Treasury bonds, the Ministry of Transport and Sustainable Mobility (MITMA) has considered as eligible expenditure the **transfers to the infrastructure managers Adif and Adif AV**, included in the rail transport infrastructure budget program. The budget of this program is mainly used to finance current and capital transfers, as well as the equity contributions necessary for the economic sustainability of the railway infrastructures that make up their networks.

These transfers from the State are covered within the framework of Community and Spanish legislation, specifically **Law 38/2015 of September 29, 2015, on the Railway Sector**, establishes that railway infrastructure managers may receive economic contributions from the State that are commensurate with the sustainable exercise of the functions attributed to them, particularly with respect to the construction, maintenance, conservation, replacement or improvement of infrastructures.

The length of the rail network of more than **15,796 km in length** (more than 11,870 km of conventional network and 3,926 km of high-speed network) is an eloquent demonstration of the wide capacity of this network to allow the mobility of the population, as well as its potential as a support for the transport of goods.

However, the existence of an extensive network is not sufficient to consider that the objective of having an adequate supply for the social and environmental purposes pursued by the Spanish Administration has been achieved. In order to maintain the technical characteristics within the standards required by an increasingly globalized transport, **the network must be subject to continuous maintenance and improvement actions** that allow it to adapt to the needs of the changing economic environment in which it is immersed, and thus avoid a degradation of the infrastructure that causes a loss of competitiveness compared to other modes of transport, which are less efficient and have a greater carbon footprint. Adequate maintenance and improvement of the rail network, in short, will facilitate the development of new rail traffic opportunities, which will promote the desired modal shift towards less polluting modes of transport such as rail.

Considering the above, these MITMA contributions to infrastructure managers ensure a **stable financial framework for Adif and Adif AV**, so that they can carry out the construction, maintenance, improvement and administration of their railway network with the required guarantees of quality and safety in the provision of services.

¹¹ The General Interest Railway Network is made up of railway infrastructures that are essential to guarantee a common railway transport system throughout the State territory or whose joint administration is necessary for the correct operation of such common transport system, such as those linked to international traffic routes, those linking the different autonomous communities and their connections and accesses to the main population and transport centers or to essential facilities for the economy or national defense.

Rail transport, as established in the European Green Pact, is the mode of public transport with the lowest emissions per passenger and, therefore, plays a decisive role in the fight against climate change. The **promotion of the railroads as the backbone of Spanish sustainable mobility policies** will make it possible to achieve the environmental objectives set by the European Union and the international community.

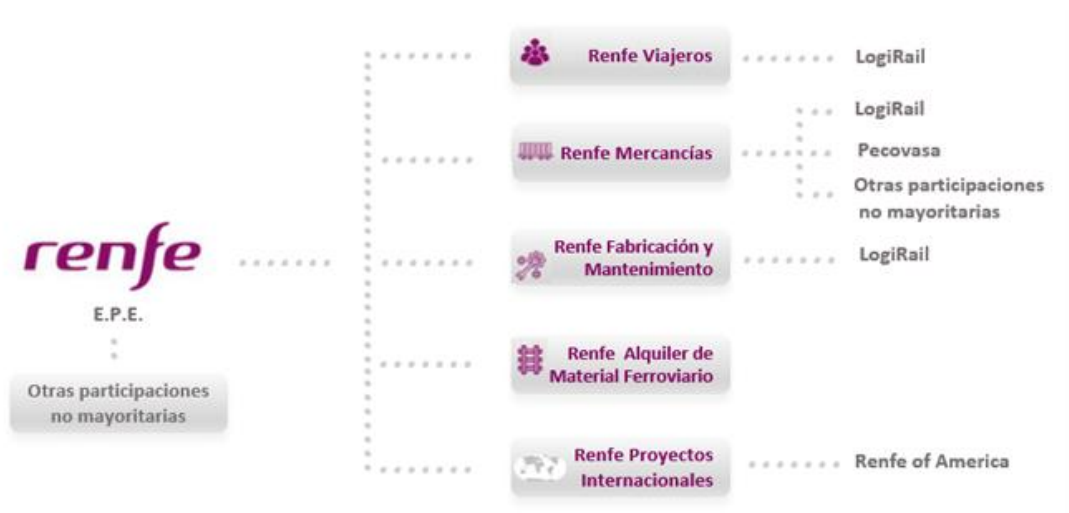
3.3.2. RENFE THE RAIL OPERATOR: RENFE

3.3.2.1. INTRODUCTION OF THE ENTITY

The **history of the Red Nacional de los Ferrocarriles Españoles** has been marked by the project of liberalization of rail transport, both in the national context and in the Single Market, and the current Renfe was born from the split of the former entity into two companies with distinct competencies. Thus, Renfe would become the **operator**, providing passenger and freight transport services, while, since then, Adif, and later Adif and Adif AV, are responsible for managing the railway infrastructure.

In 2012, in order to prepare the entity to compete in a liberalized market, a reorganization took place and **Renfe-Operadora** was constituted as the head of a group of four companies created¹², by Royal Decree¹³, to continue advancing in the process of liberalization of the railway market and its opening to competition. Thus, in 2014 the four companies that make up the group were created, and whose capital belongs entirely to Renfe-Operadora, which maintains the legal nature of a public business entity. Today, the corporate scheme of the entity (see diagram n°9) is completed with "**Renfe Proyectos Internacionales, SME, SA**", its subsidiary for international business created in 2023.

Diagram n°9: Renfe-Operadora's current corporate structure



Currently, the Renfe Group manages assets worth more than **10,000 million euros**, around **5,500 trains per day** in Spain, more than **500 million passengers per year** and nearly **19,000 employees**, with the most outstanding **punctuality, quality and satisfaction indexes**. The intense work that has been carried out since the beginning of liberalization has allowed the

¹² Renfe Viajeros, Renfe Mercancías, Renfe Fabricación y Mantenimiento y Renfe Alquiler de Material.

¹³ Royal Decree-Law 22/2012, of July 20, 2012, adopting measures regarding railway infrastructures and services.

transformation into a leading entity in the sector, which is committed to **technological and digital transformation** as pillars of its strategy to make the Renfe Group a global operator of reference, beyond the railway market.

Thus, the Renfe Group is actively and responsibly committed to environmental conservation. This includes respecting legal requirements, following the recommendations and procedures established to reduce the environmental impact of its activity, in accordance with best practices, and contributing to improving the **sustainability objectives** assumed by the Group. The passage of time has proven the success of this strategy.

For example, in 2021, the Financial Times published the European Climate Leaders 2021 list that includes the 300 European companies that have demonstrated the greatest reduction in their emissions intensity between 2014 and 2019. The reduction in emissions intensity is calculated based on baseline greenhouse gas emissions as a proportion of revenue (tons of CO2 emissions per million euros of revenue). Renfe stands out in the list, with a 69.8% reduction in its GHG emissions between 2014 and 2019.

Renfe is thus the **leading clean transport company in Spain**. In 2019, the entity acquired 2.5 TWh of electric energy with renewable origin¹⁴ guarantee certificate for the traction of its electric vehicles, covering 80% of the traffic. This has made Renfe the **first final consumer of renewable energy in Spain**, with **more than 2.6%** of the total electric renewable energy consumed in the country.

Energy efficiency is also an important pillar of Renfe's activity in terms of sustainability. Specifically, **efficient driving** is a maxim in the daily activity of its almost **6,000 train drivers**, with consumption savings of up to 30%. On the other hand, the use of regenerative braking, a technology that generates energy by the engine in the braking process, allows some trains to return between 6 and 10% of the energy to the network in High Speed and up to 40% in Suburban trains.

The **renewal of the fleet** has been planned with the aim of maximizing performance with minimum energy consumption and the trains incorporate **efficient driving systems** integrated in the automatic driving modes. In addition, the trains that will be incorporated through the new **Train Purchase Plan** will have:

- Renewable energy sources alternative to diesel, for routes not yet electrified.
- Intelligent management systems for renewal air flows, reducing the energy consumption of these systems by half.
- Use of newly designed cooling fluids with lower GWP "global warming potential", suitable for railway use, and environmentally friendly.
- Windows with specific treatments and solar control films that minimize the impact of heat waves inside the train.
- White cover with anti-heat treatment, which reduces heat transmission to the interior to minimum values.

¹⁴ Guarantees of origin are electronic certifications issued by the National Commission for Markets and Competition (CNMC) that certify the production of a given amount of electricity through renewable energy or cogeneration. Their purpose is to provide detailed information on the origin of the energy you receive and the environmental impact of its production, so that you can make your electricity purchasing decisions wisely and responsibly.

- Adjustable and intelligent LED interior lighting with energy savings of more than 75% in these systems.

In terms of **circular economy**, Renfe's rail vehicles are characterized by an extended useful life (up to 40 years) and by reaching **98% of reusable materials** used in their construction. In addition, the manufacturing process, as well as their maintenance, is carried out in the most sustainable way possible, seeking the lowest possible energy input and use of materials, both in the production processes and throughout the extensive life cycle of the vehicles themselves. All this allows Renfe to have a large number of durable and easily repairable vehicles.

Renfe's primary business and environmental objective is to increase its market share, to grow. It is to add more travelers to a sustainable mobility and logistics system centered on the train, through management, innovation and digitization, which will **reduce the carbon footprint and environmental impact of travelers**, as well as increase the sustainability of their travel and business without harming the environment, quite the contrary.

Finally, the Renfe Group has joined forces with Adif and Adif AV to promote the **Master Plan to Combat Climate Change**. This Plan is structured along 4 strategic lines: energy management, energy efficiency, decarbonization and culture.

3.3.2.2. ANALYSIS OF THE PROGRAMS ASSOCIATED WITH THE SOVEREIGN GREEN BOND

Within the framework of the Treasury's green bond issue, transfers to Renfe for the compensation of the so-called **Public Service Obligations** have been considered as eligible expenditure of the Ministry of Transport and Sustainable Mobility (MITMA). These are defined by European regulations as "the requirement defined or determined by a competent authority in order to guarantee **public passenger transport services of general interest** that an operator, if it were considering exclusively its own commercial interest, would not assume to the same extent or under the same conditions without retribution".

By establishing Public Service Obligations, the authorities aim to ensure that passengers have access to **safe, efficient, attractive and quality public transport services**, as well as, in this particular case, to promote the **transition towards the decarbonization of the economy**. Currently, in Spain, there are four types of Public Service Obligations for passenger rail transport, which are the responsibility of the General State Administration, provided on the general interest rail network:

- Commuter services provided on conventional gauge, around large population centers and short distances.
- Conventional gauge medium distance services provided by trains that do not exceed 150 km/h, distributed throughout the territory, covering routes of around 200 km.
- Commuter and medium distance services provided on metric gauge.
- Medium distance services on the high performance network, consisting of trains covering distances of around 200 km, using the high speed network (Avant). They are also provided by reserving seats on long-distance trains to cover medium distances.

These services are provided by the General State Administration through a **contract with Renfe**, which imposes a frequency and price that cannot be assumed in terms of commercial profitability. Due to the foregoing, Renfe incurs an **operating deficit** for the provision of these rail services that MITMA compensates through the **contributions contemplated in the General**

State Budget. The economic compensation is established in the contract signed between MITMA and Renfe, which reflects the maximum annual limit paid by the State, the obligations and rights of the parties, as well as the **quality and efficiency indicators** with which the public service must be provided by Renfe. The General Intervention of the State Administration carries out an audit of the settlement of each fiscal year, so that subsequently the Monitoring Committee of the contract approves the final settlement of the compensation.

Rail transport services provided through Public Service Obligations constitute a policy with a **strong social component**, given that they make it possible to guarantee the territorial structuring and social cohesion of the country. In addition, this policy has a **key environmental component**, in line with the Sustainable Development Goals (SDGs) of the United Nations, and more specifically with goals no. 11 (sustainable cities and communities) and no. 13 (climate action).

Specifically, SDG 11, which is genuinely urban, aims to make cities and human settlements inclusive, safe, resilient and sustainable. Precisely, an important part of the railway Public Service Obligations are developed in the suburban network of cities and their metropolitan areas, scenarios where it is very necessary to fight against climate change and health problems generated by oil-dependent modes of transport. In this context, **railroads are a decisive element in the fight against climate change.**

In addition, during 2022, three Royal Decree-Laws¹⁵ were passed implementing measures to address the economic and social consequences of the war in Ukraine. These included bonuses for commuter and medium-distance rail transport services to recurrent users. This reduction was applied during 2022 between September 1 and December 31 and remains in force in 2023¹⁶. It is a measure that encourages the use of collective public transport in daily mobility, as a safer, more reliable, comfortable, economical and sustainable means of transport than the private car. In addition, it reduces its cost for the citizen in an extraordinary situation of sustained increases in energy and fuel prices.

Considering all of the above, it can be stated that MITMA's economic contribution to Renfe makes a decisive contribution to sustainability, contributing to sustainable development and mobility, respecting the environment, favoring the rebalancing between modes of transport and collaborating in the structuring of the territory.

4. ANALYSIS OF ELIGIBLE EXPENDITURE AND ITS EVOLUTION

4.1. ANALYSIS OF ALLOCATION UNDER THE PROGRAM (2021-2022)

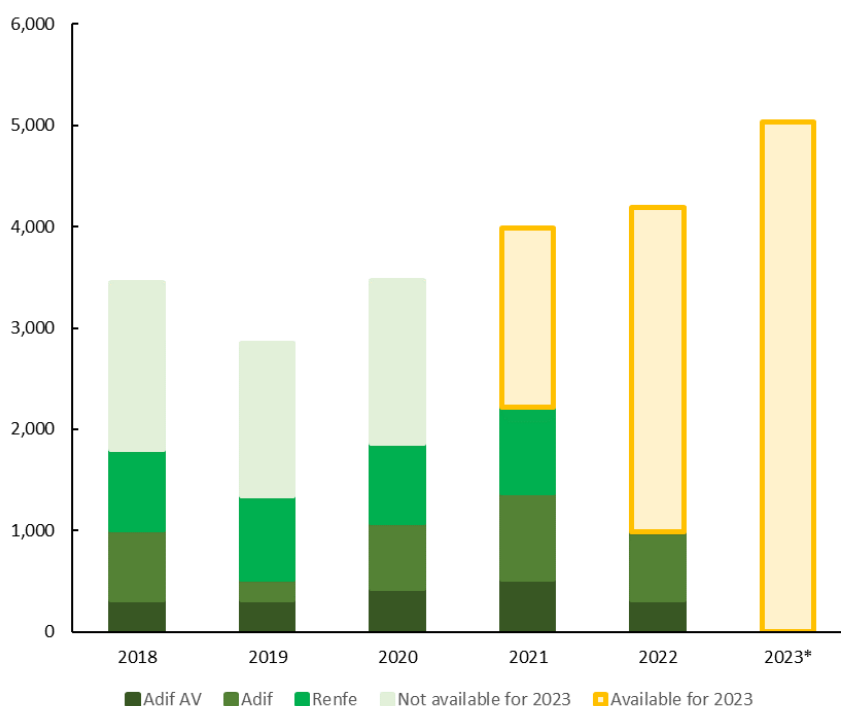
Considering all issuances made to date under the green bond program, X million euros have already been issued. Leaving aside the amounts issued in 2023, which will be addressed in the corresponding allocation report, €8,207.1 million have been issued in the period 2021-2022. All these amounts have been issued under the same reference, maturing in July 2042, and have been allocated to sustainable mobility programs, the responsibility of the Ministry of Transport and Sustainable Mobility.

¹⁵ RDL 11/2022 of June 25, RDL 14/2022 of August 1 and RDL 20/2022 of December 27.

¹⁶ The eligible expenditure associated with this measure amounts to €173.8 million in 2022 and €517.2 million in 2023, but has not been allocated to the 2022 issuances. This expenditure will be allocated to the green bond program in future years.

Specifically, from the General State Budget for the period 2018-2022, the 8,207.1 million euros corresponding to the issuances of 2021 and 2022 have been allocated. This leaves 4,758.9 million euros that have not been allocated, corresponding to the General State Budgets for the period 2018-2020, and 10,016 million euros available for the 2023 emissions, corresponding to the General State Budgets for the period 2021-2023.

Diagram 10: analysis of the allocation for the program as a whole (million euros)



	2018	2019	2020	2021	2022	2023*	Total
Renfe	786.73	828.57	781.85	838.47	0.00	0.00	3,235.61
Adif	699.86	204.55	649.85	858.67	677.24	0.00	3,090.17
Adif AV	311.57	311.57	430.42	516.17	311.57	0.00	1,881.32
Eligible expenditure allocated	1,798.16	1,344.69	1,862.12	2,213.32	988.81	0.00	8,207.10
Not available for 2023	1,649.66	1,501.49	1,607.80	0.00	0.00	0.00	4,758.95
Available for 2023	0.00	0.00	0.00	1,773.65	3,204.56	5,037.96	10,016.16
Eligible expenditure accumulated	3,447.82	2,846.18	3,469.92	3,986.97	4,193.37	5,037.96	22,982.21

4.2. IMPACT OF THE ALLOCATION ON FUTURE ELIGIBLE EXPENDITURES

In accordance with the provisions of the Green Bond Framework, the Treasury undertook the commitment to publish the eligible expenditure for the current year's issuances prior to the first issue of the year. Thus, on April 11, 2023, the Treasury updated the presentation of the green bond program, available to the public on its website, to reflect the new data, which is derived from the [approval of the General State Budget for 2023](#) and the data on the [budget execution](#) of the General State Budget for 2022.

However, as the allocation of the 2022 issuances had not yet taken place, in that update the eligible expenditure figures were expressed in gross terms, without taking into account the **amounts finally allocated for the issuances of fiscal year 2022**, which are the subject of this report. Thus, considering the allocation of **944.6 million euros** for fiscal year 2021 and **988.8 million euros** for fiscal year 2022, the eligible expenditure for emissions in fiscal year 2023 becomes **10,016.16 million euros** (see diagram nº11).

Diagram 11: Net eligible expenditure available for 2023 emissions

	2021	2022	2023	TOTAL
Ministry for the Ecological Transition & Demographic Challenge	586.42	817.34	1,151.39	2,555.15
Ministry of Economic Affairs & Digital Transition	24.00	43.71	116.00	183.71
Ministry of Transport, Mobility and Urban Agenda	651.25	1,796.61	3,196.93	5,644.79
Ministry of Science and Innovation	239.44	310.03	292.97	842.44
Ministry of Industry, Trade and Tourism	0.12	0.12	0.12	0.35
Ministry of Agriculture, Fisheries and Food	235.43	273.76	280.55	789.73
Total	1,736.65	3,241.56	5,037.96	10,016.16

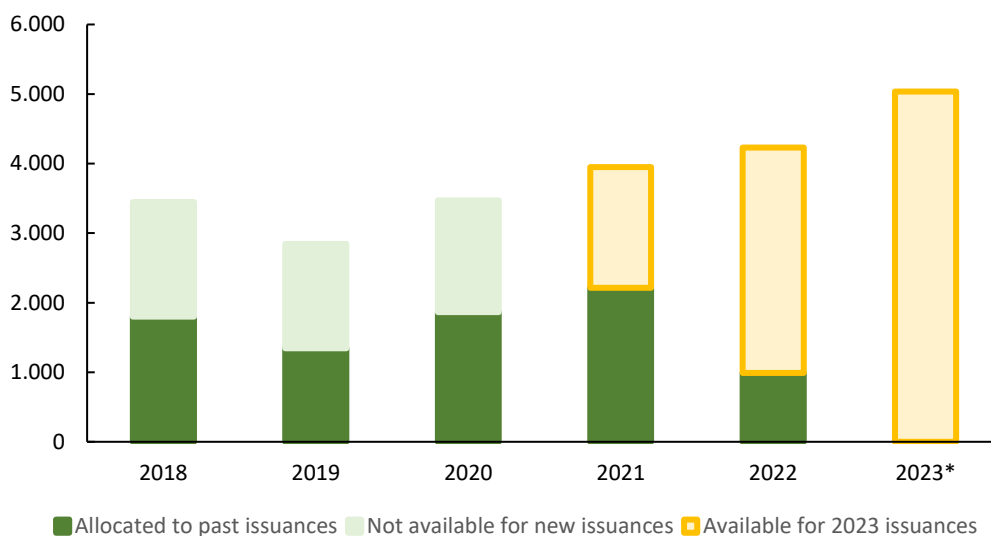
In this regard, it is worth mentioning that, in accordance with the Green Bond Framework, the **"look-back period¹⁷" is limited to the two years prior to the current fiscal year (T-2)**, unlike what happened in 2021 (T-3). This is explained by the commitment assumed that this time horizon is limited when the year's issuance does not correspond to new benchmarks. Thus, the time horizon considered will remain the same (T-2) until a new green bond is issued in the future.

It is also worth mentioning that the figures referring to the **General State Budget for the year 2023** will have to be adjusted according to the **budget execution**, which will not be known until the **beginning of 2024**, as was the case in the year 2022. In any case, this impact will be limited, since it refers to a single year of the three that make up the eligible expenditure and falls within the normal functioning of the Budget.

As mentioned above, for the 2023 fiscal year, it is estimated that the **eligible expenditure available for issuance under the program will amount to 10,016 million euros**. This is based on the assumption that, in 2023, only reopenings of the benchmark maturing in July 2042 will take place, so that the eligible expenditure will cover the **period 2021-2023** (see diagram nº12).

Diagram 12: Impact of the allocation on eligible expenditure (millions of euros)

¹⁷ This expression refers to the number of years, in addition to the current fiscal year, considered for the eligible expenditure that may be associated with a given issue. Thus, in 2022, a "look-back period" of two years implies that the horizon considered for allocation should be 2020-2022.



	2018	2019	2020	2021	2022	2023*	Total
Available for 2023 issuances	0,00	0,00	0,00	1.736,65	3.241,56	5.037,96	10.016,16
Allocated to past issuances	1.798,16	1.344,69	1.862,12	2.213,32	988,81	0,00	8.207,10
Not available for new issuances	1.649,66	1.501,49	1.607,80	0,00	0,00	0,00	4.758,95
Eligible expenditures	3.447,82	2.846,18	3.469,92	3.986,97	4.193,37	5.037,96	22.982,21

Además, cabe destacar que **1.607,8 millones de euros** dejarán de estar disponibles para las emisiones de 2023, al corresponder al ejercicio 2020, no pudiendo asignarse a las emisiones ejecutadas en ejercicios futuros. Junto con los 3.151,2 millones de euros de los presupuestos de 2018 y 2019, no asignados en 2020, estas cuantías pasarán a formar parte de esa **“reserva de seguridad”** que permitirá asegurar la calidad del gasto elegible asociado al programa ante eventualidades no previstas. En términos relativos, esto supone una reserva del 47,8% del gasto elegible en 2018, del 52,8% del gasto elegible en 2019 y del 46,3% en 2020, que asciende a un total de 4.758,9 millones de euros.

In addition, it should be noted that **€1,607.8 million** will no longer be available for issuances in 2023, as they correspond to the 2020 financial year, and cannot be allocated to issuances executed in future financial years. Together with the 3,151.2 million euros from the 2018 and 2019 budgets, not allocated in 2020, these amounts will become part of this **"security reserve"** that will ensure the quality of the eligible expenditure associated with the program in the event of unforeseen contingencies. In relative terms, this means a reserve of 47.8% of eligible expenditure in 2018, 52.8% of eligible expenditure in 2019 and 46.3% in 2020, amounting to a total of €4,758.9 million.