



Railways National Office (ONCF)



Green Bond Framework (Version 1.0)

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ONCF GREEN BOND FRAMEWORK

1. Company Structure and Sustainability Commitment

Office National des Chemin de Fer - Railways National Office (ONCF) is the Kingdom of Morocco's national railway operator and is under the management of the Ministry of Transport and Logistics. The company is state-owned and is responsible for the management of the national railway network including both passenger and freight lines. Currently, ONCF has a network of over 2,295KM of train lines which include around 200 km of high-speed lines and employs about 6 919 people (figures by end of 2021)¹.

The construction of high-speed train services between the main urban centres of Morocco represents a strategic investment for ONCF. The company's strategy focuses on three main areas:

- 1) the extension of the existing inter-urban high-speed train lines to efficiently and sustainably connect major economic centres in Morocco;
- 2) the replacement of the existing stock of old diesel-powered trains with new electric locomotives; and
- 3) energy and digital efficiency.

Considering the transport sector as a whole, all modes combined, rail transport accounts for the second largest amount of global GHG emissions after the generation of electricity and causes 23% of all energy-related emissions globally and 30% in Morocco². According to the IEA, USD 2 trillion in investment per year is needed in low-carbon transport globally in order to achieve the goal of the Paris Agreement to limit the rise of global temperatures to less than 2° Celsius by 2050³. However, whilst transport represents a large share of green bond issuances worldwide (20% of all green bonds issued globally), in Africa it is still greatly underrepresented (less than 1%)⁴ of total issuance of green bonds.

¹ ONCF

² Transport. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 2014

³ World Resource Institute, [The Trillion Dollar Question II: Tracking Investment Needs in Transport](#), April 2016

⁴ 2019 Green Bond Market Summary, The Climate Bonds Initiative

However, according to the IEA, rail is among the most efficient and lowest emitting modes of transport: trains represent only 0.3% of global total emissions compared to 2% for aviation. In addition, rail account for 8% of the world's motorised passenger movements as well as 7% of freight transport and yet it consumes only 2% of the world's transport energy demand⁵.

Globally, high-speed trains have also become an increasingly popular low-carbon means of transport because they offer an efficient alternative to short-distance flights for both passengers and goods whilst also producing almost immediate net CO₂ benefits deriving from a reduction in air and car journeys⁶.

As far as ONCF is concerned, environmental conservation holds a pivotal place in its medium and long-term development strategy, focused on sustainable mobility. As such, the company relies on universal tools, such as the environmental management system (ISO 14001) and the approach to its 'carbon footprint' adopted since 2015 includes the following objectives:

- Evaluate the company's carbon footprint on an annual basis;
- Identify room for maneuver in terms of GHG reduction and, on this basis, develop appropriate action plans to mitigate the impact of its activities on the environment;
- Reduce ONCF's energy consumption, while developing greener alternatives;
- Ensure its environmental and social responsibility and, consequently, improve its image in the eyes of its stakeholders; and
- Raise awareness among its employees and partners on the importance of ecological mobility.

Over the years, this approach has been a real catalyst for working towards:

- Substantially reducing the company's carbon footprint, as evidenced by a reduction in GHG emissions by approximately 12% over five years (2015 - 2020);
- Preserving the position of 'train, as a friend of the environment' due to the fact

⁵ The Carbon Brief: [Eight charts show how 'aggressive' railway expansion could cut emissions](#), January 2019

⁶ International Energy Agency, [the Future of Rail](#), January 2019

that its CO₂ emissions are by far the lowest: they represent only 0.47% of the total GHG of Morocco and 2.6% of the transport sector, for a market share of 8.5% for passengers and 18% for goods; and

- Confirming the place of rail as the most ecological mean of transport: applied to passengers per kilometre (data 2020), the level of emissions from rail transport is 25 times lower than air transport, 7 times lower than car transport and 6 times lower than bus transport⁷.

2. Rationale for the issuance of Green Bonds

International trends in the green bond markets for low carbon transport and the shift towards sustainability of many urban transport system operators has led ONCF to re-orient itself towards a more dedicated environmental and social mode in alignment with the orientation of the Kingdom of Morocco through its [New Development Model \(2021-2035\)](#), with the objective to strengthen the implementation of projects aimed at improving the national railway system. ONCF is committed to enhancing the wellbeing and comfort of its millions of passengers as well as providing a fast and efficient rail network to improve to economic resilience of Morocco.

Indeed, the fourth component of Morocco's New Development Model (2021-2035) on competitive and sustainable transport calls for strengthening rail to significantly increase its share in both passenger and freight transport. Furthermore, the New Government Program (2021-2026) states that the positive effects of rail transport are multidimensional, as it reconciles economic and sustainability ambitions. It emphasizes the central role played by this mode of transport in the efficient and successful implementation of multiple projects in recent years, such as the construction of renewable energy plants.

Furthermore, the Group also supports the [Sustainable Development Goals](#) (SDG)⁸ promoted by the United Nations and [Morocco's National Strategy for Sustainable Development \(SNDD\)](#) in order to establish a common development agenda by 2030. ONCF

⁷ Results for 2020 based on ONCF's 2016 carbon footprint assessment conducted with a specialized firm Refer to Annual Financial Report 2021 – Chapter 8 – Reporting ESG : [Présentation PowerPoint \(oncf.ma\)](#)

⁸ <https://sdgs.un.org/goals>

believes that rail and public transport in general can actively contribute to sustainable development and the fight against climate change by facilitating a shift from air and fossil fuel vehicles to rail transport, both for passengers and freight.

For this purpose, as part of its climate engagement and leadership, at COP26, ONCF and the Moroccan Ministry of Transport and Logistics [International Union of Railways](#) endorsed the [Sustainability Pledge of the International Union of Railways \(UIC\)](#) and shared their vision with participants as part of Africa's wider commitment to bolster and support the development of African railways in line with the Sustainable Development Goals (SDGs). The objective was also to raise awareness among stakeholders on the importance of contributing to the ecological transition and territorial integration of Morocco, in particular through the development of a responsible, integrated and complementary transport system that meets the challenges and concerns of the 'green economy'.

ONCF's Corporate Social Responsibility (CSR) strategy has been approved by the company's General Management and was the subject of its very first ESG report published in 2016. This strategy is based on the idea that, in the future, rail systems will be based on a vision of mobility that combines sustainable, inclusive and intelligent solutions, so as to meet the expectations of its customers in terms of both quality of service and low carbon emissions.

Concerning ONCF's development strategy, the [Morocco Rail Plan 2040 \(PRM\)](#) is a long-term master plan for the development of the national rail network in its various components by 2040, which takes into account the mapping of future transport needs, broken down into rail service needs and then into project banks. Built around hubs, connected to each other within travel corridors by high-speed trains, regional trains and shuttles, the PRM will ensure a dense network throughout the Kingdom and will play a decisive role in territorial development policies. This plan provides nearly 35 billion euros of investment (375 billion Moroccan dirhams) to, among other things, extend the country's network of high-speed lines by 1,100 km⁹.

⁹ Results of the PRM strategic study carried out by ONCF with a group of specialized consultants

In line with its own commitment to sustainability and Morocco's ambitions under the New Development Model, ONCF therefore plans to issue green bonds to finance or refinance the operations of its rail lines, the vast majority of which are electrified. Its first green bond will be issued to raise **1 billion Moroccan dirhams (about US\$100 million)** to refinance a loan (raised in July 2017) undertaken for the construction of the first high-speed train line between the cities of Kenitra and Tangier in northern Morocco.

The bond will be labeled in accordance with the [Green Bond Principles](#) (June 2021) developed by the [International Capital Markets Association](#) (ICMA) and with the [Guide on Green, Social and Sustainability Bonds of Morocco](#) (AMMC, June 2018). As an immediate, short-term intervention, the high-speed rail (HSR) line project is part of a master plan to connect Tangier to the city of Marrakech by 2030, with the aim of combining economic development by providing faster intercity lines for passengers and freight, while reducing CO₂ emissions.

Specifically, travel time between Tangier and Kenitra has been reduced by approximately 2 hours and 25 minutes (for a travel time of approximately 47 minutes) compared to traditional rail infrastructure and it is estimated that the line will result in a reduction of more than 2.5 million tons of CO₂ equivalent over a 30-year period. The line was inaugurated on 15th November 2018.

Moreover, this High-Speed Rail line between Tangier and Kenitra has been running on green energy since January 1st, 2022¹⁰. The "AL BORAQ" high-speed train will be the first to offer sustainable transport using 100% wind power, with a vision for ONCF to eventually power all trains with clean energy. The objective of this new phase is to improve ONCF's carbon footprint, with the equivalent of 120,000 tons of CO₂ avoided each year.

Objectives of the Project :

- Bring the two major economic hubs of Casablanca and Tangier closer together;
- Satisfy an ever-increasing demand for rail transport;
- Reduce travel time between the two cities (to 2 hours 10 minutes from 4 hours 45 minutes);
- Free up capacity for freight transport resulting from the activity of the Tangier Med port;
- Promote development of a local rail ecosystem; and

¹⁰ [ONCF - ONCF: AL BORAQ PASSE EN MODE GREEN POUR UNE MOBILITE ECORESPONSABLE](#)

- Reduce GHG emissions through putting in place a sustainable means of transport.

Estimation of socio-economic impacts of the Project:

- Mobilization of 5,000 workers;
- Creation of 1,500 direct jobs;
- Reduction of GHG emissions;
- 90% of civil engineering work carried out by local companies; and
- 160 victims road accidents avoided each year.

3. ONCF Green Bond Framework

The Green Bond Principles (June 2021) are a set of voluntary guidelines that call for transparency and disclosure. They aim to promote integrity in the green bond market by clarifying the approach for labeling a bond as green.

Therefore, in accordance with the [Green Bond Principles](#) (June 2021), the [Guide on Green, Social and Sustainability Bonds of Morocco](#) (AMMC, June 2018) and the [Climate Bonds Standard](#) (and its [Land transport criteria, V.2, 2020](#)), this Green Bond Framework is structured around the following five pillars, which will apply to every Green Bond issued :












- a) Use of proceeds**
- b) Process for project evaluation and selection**
- c) Management of proceeds**
- d) Reporting**
- e) External review**

a) Use of Proceeds







Under this framework, ONCF will allocate an amount equal to the net proceeds of the bond to one or more eligible projects and assets. These are projects or assets that have a positive environmental or sustainable impact according to the list provided by the Green Bond Principles (June 2021).

Specifically, the proceeds from the bonds issued under this Framework will be used to finance or refinance Eligible Projects and Assets in the Clean Energy Transport category (generally fully electrified rail infrastructure). Where possible, Eligible Projects and Assets will be certified according to the [Land Transport Criteria](#) of the [Climate Bonds Standard](#) (V3.0, 2019).

The table below provides some examples of Eligible Projects and Assets:

Project Category	Eligible Projects and Assets	Alignment with environmental objectives	Alignment with Sustainable Development Goals ¹¹
Fully electrified public transport infrastructure	<ul style="list-style-type: none"> • Electric inter-urban train lines for modal shift of passenger transport to rail in long-distance routes 	<ul style="list-style-type: none"> • Climate change mitigation • Pollution Prevention and Control 	   
Fully electrified freight transport infrastructure	<ul style="list-style-type: none"> • Electric freight train lines for modal shift of freight transport to rail in long-distance routes 	<ul style="list-style-type: none"> • Climate change mitigation • Pollution Prevention and Control 	   
Rail transport rolling stock	<ul style="list-style-type: none"> • Upgrade of fossil fuel-based locomotives with wholly electrified ones • The purchase of rolling stock for new and existing wholly electrified train lines 	<ul style="list-style-type: none"> • Climate change mitigation • Pollution prevention and control • Energy efficiency 	  

¹¹ SDG Targets: **Target 3.9.1:** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, soil pollution and contamination; **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; **Target 11.2:** by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport.

			 
Supporting Infrastructure for low-carbon transport	<ul style="list-style-type: none"> Other supporting infrastructure and logistics that link directly to wholly electrified railways. This may include system operations, or facilities that improve the performance of such supporting systems. 	<ul style="list-style-type: none"> Energy Efficiency Climate Change Mitigation 	   

Exclusions:

- Railway lines wholly dedicated to the transport of fossil fuels

b) Process for project evaluation and selection

A Green Bonds Committee shall be established by ONCF and shall be responsible for selection and evaluation of projects and assets for the issuance of Green Bonds. The Committee will also be responsible for reviewing, updating and implementing the processes described in this Green Bond Framework.

The committee will be headed by the ONCF Director General and shall include members of Finance and Corporate Management Directorate (DGFC), Strategy, Cooperation and Quality Directorate (DSCQ) and the Divisions concerned by the project(s) eligible for green financing. Once approved by the Committee, the selected projects and assets are then included in a green bond register, which is then used by the Finance and Corporate Management Directorate (DGFC) to maintain a complete list of eligible projects and assets and the respective amounts allocated to them.

If, throughout the term of a Green Bond, a project or asset ceases to meet the eligibility criteria described in the Framework, ONCF shall remove the project or asset from the registry and reallocate the amount to other projects and assets that are eligible under the processes and criteria described in this Framework. Reallocation can only occur with projects and assets that have been verified by an external reviewer.

To this end, the Green Bonds Committee decides on the allocation of the designated assets to green bonds. It also examines all projects and assets already selected to ensure that they still meet the eligibility criteria and that they are not, at any time, facing any major controversy. Should such a controversy arise, the project or asset may be temporarily (subject to performance improvement) or permanently (in the event of insufficient improvement measures) removed from the list of eligible assets. A replacement project or asset will then be proposed for allocation.

c) Management of proceeds

ONCF intends to allocate the proceeds raised under any Green Bond to projects and assets selected in accordance with the evaluation and selection process outlined above.

The proceeds raised under this Framework will be transferred to ONCF's normal cash/treasury account pending the allocation of an amount equal to the net proceeds from the sale of the bonds. As long as the net funds of a green bond are not allocated (for a maximum period of 24 months), ONCF will keep and/or invest the net balance not yet allocated in money market instruments (cash or cash equivalent, bank deposits, treasury bills, etc.)

d) Reporting

The Moroccan Capital Market Authority (AMMC) requires issuers of green bonds to provide information on the allocation of funds and impacts of the bonds issued at least once a year, as part of the issuer's ESG report for the duration of the bond's validity.

ONCF, as a publicly traded company, already complies with the requirement to publish an annual ESG report prescribed by the AMMC. In addition, ONCF intends to present a report

to investors having subscribed to green bonds within one year from the date of issuance, then every year, during the whole lifetime of the bond.

The allocation report will provide information on:

- the total amount of proceeds allocated to eligible projects and assets;
- the balance of unallocated proceeds;
- the amount or percentage of new financing and refinancing; and
- external review(s) conducted;

Examples of key indicators that can be reported based on the project and asset portfolio include:

- For passenger lines: estimated energy savings (GWh), estimated avoided emissions (tCO₂eq), number of passengers per year, kilometers of new lines built or renovated, number of new electric trains (locomotives and coaches) put into service, number of people employed; and
- For freight lines: estimated energy savings (GWh), estimated avoided emissions (tCO₂eq), tons of goods transported, kilometers of new lines built or renovated, number of new electric trains (locomotives and coaches) put into service, number of people employed.

ONCF's reports will be made available to bondholders and published on the company's website once a year.

e) External review

ONCF will engage an external reviewer to verify the alignment of this Framework and any of the bonds labelled under it with the Green Bond Principles (July 2021). Where possible, Certification under the Climate Bonds Standard (Land Transport Criteria, V.2, 2020) will be pursued and an Approved Verifier will be selected for this purpose.

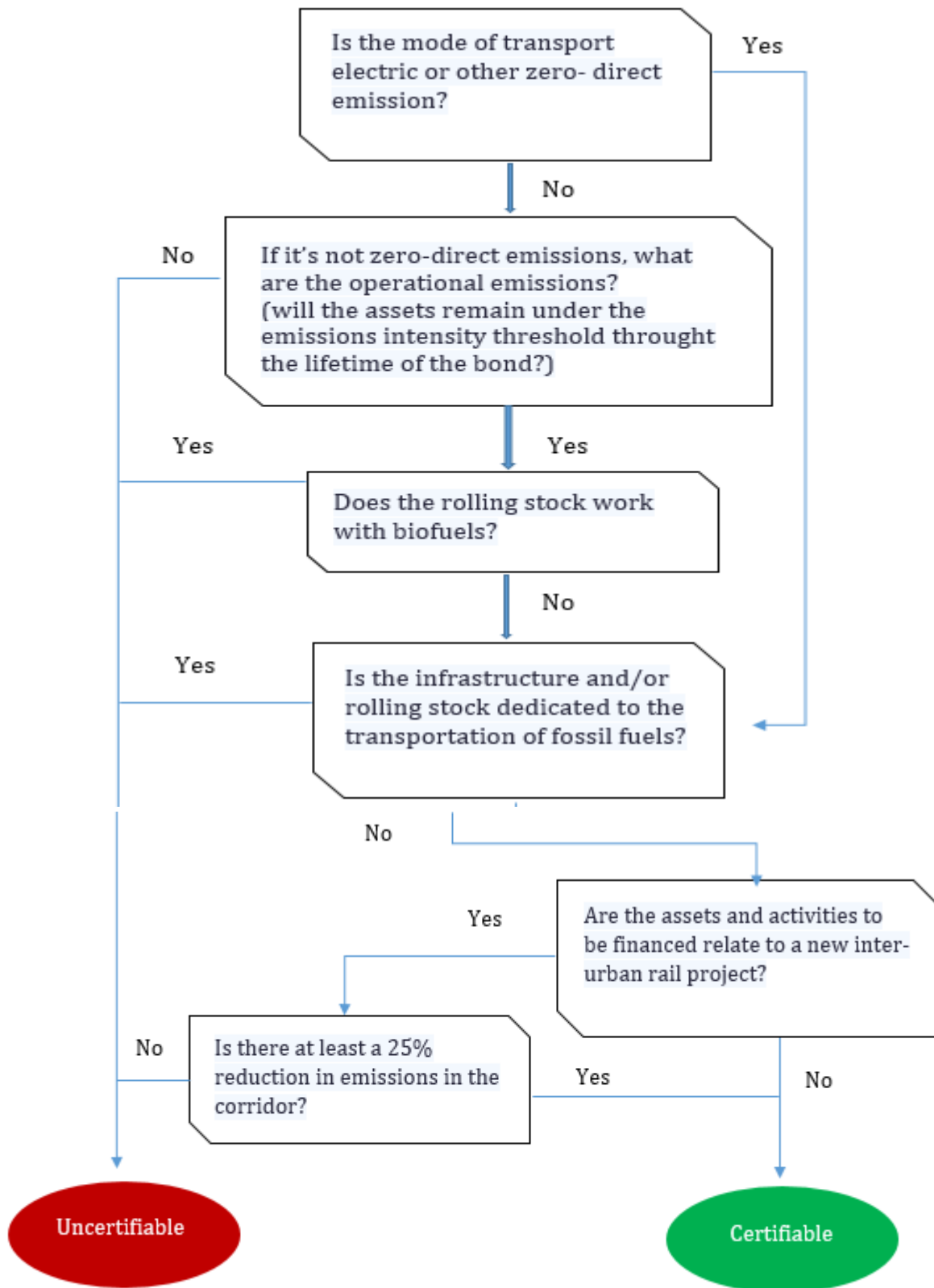
The verification reports will be submitted to the AMMC of Morocco and will be published on the ONCF's website. In addition, in line with the requirements of the Climate Bond Standard (when relevant), post-issuance verification will be undertaken within two years (24 months)

of issuance of each bond. Post-Issuance reports will also be made available on ONCF's website.

4. Version control

This Framework may be regularly reviewed, changed, and updated. A version control system will be maintained by ONCF, and each version of this Framework will be made available on the company's website prior to the issuance of the first bond.

Annex 1: Process for Green Financing of a Rail Project



I

Annex 2 - Description of the Tangier-Kenitra high-speed rail project.

I. OBJECTIVES OF THE PROJECT

The Kingdom of Morocco has adopted a high-speed rail master plan to meet the strong growth in traffic and to support the country's development. The Tangier-Kenitra high-speed rail project is the first step in this plan and consists in the improvement of the service offer by reducing travel time between the cities of Tangier, Kenitra, Rabat and Casablanca.

Thus, the main objectives of the project are:

- To provide a suitable and sustainable solution to a steadily growing demand for passenger transport;
- To support the development of the new economic hub of Tangier;
- To facilitate freight traffic on the Tangier-Casablanca line by freeing up part of the old line; and
- To be in sync with the development of the European and Maghreb rail corridors.

II. NATURE OF THE PROJECT

- Construction of a High-Speed Rail line (HSR) between Tangier and Kenitra, connecting to the existing network to the north of Kenitra, over a length of about 200 km in double electrified track, designed for a speed of 350 km/h and operated at 320 km/h, dedicated to passenger traffic:
 - Acquisition of railway equipment: track, catenary, signal systems and telecommunications;
 - Adaptation and improvement of the old lines at the entrance of Tangier and Kenitra;
 - Construction of work bases in Tnine Sidi El Yamani and Kenitra and their connection to the old line and to the new line;
 - Acquisition of 12 high speed trains (RGV);
 - Construction of a maintenance depot for High-Speed Trains in Tangier Mghogha; and
 - Design of the commercial offer

All components of the project have already been developed. The project was inaugurated on **November 15th, 2018** and the commercial operation of the high speed train "AL BORAQ" was launched on **November 26th, 2018**.

III. ENVIRONMENTAL AND SOCIAL ACTIONS

1. APPROACH & MEANS

ONCF has integrated the environmental dimension into its Tangier-Kenitra HSR project from the earliest design phases to achieve a route with the least environmental impact as possible. ONCF's environmental approach is also based on regular consultation and information sharing with the population and the State departments in charge of the environment, notably the Ministry of the Environment and the High Commission for Water, Forests and the Fight against Desertification (HCEFLCD).

ONCF has also developed a master plan for **the environmental and social approach of the project** and has set up an **Environmental and Social Assistance** to steer this approach and ensure its implementation by the project managers and companies.

2. ACTIONS

➤ Social aspects

A consultative approach from the start of the evaluation studies allowed the integration of the various concerns and visions of the local populations, and thus reinforced the functional relevance of the project. Information sharing and consultation with the local populations were essentially carried out through:

- Meetings with communities concerned by the project, the proposed location of the crossing structures, the procedures for identifying the rightful landowners and the compensation process. A debate was conducted at the end of each meeting to answer questions and problems of the local population.
- Participation of representatives of the local population and local authorities in field visits to cover the entire route in each municipality concerned. These visits made it possible to closely examine various constraints and grievances of the population and to make decisions in common agreement with the elected officials and local authorities.
- Depositing a register for collecting environmental and social observations from the population in all the municipalities concerned by the study.

This approach also made it possible to identify social projects to be set up to compensate for the project's impact on the population. Five projects have been completed: four schools and a dispensary were built by ONCF. The characteristics and location of these projects were defined in consultation with stakeholders (local authorities, representatives of the population, Ministries in charge of education and health, etc.). ONCF also took charge of the equipment of these social infrastructures as well as of the resettlement of 250 households.

➤ Crossing structures

To allow movement from one side of the track to the other and to maintain the pre-existing functionalities, a crossing structure was planned on approximately every kilometer along the HSR line. The location and size of the crossing structures were determined by mutual agreement with local stakeholders. No level crossings are planned as part of the HSR project. In addition, a socio-environmental study has been carried out to maintain the location and nature of the crossing structures as closely as possible to the travel habits of the local population.

➤ Biodiversity

The choice of the HSR line route took into account the issue of ecosystem conservation by avoiding sensitive natural areas as much as possible when designing the route. The route avoids the "Merja Zerga" classified as a SIBE (Site of Biological and Ecological Interest) and as a RAMSAR site (Convention on Wetlands of International Importance) and has avoided as much as possible the wetland of "Tahaddart" also classified as a SIBE and RAMSAR site.

ONCF has also partnered with an NGO working in the area of biodiversity to develop an initial fauna and flora inventory of sensitive ecological zones and to propose appropriate measures to mitigate and compensate for the project's impacts on these zones.

Moreover, ONCF has signed a partnership agreement with HCEFLCD to mitigate the impacts of the project on biodiversity, through some specific actions.

➤ Landscape

ONCF conducted a landscape study to identify a landscape re-design along the HSR. In addition, the HSR includes several emblematic viaducts which, in addition to their value addition to the landscape heritage of the areas they pass through, allow transparency of the HSR line with respect to hydraulic flows.

➤ Noise

An acoustic study was carried out with the aim of protecting local residents from the noise generated by passing trains. More than 10 linear km of acoustic screens and merlons were built as part of the high-speed line to protect local residents from noise.

➤ Carbon emissions

A Carbon Footprint was established for the project, and it accounted for:

- Total emissions due to the project during the construction phase and for 30 years of operation: approximately 8.5 million tons of CO₂ equivalent (Teq CO₂); and
- Emissions avoided by the project over a 30-year period due to modal shift: approximately 11 million Teq CO₂.

It is estimated that the project will avoid approximately 2.5 million Teq of CO₂ over 30 years of operation of the line. The project will be carbon neutral after 13 years of operation.

➤ Environmental management of the construction works

Given the environmental risks associated with the construction of the Tangier-Kenitra high-speed line, ONCF has put in place a stringent policy for conducting the works and controlling the environmental impact of the sites:

- The consultation file for companies includes an Environmental Compliance Note (ECN) which defines the environmental clauses to be respected by companies during the construction phase;
- Companies submitting bids must present an Organizational Plan on Environmental Assurance (SOPAE) explaining the organizational and control provisions proposed to achieve environmental protection objectives set out in the NRE; and
- The SOPAE developed in the technical offer of the contracting company gives rise, during the period of preparation of the works, to the development of an Environmental Assurance Plan, submitted for approval by the project owner before the start of the works.

➤ Forestry sector

ONCF signed agreements with HCEFLCD for the reforestation of the forests crossed by the project. For each tree felled, an average of 25 were planted. In total, the project has enabled the reforestation of 2,100 hectares of forest against 130 hectares deforested.

➤ Green energy farm

Thanks to wind energy provided by a national operator, ONCF will power all of its “AL BORAQ” high-speed trains with clean energy as of January 1st, 2022. This will enable it in the short term to improve its overall carbon footprint, with an equivalent of 120,000 tons of CO₂ avoided each year, or 4 million trees planted.