



CONSEJERÍA DE HACIENDA Y FUNCIÓN PÚBLICA

**Comunidad de Madrid**

# 2021 GREEN BOND & IMPACT REPORTING



September 2022

# 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.



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



- Healthcare (Target 3.8)



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



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



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



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



- Climate Change Policies (13.2, 13.3)



- Environmental conservation and biodiversity (15.1, 15.2)

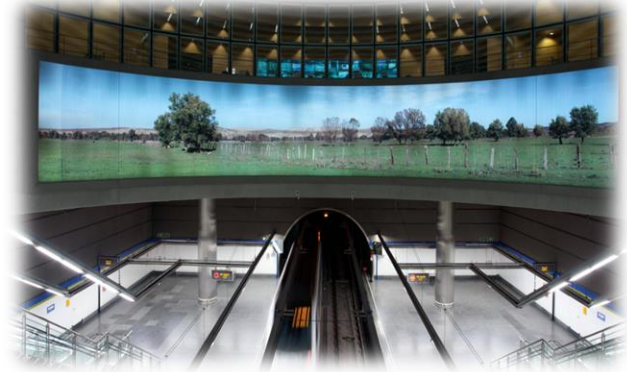
Source: Comunidad de Madrid

# Green Expenditures for the 2021 Green Bond issuance

## 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' strategy** of gradually reducing the fleet's carbon emissions



- Comunidad de Madrid supports the maintenance and development of the fully-electrified 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 becomes the first Public Sector issuer in Spain to align its Green bond with the EU taxonomy and standards

Source: Comunidad de Madrid

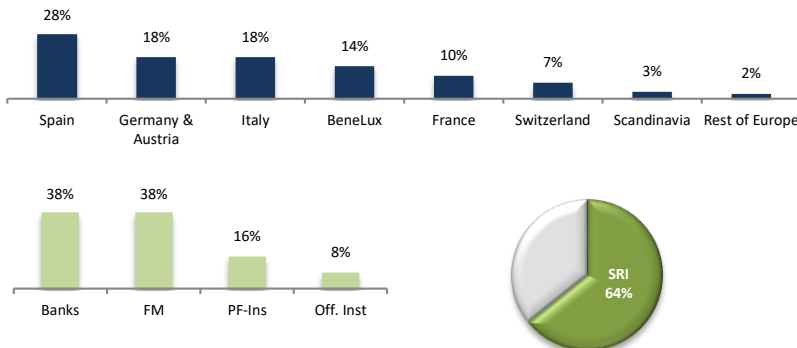


# Comunidad de Madrid 2021 Green Bond review

## Final Terms and Conditions

Issuer	The Autonomus Community of Madrid
Issuer Ratings	Baa1/A-/BBBu/AL (all Stable) Moody's/S&P/Fitch/DBRS
Issue Ratings	A-/AL (S&P/DBRS)
Format	RegS, Bearer Dematerialised (No sales into Canada)
Ranking	Senior, Unsecured
Risk Weighting	0%
Size	EUR 500m
Maturity	30th July 2028
Settlement	26th November 2021 (T+7)
Coupon	0.16% Fixed, Annual, Act/Act - Short first
Reoffer Spread	SPGB 1.4 07/28 (mid) + 11 bps @ 0.05% 94% HR
Reoffer Price	100%
Listing	AIAF
Gov Law	Spanish
Bookrunners	BBVA, CaixaBank, CACIB, DB (B&D) and Santander
ISIN	ES00001010G6

## Investor Type and Geographic Distribution



## Transaction Highlights

- On November 16<sup>th</sup> 2021, the Autonomous Community of Madrid formally mandated banks for a new 7yr Green Bond.
- On November 17<sup>th</sup>, and with substantial lols from investors, IPTs were released at SPGB+14bps area which enabled the book to gain further momentum and continue growing, reaching EUR1bn demand (excluding JLM interest) two hours after the announcement:
  - Books peaked over EUR1.2bn (including JLM interest), allowing to revise price to SPGB+12bps area (+/- 1bps).
  - The strength and the granularity of the book with over 85 accounts involved allowed the Autonomous Community of Madrid to land a final spread of SPGB+11 bps.
- The spread of SPGB+11 bps was the tightest level over SPGB ever printed by the Community of Madrid in a syndicated deal.
- This spread also represents only 1bps new issue premium to its secondary curve in a period of extreme volatility in fixed income markets, which clearly reflects the strong support from its investor base.
- Community of Madrid also consolidated its position as the leading issuer of sustainable bonds, being the first Spanish public sector issuer to print two green syndicated bond deals.



# Highlights of the 2021 Comunidad de Madrid's Second Green Bond



- **The only region in Spain** that has issued Green Bonds so far



- **Comunidad de Madrid is committed to keep on promoting** the ESG bond market and sustainable investments with a Framework that allows the Region to issue Green, Social and Sustainable Bonds



- **The proceeds of the bond** have been allocated to expenditures in Clean Transportation



- **Avoided a total of 144,175 tons** in CO<sub>2</sub>eq atmospheric emissions



- 2021 Green Bond used of proceeds is **fully aligned with the EU Taxonomy**







- **Strong demand** from dedicated ESG investors



# Green Eligible Expenditures for 2021: Use of Proceeds (I)





## Overview of the Green Eligible Expenditures 2021

Eligible Category	Main eligible expenditures	Budgetary Programme	Budget code	UN SDGs	EU Environmental Objectives
Climate change and environmental management	<b>Waste Management:</b> <ul style="list-style-type: none"> <li>Measures to implement the Waste Strategy of Comunidad de Madrid</li> </ul>	16: Environment, Local administration and territorial planning	456N 456B		EU Objective 4: Circular economy
	<b>Clean transportation:</b> <ul style="list-style-type: none"> <li>Promote the manufacture and use of the electric vehicles and points of recharge</li> <li>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</li> </ul>	14: Transport, Social Housing & Infrastructure	453N 456B	 	EU Objective 1: Climate Change Mitigation
	<b>Environmental conservation:</b> <ul style="list-style-type: none"> <li>Management and restoration of Protected Natural Parks and other unique spaces with important conservation value</li> </ul>	16: Environment, Local administration and territorial planning	456A		EU Objective 6: protection and restoration of biodiversity and ecosystems

Source: Comunidad de Madrid

# Green Eligible Expenditures for 2021: Use of Proceeds (II)

## Overview of the Green Eligible Expenditures Portfolio 2021





Green categories	UN SDGs	Amount (EUR m)	Subcategories	Amount (EUR m)
<b>Waste Management</b>		6	Domestic Waste Management	4.9
			Maintenance of the Air Quality Network	1.1
<b>Clean Transportation</b>	 	720.5	EMT Bus	116.5
			Intercity Bus	81
			Metro	387.8
			Measures for the Promotion of Sustainable Mobility	1.4
			Light Train	133.8
<b>Environmental Conservation</b>		7.2	Environmental Education	1.0
			Conservation of Protected Natural Areas	2.3
			Connectivity through Green Infrastructure	2.6
			Protection of Wetlands	0.3
			Recovery and improvement of private forest areas	0.4
			Grants to NPOs with Environmental Purposes	0.5
		<b>733.6</b>		<b>733.6</b>

Source: Comunidad de Madrid







# Green Eligible Expenditures for 2021: Use of Proceeds (III)

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 (tCO <sub>2</sub> )	Vehicles Subsidized	Number of Programs	Intervened Surface (ha)	Projects Selected
Waste Management		6	Domestic Waste Management	4.9	302,726						
			Maintenance of the Air Quality Network	1.1		1,464,357					
Clean Transportation	 	720.5	EMT Bus	116.5			6,280	-			
			Intercity Bus	81			33,426	-			
			Metro	387.8			137,895	-			
			Measures for the Promotion of Sustainable Mobility	1.4			-	3,530			
			Light Train	133.8			6,476	-			
Environmental Conservation		7.2	Environmental Education	1.0					15		
			Conservation of Protected Natural Areas	2.3						118,527	
			Connectivity through Green Infrastructure	2.6						581	
			Protection of Wetlands	0.3						15	
			Recovery and improvement of private forest areas	0.4						6,557	
			Grants to NPOs with Environmental Purposes	0.5							
				733.6	733.6						

Source: Comunidad de Madrid



# 2021 Green Bond: Allocation and Impact reporting

Overview of the allocation of bond proceeds				Impact Indicators	EU Taxonomy (6.3 Urban and suburban transport, road passenger transport)			
Green category	UN SDGs	Subcategories	Allocated Amount (EUR m)	Emissions Avoided (tCO2)	Primary EU Environmental Objective	EU Technical Screening Criteria	DNSH Criteria	Minimum Safeguards
Clean Transportation		EMT Bus	112.2	6,280	EU Objective 1: Climate Mitigation	✓	✓	✓
		Metro	387.8	137,895				
			<b>500</b>	<b>144,175</b>				



# Comunidad de Madrid Green Bond 2021: Impacts in the Region's Public Transport



- **Metro:** the equivalent distance travelled by car would have caused 406,833 tCO<sub>2</sub> emissions



- **EMT bus:** the equivalent distance travelled by car would have caused 9,347 tCO<sub>2</sub> emissions.



- **Intercity bus:** the equivalent distance travelled by car would have caused 63,648 tCO<sub>2</sub> emissions.



- **Light trains:** the equivalent distance travelled by car would have caused 9,173 tCO<sub>2</sub> emissions

**Emissions avoided by Clean Transportation initiatives funded by the 2021 Green Bond proceeds are equivalent to in excess of those of 72,329 passenger vehicles per year\***

**2021 Emissions Avoided by Green Public Transportation means in the Region (tCO<sub>2</sub>): 370,024**

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

# EU Taxonomy alignment process 2021 Green Bond Comunidad de Madrid

- The EU taxonomy is a classification system identifying green economic activities that contribute substantially to one of the European Union's six environmental objectives including climate change.
- In 2022, Comunidad de Madrid has carried out an exercise to assess which proportion of its use of proceeds reported in its second Green Bond (issued in 2021) is aligned with the EU taxonomy.
- In this regard, Comunidad de Madrid has asked DNV to assess Comunidad de Madrid's 2021 Green Bond Use of Proceeds (Clean Transportation) compliance with the EU Taxonomy and has received a positive assessment.
- The assessment is limited to the expenditures allocated to the second Green Bond issued in 2021 by the Region and reported in this document.

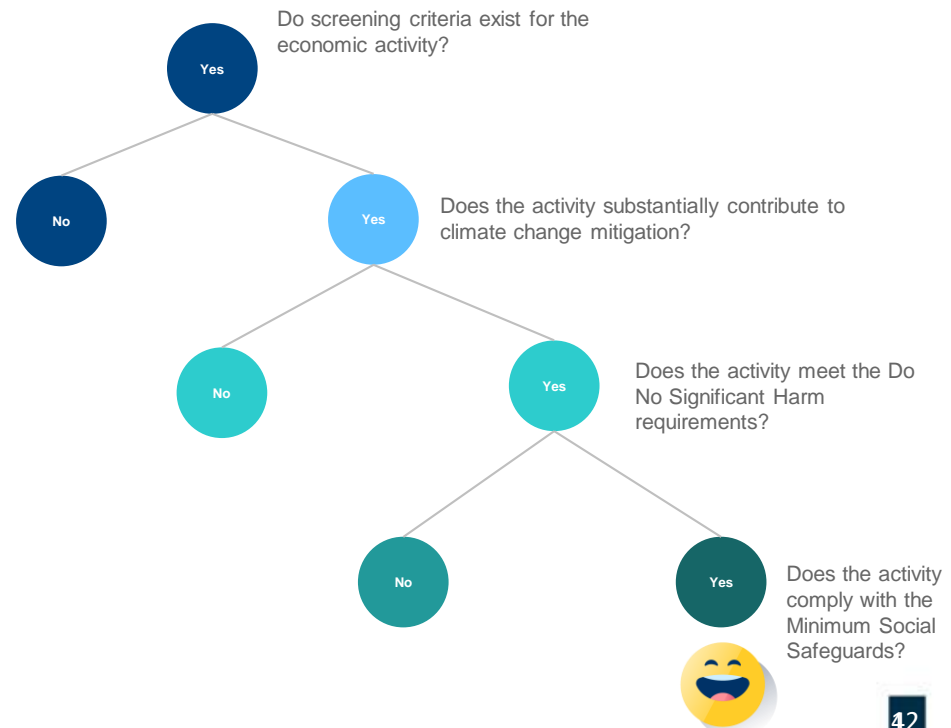
An activity is considered compliant with the EU Taxonomy if:

1. it contributes substantially to one or more of the environmental objectives or enables other activities to make a substantial contribution to one or more of them,
2. it does no significant harm to other environmental objectives, and
3. it complies with social and governance safeguards.

**Taxonomy eligibility**

**Technical screening phase**

**Minimum social safeguards compliance**



# Green Bond 2021: DNV opinion on Taxonomy alignment assessment



WHEN TRUST MATTERS

## GREEN BOND ALLOCATION AND IMPACT REPORTING EU Taxonomy Alignment

Comunidad Autónoma de Madrid



Report No.: 1, Rev. 1  
Document No.: PRJN-446392  
Date: 23/09/2022

**“On the basis of the information provided by Comunidad de Madrid and the work undertaken, it is DNV’s opinion that proceeds have been used on Clean Transport projects that are aligned with the criteria established in the EU Taxonomy for Sustainable Activities– ANNEX 1 to Regulation (EU) 2021/2139 Section 6.3 (i). for DNV GL Business Assurance España S.L.U.”**

## Finding and DNV’s Opinion Alignment to EU Taxonomy

Table 1: Compliance with the technical screening criteria

EU Taxonomy Technical Screening Criteria	Project EU Taxonomy Alignment- Comunidad de Madrid
The activity provides urban or suburban passenger transport, and its direct (tailpipe) CO <sub>2</sub> emissions are zero	Use of proceeds for Metro (EUR 387.8 million) and electric buses (EUR 105.375 million) are zero emissions and hence considered aligned with substantial contribution criteria set by the EU Taxonomy.
Until 31 December 2025, the activity provides interurban passenger road transport using vehicles designated as categories M2 and M3 that have a type of bodywork classified as ‘CA’ (single-deck vehicle), ‘CB’ (double-deck vehicle), ‘CC’ (single-deck articulated vehicle) or ‘CD’ (double-deck articulated vehicle), and comply with the latest EURO VI standard, i.e. both with the requirements of Regulation (EC) No 595/2009 and, from the time of the entry into force of amendments to that Regulation, in those amending acts, even before they become applicable, and with the latest step of the Euro VI standard set out in Table 1 of Appendix 9 to Annex 1 to Regulation (EU) No 582/2011 where the provisions governing that step have entered into force but have not yet become applicable for this type of vehicle. Where such standard is not available, the direct CO <sub>2</sub> emissions of the vehicles are zero.	Use of proceeds for Hybrid buses (EUR 11.125 million) fit in as a transitional activity as referred to in Article 10 of Regulation 2020/852 and are aligned with the technical screening criteria. Comunidad de Madrid has provided type approvals and technical specification of the buses showing compliance with EURO VI standard.
N.A.	Emissions avoided with this UoP have been calculated by Comunidad de Madrid as 137,895 tCO <sub>2</sub> e for Metro, and 6,280 tCO <sub>2</sub> e for buses (EMT).

Table 3: Compliance with the minimum social safeguards

Minimum social safeguards	Project EU Taxonomy Alignment – Comunidad de Madrid
As per article 18 of Regulation (EU) 2020/852: The minimum safeguards referred to in point (c) of Article 3 shall be procedures implemented by an undertaking that is carrying out an economic activity to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.	CSR Policy and Code of Conduct is in place for both Metro and EMT, aligned with the principles and rights set in the UN Guiding Principles on Business and Human Rights and the principles and rights set out in the fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights.  As part of public administration, procurement is regulated by the Public Sector Contracts Act and subject to principles and requirements of responsible procurement, including compliance with ethical standards and respect for the human rights, integrity, transparency and protection of the environment.  DNV has reviewed the information provided and concludes that Comunidad de Madrid complies with the minimum social safeguards in Article 18 of Regulation (EU) 2020/852.

Table 2: Compliance with the “Do no significant harm” (“DNSH”) criteria.

DNSH Criteria	Project EU Taxonomy Alignment – Comunidad de Madrid
(2) Climate change adaptation The activity complies with the criteria set out in Appendix A to Annex 1 (EU) 2021/2139.	Following climate change vulnerability and risk analysis, Comunidad de Madrid issued Plan Azul + 2019-2020, a strategic program of measures for mitigation and adaptation to climate change, to be implemented in Comunidad de Madrid. Furthermore, a new strategy is under development that will set out the broad lines of action up to 2030 to make progress in terms of climate action (mitigation and adaptation) and improvement of air quality, in line with recent international and national guidelines and requirements.  The UoP in Metro and Buses is deemed not to interfere with the adaptation measures contained in Plan Azul, measures for water resources, other vulnerable systems and industries, indicators for climate change adaptation, reforestation,

	increase of carbon sequestration in agricultural soils in the region.  DNV considers this is in line with the criteria established for Climate Change Adaptation in Commission Delegated Regulation (EU) 2021/2139, Annex 1, 6.3 Urban and suburban transport, road passenger transport.
--	--

(3) Sustainable use and protection of water and marine resources N.A.	Not applicable as per Commission Delegated Regulation (EU) 2021/2139, Annex 1, 6.3 Urban and suburban transport, road passenger transport.  However, Metro has provided evidence of extensive water use and management plans for each underground station showing plans and measures to mitigate effects on water resources.
--	--

(4) Transition to a circular economy Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein).	Metro de Madrid and EMT operate under an Environmental Management Systems certified according to ISO 14001.  Responding to a new organisational model in Metro, actions and initiatives are implemented based on integral sustainability, using and optimising stocks and flows of resources (water and energy), materials and waste. Among others recovery of more than 95% of the waste generated, including batteries and electronic products, through improved waste segregation and management.  A strategic plan in place in EMT for circular economy includes projects like the design and construction of a Hydrogen Fueling Station and purchasing of biogas for the supply of CNG.
---	--

	DNV considers this is in line with the criteria established for circular economy in Commission Delegated Regulation (EU) 2021/2139, Annex 1, 6.3 Urban and suburban transport, road passenger transport.
--	--

(5) Pollution prevention and control For road vehicles of categories M, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 of the European Parliament and of the Council and as can be verified from the European Product Registry for Energy Labelling (EPREL). Where applicable, vehicles comply with the requirements of the most recent applicable stage of the Euro VI heavy duty emission type- approval set out in accordance with Regulation (EC) No 595/2009.	Comunidad de Madrid has provided type approvals and technical specification of the buses showing compliance with EURO VI standard and external noise requirements.  DNV considers this is in line with the criteria established for pollution and prevention control in Commission Delegated Regulation (EU) 2021/2139, Annex 1, 6.3 Urban and suburban transport, road passenger transport.
---	--

(6) Protection and restoration of biodiversity and ecosystems N.A.	Not applicable as per Commission Delegated Regulation (EU) 2021/2139, Annex 1, 6.3 Urban and suburban transport, road passenger transport.
---	--



# Clean Transportation Impact 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 IPPC).
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, CO<sub>2</sub> 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<sub>2,k</sub> = CO<sub>2</sub> emissions per vehicle type k.
- Consk = Fuel consumption by vehicle type k.
- FECO<sub>2,k</sub> = CO<sub>2</sub> 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 = CO<sub>2</sub> emissions from electricity consumption (t CO<sub>2</sub>).

CEE = Electrical Energy Consumption (kWh).

FE<sub>CO<sub>2</sub>\_EE</sub> = CO<sub>2</sub> emission factor associated with electricity consumption (t CO<sub>2</sub>/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: 2021

### 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

- CO<sub>2</sub> emission factors and density and PCI parameters for fossil fuels and electricity published by the Spanish Climate Change Office (OECC), available 2020 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.

