



INAUGURAL 2020 GREEN BOND & IMPACT REPORTING



May 2021

Sustainability Mandate of Comunidad de Madrid

Comunidad de Madrid has the clear social and environmental mandate to meet the needs of its citizens. The Region is committed to integrate sustainable development and social responsibility in all its activities while playing a key role to promote sustainable development initiatives on the territory.

The **social expenditures** include several programs such as the financing of public policies related to **public health, education, social services, employment promotion, public transportation, and subsidized housing**. The community of Madrid's expenditure on social programs aim to strengthen Madrid's socio-economic recovery and improve social cohesion, thanks to the development of public services that benefit all the citizens and the implementation of programs to promote employment through investment of small businesses.

Additionally, Comunidad de Madrid has an important **environmental mandate**. Almost 50% of the region area of the region is protected due to its environmental protection and conservation value. The geo-economic situation in Madrid creates the need to implement policies for pollution management and waste treatment in densely populated urban areas.

Regarding the latter, the region set out its **Strategy for Sustainable Waste Management** for the 2017-2024 period. In relation with climate change and air quality, the **Plan Azul+ 2013-2020** has been the backbone for eight years, particularly focusing in tackling pollution and promoting energy efficiency.

Among the measures set out in the Plan Azul+, which is expected to be followed by a new Plan from 2021, we find the following objectives by sector, which are representative of the regions' general sustainable strategy:

- **Transportation:** modernisation of the taxi and bus fleets with greener vehicles, improvement of bicycle infrastructure, fiscal incentives for the transition towards greener technologies in private transportation
- **Industry:** reduction of emissions from industrial activities, like NOX produced by cogeneration plants
- **Residential/commercial/institutional:** use of clean fuels for domestic heating, improvements in energy efficiency, smart grids
- **Agriculture:** sustainable management of forests, promotion and development of biomass energy

In the social category, there is a **Strategy for Social Inclusion 2016/2021**, within the framework of the Europe 2020 Strategy, which seeks to eradicate severe poverty from the region.

Source: Comunidad de Madrid



Contribution to the UN SDGs

The Community of Madrid is committed to the implementation of the 2030 Agenda for Sustainable Development. In order to implement concrete actions, the project "Madrid is Action" has been established.

SUSTAINABLE DEVELOPMENT GOALS



Comunidad de Madrid



1 NO POVERTY

- Affordable Housing (Target 1.4)
- Social Inclusion (Target 1.1 and 1.B)



3 GOOD HEALTH AND WELL-BEING

- Healthcare (Target 3.8)



4 QUALITY EDUCATION

- Education (Target 4.1, 4.2, 4.4, 4.A)



5 GENDER EQUALITY

- Social Inclusion - Fight against gender violence and promotion of equal opportunities (Target 5.1 & 5.2)



8 DECENT WORK AND ECONOMIC GROWTH

- Social Inclusion (8.6)
- SMEs financing (8.3, 8.6)



11 SUSTAINABLE CITIES AND COMMUNITIES

- Affordable Housing (11.1)
- Clean and Sustainable Transportation (11.2)



13 CLIMATE ACTION

- Climate Change Policies (13.2, 13.3)



15 LIFE ON LAND

- Environmental conservation and biodiversity (15.1, 15.2)

Source: Comunidad de Madrid

Inaugural Green Bond 2020: Use of Proceeds

Overview of the Green Use of Proceeds 2020

Eligible Category	Main eligible expenditures	Budgetary Programme	Budget code	UN SDGs	EU Environmental Objectives
Climate change and environmental management	Waste Management: <ul style="list-style-type: none"> Measures to implement the Waste Strategy of Comunidad de Madrid 	16: Environment, Local administration and territorial planning	456N 456B		EU Objective 4: Circular economy
	Clean transportation: <ul style="list-style-type: none"> Promote the manufacture and use of the electric vehicles and points of recharge Promote public transport services and modal shift towards public transportation (e.g. railway, metro de Madrid, bus system) and soft mobility, support multimodal transport solutions and promote the use of bicycles 	14: Transport, Social Housing & Infrastructure	453N 456B	 	EU Objective 1: Climate Change Mitigation
	Environmental conservation: <ul style="list-style-type: none"> Management and restoration of Protected Natural Parks and other unique spaces with important conservation value 	16: Environment, Local administration and territorial planning	456A		EU Objective 6: protection and restoration of biodiversity and ecosystems

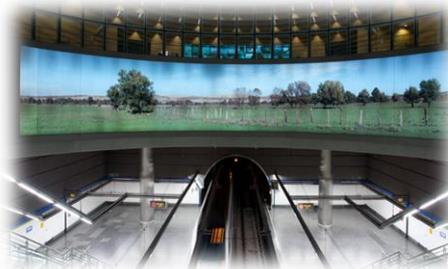
Source: Comunidad de Madrid

Green Projects for the 2020 Inaugural Green Bond

Clean Transportation



- Comunidad de Madrid supports the **decarbonization of the Region's public transport**
- In 2020, EMT Madrid has approved a **€39m investment** for the purchase of **50 new electric buses and 15 electric micro-buses**
- This is in line with the **company's strategy** of gradually reducing the fleet's carbon emissions



- Comunidad de Madrid supports the maintenance and development of the fully-electricified Madrid's metro
- Thanks to the Energy Saving Plan 2012-2017 and the current Energy Efficiency Plan, **Metro de Madrid** – the public enterprise of the Madrid underground – **has reduced electricity consumption in daily operations by 25%**



- Comunidad de Madrid finances efficient mobility and new forms of urban mobility: the **purchase of electric bicycles** with pedal-assist systems, **electric scooters and electric mopeds**, as well as environmental vouchers for the **use of zero-emission shared mobility services**
- Benefits will result in better air quality in the region and will direct efforts towards a decarbonization of transport

Comunidad de Madrid strongly supports the decarbonization of the Region's public transport while have the clear guidelines to help to reduce pollutant and GHG (Greenhouse Gas) emissions and to increase the share of renewable energies in the overall consumption of the transport system

Source: Comunidad de Madrid



Green Projects for the 2020 Inaugural Green Bond

Waste Management

- The Regional Strategy defines a waste management model that responds to the needs of the Community of Madrid, taking into account environmental, social and economic aspects
- The main objectives of the Strategy are as follows:
 - ❖ To prevent the generation of waste in the Community of Madrid
 - ❖ Maximize the transformation of waste into resources, applying the principles of the circular economy
 - ❖ Encourage the use of Best Available Techniques in waste treatment
 - ❖ To define criteria for the establishment of the necessary infrastructures and for the correct management of waste in the Community of Madrid



Pinto light packaging sorting plant

- Financing the policies to manage pollution and waste in dense urban areas while **mobilizing resources towards a circular economy**
- **The financing of the total amount of domestic waste treatment for several municipalities** in the region of Madrid as well as assistance for the collection of such waste from some municipalities



- **Financing the optimally evaluate the air quality of the Community of Madrid** through measurements of the concentrations of regulated air quality pollutants and regulated air quality pollutants and meteorological parameters, with the aim of protecting people's health and the environment, providing full information to citizens and other competent administrations.

Comunidad de Madrid assumes all waste collection and treatment costs of municipalities with populations of less than 1,000, and 50 % of the costs of municipalities with populations of between 1,000 and 2,500. The regional strategy gives great attention to the Prevention Programme

Source: Comunidad de Madrid



Green Projects for the 2020 Inaugural Green Bond

Environmental Conservation



- Comunidad de Madrid finances the **maintenance and restorations of public Natural Parks** in the Region
- One of the them is the Valdebernardo park, peri-urban park located at the eastern end of the Valdebernardo neighborhood, which covers 108 hectares and which offers a variety of 180.540 trees and numerous sports facilities and children's areas



- The Region of Madrid plans, coordinates and manages the **Network of Centres for Environmental Education**. These centres are located in areas of natural interest or areas of recreation within high-density populations
- Activities carried out in these centres promote initiatives for the protection and conservation of the environment, and sustainable management of natural resources



- **Financing of Non Profit Organizations** dedicated to the preservation, defense and recovery of the region's natural heritage and the prevention of any losses in biodiversity
- This is done through Non Profit Organisations whose purpose is among the aforementioned and carry out their activity within the Region of Madrid

Comunidad de Madrid takes very seriously the mandate of protecting, restoring and enhancing green public areas, while contributing to the sustainable development of populations around Natural Parks

Source: Comunidad de Madrid



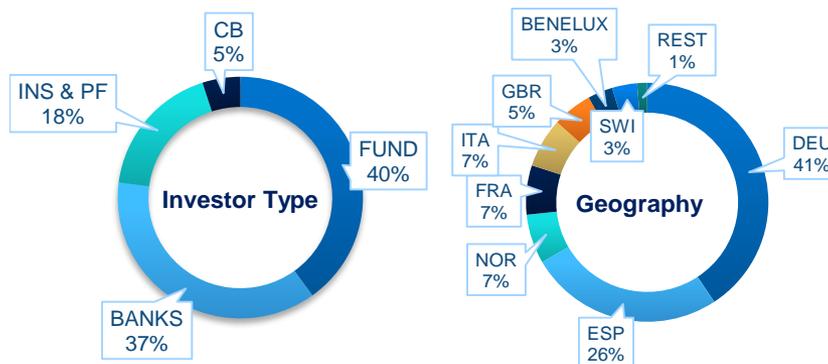
Region of Madrid Inaugural Green Bond

Final Terms and Conditions

Issue Ratings	Baa1/A-/BBBu/AL (Sta/Pos/Sta/Pos) Moody's/S&P/Fitch/DBRS
Format	RegS, Bearer Dematerialised (No sales into Canada)
Ranking	Senior, Unsecured
Size	EUR 700MM
Maturity	30th July 2027
Settlement	8 May 2020 (T+7)
Coupon	0.827% Fixed, Annual, Act/Act - Short first
Reoffer Price	100.001% (Yield 0.827%)
Reoffer Spread	SPGB (mid yield 0.637%) +19bps area
Benchmark	Ref SPGB 0.8 07/30/27 HR 98%
Listing	AIAF
Min Denoms	€1k+ €1k
Bookrunners	BBVA (B&D), CACIB, ING, Santander
ISIN	ES0000101966

Transaction Highlights

- On Tuesday April 28th 2020, the Autonomous Community of Madrid successfully launched their **first Green bond** (EUR 700MM due 30th July 2027), following 5 days of OoO calls with **over 20 European ESG investors**
- One day before, on April 27th mid-day the mandate was announced together with IPTs of SPGB +28 bps. By the EoD, Iols were over 1.8bn from 119 accounts.
- Given this extraordinary reception from investors, books opened the next day at 9:00 am with a guidance of SPGB +25 bps area. Just 1 hour from book opening (10:00 am) an update was released, indicating books over €3 Bn (excl. JLMs) and revising Guidance to SPGB +22 bps area. At 11.10 CET a second update was released, setting the spread at SPGB +19 bps, with Books exceeding € 3.5 Bn (excl JLMs) and going subject at 11.35 CET
- At 12.15 pm Final Terms were announced, setting the size at €700 Mill. The landing **Pricing level of SPG +19 bps** shows a tightening of – 6 bps vs. Guidance (-11 bps vs IPTs) and is Flat vs the Issuer Secondary curve (No NIP)
- The total demand for the deal exceeded **3.5bn from 172 investors**. Comunidad de Madrid managed to print a very successful deal (**4.1x oversubscription**) in a very challenging environment due to the COVID 19 crisis at **Zero New Issue Premium**, thanks to the high oversubscription facilitated by the Green Bond category
- The excellent **quality of the book** was reflected in the strong demand from **dedicated ESG investors (64%)**, international accounts (61%), and real money investors (58% from Investment & Pension Funds and Insurance Companies).



Highlights of the 2020 Madrid's Inaugural Green Bond



- **First Green bond issued by a Spanish Region**



- **Comunidad de Madrid has a strong and unanimous commitment to climate change mitigation and environmental protection.** The transition to a low-carbon development model that has no way back, and the region wants to be at the forefront



- **Our inaugural green bond** is a clear sign of the region's commitment to promote the ESG bond market and sustainable investments



- **Climate change and environmental management is the green bond category in focus in the debut green bond of Comunidad de Madrid.** The proceeds of the bond have been allocated to expenditures in clean transportation, sustainable waste management and environmental conservation



- **Great execution metrics: 4.1x oversubscription** after receiving EUR3.5bn of investor's orders



- **Strong demand from dedicated ESG investors**

Inaugural Green Bond 2020: Impacts

Overview of the Green Use of Proceeds					Impact Indicators						
Main Eligible expenditures	UN SDGs	Allocated Amount (EUR m)	Subcategories	Allocated Amount (EUR m)	Managed Waste (tn)	Data Samples Collected	Emissions Avoided (tCO2)	Vehicles Subsidized	Number of Programmes	Intervened Surface (ha)	Projects Selected
Waste Management		5.9	Domestic Waste Management	5.2	284,297.1						
			Maintenance of the Air Quality Network	0.7		1,466,702.0					
Clean Transportation		683.6	EMT Bus	68.0			2,939.7	-			
			Intercity Bus	91			18,642.8	-			
			Metro	387.8			90,147.8	-			
			Measures for the Promotion of Sustainable Mobility	3			-	2,300.0			
			Light Train	133.8			4,330.7	-			
Environmental Conservation		10.4	Environmental Education	1.3					15.0		
			Conservation of Protected Natural Areas	3.7						118,527.0	
			Connectivity through Green Infrastructure	3.8						581.0	
			Protection of Wetlands	0.2						13.0	
			Recovery and improvement of private forest areas	0.9						210.0	
			Grants to NPOs with Environmental Purposes	0.5							
				700.0	700.0						



Inaugural Green Bond 2020: Impacts in the Region's Public Transport



- **Metro:** the equivalent distance travelled by car would have caused 314,801 tCO₂ emissions



- **EMT bus:** the equivalent distance travelled by car would have caused 5,558 tCO₂ emissions. Investments included the acquisition of 50 electric buses for a sum of EUR 35m



- **Intercity bus:** the equivalent distance travelled by car would have caused 45,231 tCO₂ emissions. Investments included the acquisition of 12 hybrid buses for a sum of EUR 8.4m



- **Light trains:** the equivalent distance travelled by car would have caused 5,157 tCO₂ emissions

Emissions avoided by Clean Transportation initiatives funded by the Green Bond proceeds are equivalent to in excess of those of 95,900 passenger vehicles per year*

2020 Emissions Avoided (tCO₂): 237,381.66

[*http://calcarbono.servicios4.aragon.es/index.html](http://calcarbono.servicios4.aragon.es/index.html)

Impact calculated based on a reference travel distance of 15,000 km per year by a typical diesel car

Case Study: Arco Verde



- **Arco Verde** is a project aimed at bringing nature closer to the metropolitan areas of the region, favouring its use and enjoyment without the need of using private vehicles, thanks to its connection with the existing transportation network
- By planting new trees and bringing nature closer to the city for immediate public use, 3.4 million tonnes of CO2 will be avoided, supporting the region's fight against climate change
- Promotion of behaviours which are respectful with nature and a sustainable use of the environment, through interactive programmes carried out by the Environmental Education Centres around the Arco Verde
- It will also benefit the region by setting a new guideline in the territorial and urban development of the metropolitan area of Madrid
- Some figures
 - **540,000 native trees and shrubs** planted
 - More than **200 km** of **refurbished paths and roads**
 - **25** new **biodiversity areas**
 - **26 municipalities** benefitting from it
 - **30 forest spaces** and **5,000 ha** of **green and natural spaces** connected
 - **3,837,638 euros** invested in 2020



Case Study: Plan APARCA+T

- **This is an ambitious plan**, which aims to promote the use of park and ride facilities in the region, unifying their management from the Regional Transport Consortium, providing the existing network with a homogeneous image and conditions of use, expanding this network with new spaces and facilities **to reach more than 90 parking lots with a supply of around 50,000 spaces**
- **The added value** of the plan consists of a series of service improvements:
 1. Free parking for intermodal users, i.e. those who use the parking lots to continue their journey by public transport, and for whom the Community of Madrid will assume the costs of this free parking
 2. Increase in the supply of places
 3. The integrated management of parking lots from the Madrid Regional Transport Consortium, through a management platform, which will allow the transfer of data and images to CITRAM, which in turn allows real-time management of information on available parking spaces, incident management, obtaining demand data, etc.
 4. Development of an App for direct access to the Network's parking lots after user registration and direct exit once the Public Transport Card has been validated against the cell phone
 5. In more advanced stages, the incorporation of dynamic information systems in the access corridors to Madrid, which together with the App, will inform users in real time of the location of the parking lots and the best route to access them; the degree of occupancy and the number of free spaces, frequencies and schedules of the modes of transport associated with the parking lot, etc.
 6. Other associated services such as the installation of electric recharging points, reservation of places for carsharing, car rental by the hour, motosharing, bicycle loan systems, workshops, ATMs...
- **The Plan is a long-term plan**, lasting 12 years, **which includes 3 Phases** (designed to achieve a homogeneous temporal development of the supply of parking spaces integrated in the system);
 1. **First Phase (2022-2024)**: Estimated investments of around 75 million euros (tender budget including VAT) in 25 parking lots and 16,760 parking spaces, of which some 6,000 are new
 2. **Second Phase (2025/2027)**: Investments have been estimated at around 65 million euros (tender budget including VAT) in 33 parking lots (29 identified and 4 under study) and 15,020 parking spaces
 3. **Third phase (2028/2030)**, it is planned to invest some 61 million euros (tender budget including VAT) in 33 parking lots (30 identified and 3 under study) with 14,360 spaces.
- **The APARCA+T park-and-ride network would therefore consist of 91 parking lots and an investment of more than 200 million €.**
- **A pilot project has been developed** for the implementation of a Technological Platform for the integration and management of the APARCA+T Network: **Colmenar Vejo parking lot** (the first parking lot to be integrated into the Network)



- Inaugurated on January 13, 2020 and is operating normally, with the exception of the large decrease in the use of the parking lot due to the pandemic. As contemplated in the Agreement, the pilot test was carried out during 2020.
- Occupancy data, since February 2020, an average of 1,195 users per month and total of 13,146 users in the first 11 months of the service (adding those who validate from the app and through the ATM). Data was strongly influenced by mobility restrictions due to the pandemic.



Clean Transportation Calculation Methodology

1.- METHODOLOGICAL BASES

The methodology developed and the emission factors applied are based on the following references:

1. EMEP/EEA Air pollutant emission inventory guidebook - 2019.
2. IPCC Guidelines for National Greenhouse Gas Inventories, 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories (hereafter 2006 IPCC).
3. National Inventory of Emissions to the Atmosphere of Spain of the Ministry of Agriculture and Fisheries, Food and Environment.

The methodology used is based on that proposed in the European Environment Agency's technical report COPERT IV (Computer Program to Calculate Emissions from Road Transport), which is used as a reference in the EMEP/EEA and IPCC guidelines. This methodology is based on the application of emission factors by type of vehicle and according to different speeds, as well as other estimation algorithms.

In the case of direct emissions from urban and interurban bus fleets, diesel hybrid buses and natural gas hybrid buses have been included.

According to the COPERT methodology, CO₂ emissions are included within the Group 2 pollutants in terms of the calculation approach, where emissions are estimated from fuel consumption using the emission factors by pollutant and vehicle type, published in the National Emissions Inventory. The calculation algorithm is as follows:

$$E_{(CO_2,k)} = [FE]_{(CO_2,k)} \times [Cons]_k$$

where:

- ECO_{2,k} = CO₂ emissions per vehicle type k.
- Consk = Fuel consumption by vehicle type k.
- FECO_{2,k} = CO₂ emission factor, for vehicle class k.

Therefore, the activity data used is the fuel consumption or otherwise the km traveled, estimating in this case the fuel consumption based on the consumption factors [g fuel/km] for each type of vehicle k for the speed considered.

The emission factors used are those published by the Spanish Climate Change Office (OECC), with those for 2019 being those available to date.

The estimation of indirect emissions associated with electricity consumption is carried out taking into account the emission factor of the retailer that supplies electricity to each home. These emission factors are those published by the Comisión Nacional de los Mercados y las Competencias, being the 2019 factors those available to date. The calculation algorithm is as follows:

$$EEE = CEE \times FE_{CO_2_EE}$$

Where: EEE = CO₂ emissions from electricity consumption (t CO₂).

CEE = Electrical Energy Consumption (kWh).

FE_{CO₂_EE} = CO₂ emission factor associated with electricity consumption (t CO₂/kWh).

In order to quantify the emissions avoided by regular public passenger transport, it is taken into account that the demand for travel would be satisfied by the use of private vehicles. The calculations of avoided emissions are made considering that the passenger-km traveled by CRTM buses in a given year are in turn traveled by passenger vehicles and with an average occupancy rate. Passenger-km traveled is the result of adding the product of the length of an average trip (km) and the number of passengers. The calculation equations are analogous to those used to estimate bus fleet emissions, but in this case using DEFRA 2020 factors.

2.- YEAR OF CALCULATION: 2020

3.- SCOPE:

Road modes:

- EMT of Madrid (hybrid and pure electric vehicles)
- Road concessions in the rest of the Community of Madrid (hybrid and pure electric vehicles)

Railway modes:

- Metro de Madrid (Subway)
- Railway concessions

4.- ACTIVITY DATA

Road modes:

- Vehicle characteristics (Euro standard, fuel type)
- Fuel/electrical energy consumption of vehicle fleets or Kms traveled per year

Railway modes: Electrical energy consumption for traction and auxiliary installations

5.- EMISSION FACTORS

- CO₂ emission factors and density and PCI parameters for fossil fuels and electricity published by the Spanish Climate Change Office (OECC), available 2019 to date
- COPERT consumption factors per KM (EMEP/EEA 2019 Guidelines).
- DEFRA 2020 factors (private vehicle emissions)

6.- AUTHORS OF THE CALCULATION

CRTM with the collaboration of NOVOTEC Consultants in the Calculation of Emissions from road concession buses in the rest of the Community of Madrid, based on its own data (supply and demand) and activity data (fuel/electrical energy consumption) provided by the corresponding operators.

