



Status-quo Assessment Report

*(Suggested draft –
10-15 pages maximum)*

FMRM – PP6

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Rev.1

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1. General description of your Region and its Demography

1.1 Land area by type

The Region of Murcia is in the southeast of Spain. It occupies a total surface area of 11,313 km² of which 5,400 kms² (47.7%) are agricultural, 3,200 kms² (28.3%) is forestland, and 2,717 kms (24%) is urbanized land. 274 kms² belong to the coast with two seas, the Mediterranean and the Mar Menor. The latter is an inland saltwater lagoon with a surface area of 180 kms².

The climate is semi-arid subtropical Mediterranean with hot summers and mild winters. Rainfall is scarce and irregular. The average temperature is around 19°C and there are an average of over 3.014 hours of sunshine per year, one of the highest in Spain.

The Region of Murcia suffers the consequences of climate change. It is seriously affected by the advance of desertification, rising temperatures, water scarcity and extreme weather phenomena, such as extreme and highly disruptive flooding.

1.2 Population density (including population in urban areas/total)

In 2022 its population was **1,531,878** inhabitants making it the seventh most populous region in Spain with an average population density of 135.40 inhabitants per km², which places it in 11th place among Spanish regions.

Out of the 45 municipalities of the Region of Murcia, only 4 of them have over 50,000 inhabitants: Murcia (the capital city of the region), Cartagena, Lorca, and Molina de Segura. The percentage of population in municipalities with over 50.000 inhabitants represents the **55,97%** of the total population. The population of Murcia grew 0.88% in 2022.

MUNICIPALITY	Total population 2022
Region of Murcia	1.531.878
Murcia	462.979
Cartagena	216.961
Lorca	97.151
Molina de Segura	74.762

Table 1- Municipalities in the Region of Murcia with more than 50,000 inhabitants. Source: CERM (2022)

1.3 Municipalities

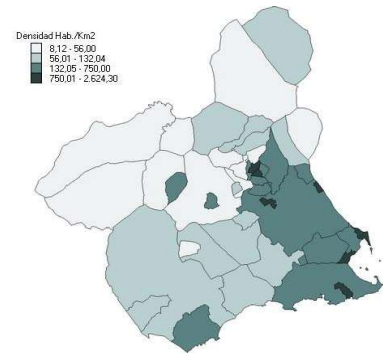
Around 45% of the population resides in small towns and scattered villages. Murcia and Cartagena, have population decentralization levels of over 60%. This is key to understand the

mobility flows in the Region, with a very important component between districts, outlying areas, and main urban centers.¹

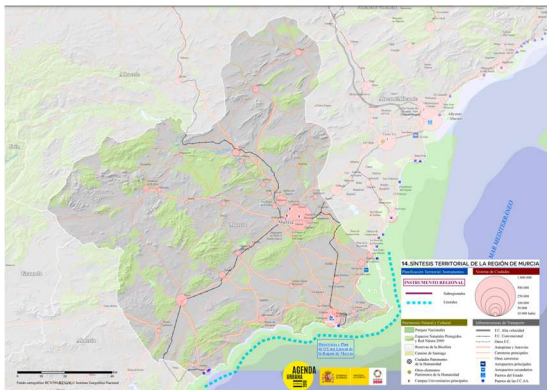
Murcia, capital of the region.

With a surface area of 885.9 kms² (7.8% of the Region), the municipality of Murcia has 462.979 inhabitants, approximately 30% of the total population of the Region. It is the **seventh most populous municipality** in Spain.

Murcia city currently has 59 districts (*pedanías* in Spanish) spread over its municipal territory, with the population of these districts ranging from 25.000 to 400 inhabitants. All these *pedanías* are administratively dependent on the Murcia City Council which operates a decentralised system of co-governance.



2. Regional Factors concerning the theme



2.1 Mobility

The policy we are focusing on in this project, is the Regional Transport Master Plan, which has as one of its objectives to increase the share of public transport in the Region. At national level exists a sustainable mobility law²

Strategic project to connect to Europe

The Mediterranean Corridor, an EU Cohesion Policy project, is underway. It is destined to become a preferential route for Spain's connections with Europe. These corridors go beyond infrastructure, their potential lying in their transversality, as they require a logistics development strategy, where ports, as well as airports, private terminals and the industrial and business fabric,³ are major players.



Figure SEQ Figure * ARABIC 2 - Mediterranean Corridor scheme. Source: RENFE (20023)

This project could contribute to the decarbonisation of transport resulting in a reduction of up to 5.5 million tonnes/year of CO² emissions into the atmosphere.⁴

¹ <https://www.carm.es/web/descarga?ARCHIVO=Plan%20Director%20de%20Transporte.pdf&ALIAS=ARCH&IDCONTENIDO=173218&IDTIPO=60&RASTRO=c398Sm>

² <https://www.mitma.gob.es/el-ministerio/campanas-de-publicidad/ley-de-movilidad-sostenible-y-financiacion-del-transporte>

³ <https://www.adif.es/-/balance-2018-2022-corredor-mediterraneo-murcia>

⁴ <https://www.adif.es/-/balance-2018-2022-corredor-mediterraneo-murcia>

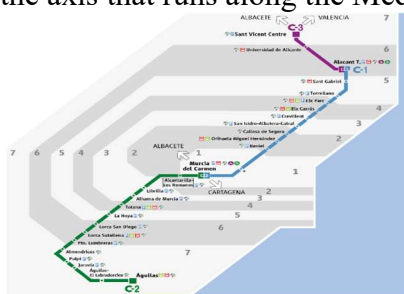
2.1.1 Public network of transport system available in the region

Transport infrastructures in the Region of Murcia are insufficient to meet the mobility needs of citizens and goods with safety and agility although there are investments and developments every year to improve them. The household expenditure for transport in the Region of Murcia in 2022 was 4.737,65 euros (15,06% of the household average total annual expenditure) one thousand euros more than the average in Spain⁵.

The links between the Region of Murcia and other peninsular centres are based on a network of highways, A-30 (linking the region with Madrid), A-33 (linking the region with Valencia and with three important corridors between the centre of the peninsula and the Levante) and A-91 (linking the region with Andalusia, specifically Granada and Seville). These roads, together with other state roads and other regional and municipal roads, are the main routes used for regular journeys.

The Region has 295 km of railway network distributed in 5 passenger lines, one freight line, and an urban tram line. The freight line runs from the Port of Cartagena to the Cartagena - Murcia line. It also has 17 stops and 18 railway stations. The network is structured by operators, which means that there is an urban and peri-urban network, suburban and regional lines, medium distance, and long distance.

The implementation of high-speed trains has improved the connectivity in the Region of Murcia. In terms of rail transport, there are two main axes that cross the municipality of Murcia: the axis that runs along the Mediterranean coast from Cartagena to Montpellier; and the radial



axis Murcia-Madrid-Cartagena. To this must be added the regional lines connecting with Alicante province, the so-called Cercanías lines. More than 2.7 million passengers used the Cercanías trains in the Murcia and Alicante route during the year 2022. This represents an increase of more than half a million new users compared to 2021 and puts the growth rate at 23.3%.

In the Region of Murcia, 8 municipalities, with a population equivalent to 66% of the regional population, have a municipal urban transport service⁶.

All municipalities except for one have set up or are working to establish sustainable mobility plans either through an Urban Agenda (AUE)⁷, a Sustainable Urban Mobility Plans (PMUS)⁸, or the PACES⁹.

2.1.2 Description and data on current bus fleet (non e-buses) in city/area

The primary mode of public transportation within the region for both urban and interurban transportation is buses. In September 2023 urban transport was used by two million travellers, 30,0% more than in September, 2022¹⁰.

⁵ https://econet.carm.es/inicio/-/crem/sicrem/PU_datosBasicos/sec45.html

⁶ <https://www.carm.es/web/descarga?ARCHIVO=Plan%20Director%20de%20Transporte.pdf&ALIAS=ARCH&IDCONTENIDO=173218&IDTIPO=60&RASTRO=c398Sm70344>

⁷ A strategic document of a non-regulatory, and thus voluntary, nature that, according with the criteria set out in the 2030 Agenda, the new United Nations Urban Agenda and the Urban Agenda for the European Union, seeks to achieve sustainability in urban development policies. Its Goal 5 Promotes proximity and sustainable mobility.

⁸ <https://www.eltis.org/mobility-plans/11-what-sustainable-urban-mobility-plan>

⁹ <https://eu-mayors.ec.europa.eu/en/about>

¹⁰ <https://www.ine.es/jaxiT3/Datos.htm?t=20240>

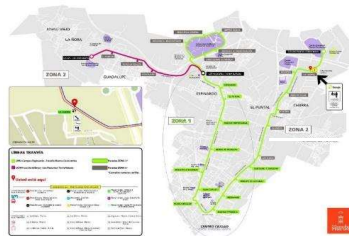


Most of the fleet is still powered by diesel. In 2023 a few electric buses have been bought and further investments have been announced.

	2010	2011	20*2	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Autobuses													
TOTAL	1.761	1.757	1.732	1.654	1.658	1.627	1.677	1.824	1.880	1.877	1.934	2.033	1.920
Gasolina	25	24	22	22	2	2	2	3	3	3	3	3	3
Diesel	1.734	1.731	1.684	1.606	1.630	1.599	1.647	1.792	1.849	1.842	1.896	1.993	1.882
Eléctrico													
Otro carburante	2	2	26	26	26	26	28	29	28	32	35	37	35
Gas Licuado de Petróleo													2
Gas Natural Comprimido			24	24	24	24	26	27	27	31	34	36	32
Otros	2	2	2	2	2	2	2	2	1	1	1	1	1

Tramway:

Since 2012, the city of Murcia has had a radial public transport system with a total length of 18 kilometres. While the service is highly appreciated it is very limited and it will be key whether it will be further developed.



2.1.3 Description and data on current private vehicles (non & electric ones) in the city/area

The motor vehicle (petrol/diesel) is the real protagonist of mobility in the municipality of Murcia. The number of private vehicles in the Region of Murcia is over 1 million, the number of vehicles per 1.000 inhabitants in the Region of Murcia in 2022 was 760.7.

Turismos	2010	2011	20*2	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TOTAL	688.004	690.188	688.887	682.050	685.074	695.882	715.011	738.763	759.387	783.003	792.948	805.066	817.047
Gasolina	278.718	272.525	264.861	253.701	246.585	244.442	246.730	252.192	261.346	274.617	279.008	286.590	294.766
Diesel	409.244	417.623	423.973	428.270	438.378	451.290	468.073	486.229	497.176	506.824	511.852	515.434	518.260
Eléctrico			4	19	36	55	82	153	307	475	793	1.264	1.877
Otro carburante	42	40	49	60	75	95	126	189	558	1.087	1.295	1.778	2.144
Gas Licuado de Petróleo			8	19	30	49	75	130	464	930	1.087	1.535	1.879
Gas Natural Comprimido							4	11	49	108	157	183	205
Gas Natural Licuado					1	1	1	2		2	4	3	3
Butano	5	5	5	5	5	5	5	6	5	4	4	4	4
Hidrógeno											1	1	1
Etanol			1	1	1	1	1	1	1	1	1	1	1
Biodiesel							1	1	1	1	1	1	1
Solar	1	1	1	1	1	1	1	1					
Otros	36	34	34	34	35	36	36	34	34	36	36	46	45
Sin especificar					2	2	2	3	4	5	4	4	5

By September 4, 2023, only 2% of the public aids for electric vehicles and chargers (Plan Moves III¹¹) were processed by the regional government, grants to technological companies were also frozen. At this date the regional government has 14.3 million from the Moves III plan that it has not started to pay. The regional government states that the funds will not be lost and the requests are being processed.

Public Bicycles:

Different municipalities have started public bicycle projects. To give an example, the Municipal Bicycle Office of the City Council of Murcia has 600 public bicycles, 60 bicycle loan stations and 117 km of bicycle lanes distributed around the city. It should be noted that the bicycles offered by this service are not electric.

However, 29% of Murcia residents use bicycles to get around the city at least once a week, and 5% do so regularly, according to a survey carried out by the Organisation of Consumers and Users (OCU) in 2020.

Bicycle lanes and bicycle usage in cities have become a political subject in the last year with the extreme right parties defending their abolishment to give way to cars. Still most municipalities continue expanding bicycle lanes as is the case for Cartagena that will add a further 7km following their mobility plan CartagenaGO!. Cartagena has so far received 9M from Next Generation funds for sustainable mobility. Murcia city has just also significantly expanded its bicycle lanes.

E-Taxis:

E-taxis are starting to be seen and promoted in certain municipalities. For example, in 2022, the Murcia City Council launched the call for applications and regulations for the granting of subsidies for the granting of aid for the purchase of new Zero Emission, ECO hybrid or ECO CNG or LPG powered vehicles as e-taxis. The aim is to promote the progressive replacement of vehicles used for taxi services by others with low or zero emissions, with the aim of reducing the pollution produced by these vehicles by 50% in 2030 and 100% in 2040.

The total taxi fleet of the city of Murcia as public service is formed by 289 vehicles (as of 31 July each year). According to data provided by the Council, there are currently around 60% hybrid taxis out of the total fleet of 289 taxis, but there are no 100% electric taxis, as in other cities of Spain.

E-Scooters:

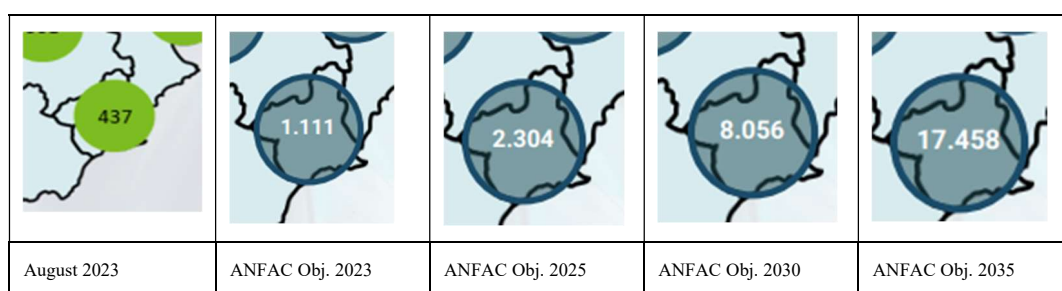
	2010	2011	20*2	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Motocicletas													
TOTAL	87.621	90.029	91.765	93.199	95.998	99.565	103.649	107.281	111.281	115.773	120.183	124.737	129.037
Gasolina	87.374	89.724	91.163	92.571	95.363	98.901	102.973	106.575	110.584	115.021	119.364	123.777	127.871
Diesel	169	167	167	170	145	172	196	227	252	286	309	333	342
Eléctrico	74	134	431	455	485	486	477	472	439	449	495	609	805
Otro carburante	4	4	4	3	5	6	3	7	6	17	15	18	19
Gas Licuado de Petróleo									1	11	10	11	11
Gas Natural Comprimido										1	1	1	1
Otros	4	4	4	3	3	4	3	4	3	3	3	3	4
Sin especificar					2	2		3	2	2	1	3	3
Ciclomotores													
TOTAL	114.296	111.099	108.186	105.158	102.928	100.814	98.943	97.481	95.852	94.372	93.563	92.493	91.607
Gasolina	111.611	108.368	105.420	102.402	100.445	98.314	96.461	94.965	93.306	91.708	90.841	89.629	88.608
Diesel	2.635	2.668	2.674	2.654	2.374	2.388	2.381	2.400	2.403	2.436	2.429	2.456	2.463
Eléctrico	50	63	92	102	109	112	101	116	143	228	293	407	533
Otro carburante												1	3
Gas Natural Licuado												1	1
Sin especificar													2

¹¹ [Royal Decree 406/2023, de 29 de mayo](#) modifying [Royal Decree 266/2021, de 13 de abril](#).

Some municipalities have started offering a public scooter lending service. As part of the municipal programme “Sustainable Murcia”, the programme has an electric scooter rental system. The service was launched with 50 scooters available, expanding with 50 more units to transit all over the city.

2.1.5 Description and data on charging infrastructures

The Region of Murcia has 437 charging stations for electric vehicles. These charging stations (private and public) are located throughout the region. Many existing stations are not available and the municipalities are dealing with the challenges that they present (noise complaints from neighbours, cars charging in places reserved for motorbikes and bicycles, cars using the spots as unlimited free parking spaces.....). To meet the Fit for 55¹² objectives, the region should end 2023 with 1.111, have 2.304 in 2025, 8.056 in 2030 and 17.458 in 2035 according to The Spanish Association of trucks and cars manufacturers (ANFAC¹³).



2.2 Energy

The **Strategic Plan of the Region of Murcia 2022-2027**, (action D "*Optimising the water and energy system*")¹⁴ aims to contribute to a more decarbonised energy system by exploiting all the possibilities offered by renewables and hydrogen, some of its most relevant lines of action related to energy are:

- Support for the development and implementation of renewable energy plants and their integration into grids.
- Energy rehabilitation of buildings.
- Promotion of energy saving and efficiency projects.
- Support for sustainable urban and metropolitan mobility.

2.2.1 Availability of renewable energy in the region

The region has abundant solar and wind resources, and there are also several geothermal and biomass resources available.

¹² <https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>

¹³ <file:///C:/Users/Manuel%20Pato/Downloads/Propuesta-ANFAC-Mapa-de-Infraestructuras-de-recarga-de-acceso-publico-con-objetivos-Fit-for-55.pdf>

¹⁴ https://media.timtul.com/media/web_ajemurcia/Resumen%20ejecutivo%20Plan%20Estrategico%20de%201a%20Region%20de%20Murcia%202022-2027_20221216075114.pdf

Producción Neta (MWh)	MURCIA (Región de)								
	2021	2020	2019	2018	2017	2016	2015	2014	2013
TOTAL	9.398.717,1	10.461.991,6	10.299.254,5	6.202.303,0	6.539.670,4	4.188.100,6	5.107.022,4	5.572.417,6	6.082.792,4
Hidráulica	85.954,9	93.143,1	62.552,1	58.590,2	38.366,4	60.142,4	66.387,0	80.491,0	77.964,7
Bombeo puro					0,0	0,0	0,0	0,0	0,0
Bombeo mixto					0,0	0,0	0,0	0,0	0,0
Combustibles	6.840.539,5	8.051.361,7	8.683.410,1	4.875.378,0					
Nuclear	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Carbón					0,0	0,0	0,0	0,0	0,0
Fuel+gas y ciclo combinado					3.430.480,6	1.110.535,4	2.042.860,0	2.335.940,0	2.340.954,0
Resto hidráulica					16.713,5	30.462,0	46.010,2	50.568,0	56.435,2
Eólica	437.785,8	428.030,6	526.111,2	492.629,7	436.697,2	458.667,5	427.078,4	513.257,0	545.501,4
Solar									
Solar fotovoltaica	1.999.443,8	1.849.950,2	984.672,6	738.116,8	774.159,4	743.053,1	759.662,1	796.691,4	799.104,2
Solar térmica	34.993,2	39.506,0	42.508,6	37.588,3	43.106,3	40.762,7	35.637,9	41.362,9	43.024,0
Cogeneración					1.752.808,3	1.703.323,8	1.688.905,7	1.716.812,4	2.181.291,1
Térmica renovable y resto					47.338,7	41.153,7	40.481,2	37.295,0	38.518,0

The Region of Murcia could become a benchmark in the decarbonisation of the energy sector, thanks to its more than 300 days of sunshine a year (3.000 sunshine hours per year).

2.2.2 Share of renewable energy source in energy production

The most important renewable energy source in the region is **solar photovoltaic**, which accounts for 21% of the total energy net production. Wind power accounts for 5% of the total net energy production, and other renewable energy sources account for 1.3%.

Solar energy has a global solar irradiation of more than 5 kWh/m². The energy potential is 57.7 TWh/year, without applying environmental or technical restrictions. Photovoltaic electrolysis for hydrogen generation is presented as a new area of renewable generation with great potential.

Eolic energy is another important energy resource in the Region. 6.37% of the territory could have a wind resource that could be exploited at a height of 80m. The wind energy potential is estimated at 2.9 GW, which would generate around 5.5 TWh/year.

The potential energy use available from **biomass** is estimated at 1,362,342 tn/year, which would translate into 3.3 TWh/year. Agricultural biomass, mainly agricultural residues, would represent 93.7%, the rest being of forestry origin.

2.2.3 Regional energy market structure (e.g. energy production, electricity grids, transport of energy, energy delivery to customers, ownership and operation)

The regional distribution of energy in the Region of Murcia is operated by Iberdrola. The regional energy market is also open to competition from other energy suppliers. Electricity is delivered to customers through various energy supply companies, which can be private or public entities. Customers can choose their energy provider, offering some degree of competition and choice in the market. The Spanish government and regional authorities set regulations and policies related to energy supply, pricing, and energy efficiency initiatives. In Spain there are 333 distribution companies although most of the territory is assigned to 5 companies: Iberdrola Distribución Eléctrica S.A., Endesa Distribución Eléctrica S.L., Unión Fenosa Distribución S.A., EDP: Hidrocarbónico Distribución Eléctrica S.A., Viesgo Distribución Eléctrica S.L.

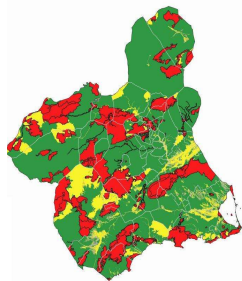


Electricity grid and energy transport:

The National Plan for the development of the electricity transmission grid for the period 2021-2026 has planned to implement a project to improve the security of supply of the demand of the city of Murcia, to support the vegetative growth of demand in the event of failures in the existing transmission-distribution transformation, as well as to facilitate the evacuation of renewables in the distribution network. The actions included allow for the improvement of the transport-distribution interface in the Region of Murcia.

Moreover, grid development is key to the integration of new renewable generation that will drive the ecological transition process in Spain in the coming years. For that, the above-mentioned National Plan also foresees the implementation of “Action ESTE_2: Integration of renewables and resolution of technical restrictions - Abanilla Connection”. The foreseen actions enable the connection and integration of renewable generation in the Murcia Region.

Concerning the energy production through solar energy, in order to guarantee the appropriate territorial and environmental integration of any photovoltaic installation, the Government of the Region of Murcia has drawn up a map of territorial suitability for the generation of photovoltaic solar energy, which establishes the most recommendable areas for the implementation of this type of installation at a large scale.



Land suitability map for solar photovoltaic power production:



2.2.4 Description of current state of Energy Communities (CER)

The European Directives that regulate Energy Communities have not been fully transposed in Spain yet and therefore the legal framework for Energy communities is still not completely in place. Still, there are, as of the latest available data, 518 CER in Spain¹⁵, of which 6 are in the Region of Murcia.

¹⁵ <https://oficinatransicionenergetica.com/mapa-comunidades-energeticas/>



Map of Energy Communities in the Region of Murcia. Source: Office of Energy Transition (2023)

- 1) Bullas¹⁶ to destine the energy surplus to families suffering energy poverty. The project is a collaboration between the Bullas townhall, a cooperative and a consultancy. Between 60 and 90 families benefit from it.
- 2) Cartagena¹⁷.
- 3) Comunidad Energética Local de Murcia¹⁸. With the collaboration of the Murcia townhall.
- 4) SOLUCIÓN ENERGÉTICA COLECTIVA LUMBRERENSE supported by Next Generation Funds.

There are also projects that allow auto consumption in neighbouring communities that have not been constituted as CER like PRECEPT¹⁹ project for residential buildings, co-funded by Horizon 2020. On Sept. 2023 the Institute for the diversification and saving of energy (IDAE) has given grants to four regional community transformation offices to promote and dynamize economic communities. They will do three types of actions: diffusion, counsel, and support.

2.3 Infrastructures as potential hubs

2.3.1 Buildings and other public premises

Regional Public Administration buildings:

- The regional building stock counts 409 buildings with a yearly consumption of 107 Gwh and 26,6 million € of energy bill (2016).
- 175 public facilities and buildings participated in the pilot action in Murcia of the project CITYnvest²⁰ (a Horizon 2020 project), for the renovation of the public building stock owned by the regional authority.

Educational buildings:

- 2 public universities: 1) University of Murcia (UMU). The UMU has plenty of solar panels through the campus, thermal solar panels, compost stations and 9 small aerogenerators;



- 2) Polytechnic University of Cartagena (UPCT) has a sustainable mobility plan and 1 Private University (UCAM);

¹⁶ <https://mejorconectados.com/comunidad-energetica-renovable-bullas/>

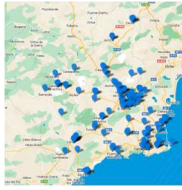
¹⁷ <https://ekiluz.com/proyectos/complejo-industrial-repsol-cartagena/>

¹⁸ <http://celm.es/>

¹⁹ <https://www.cicconstruccion.com/texto-diario/mostrar/3239420/proyecto-europeo-precept-abriendo-puertas-desarrollo-edificios-residenciales-proactivos>

²⁰ <http://citynvest.eu/home>

- 124 Public High Schools



- 395 Public Elementary Schools²¹. There is a regional plan of energy efficiency and bioclimatic conversion co-financed by FEDER funds with more than 40 million euros to install solar panels for their own usage in 56 schools. In 2020-2022 it was implemented in 15 schools, in 11 in 2023 and 30 more to be done in 2024.



Public health care buildings:

There are 117 public healthcare centers out of which 11 are hospitals which account for 87% of the energy consumption. The Regional government has announced 52.2 million euros for the 2020-2030 period (co-funded by the FEDER and React-EU programs) to improve the energy efficiency of these centers. The program is based on six strategic lines and its concrete measures include amongst other things photovoltaic installations in the 11 hospitals. These have the potential to generate 6519kWp. It is estimated that these installations in hospitals would mean 2.9 million euro savings per year with a ROI of 2.5 years. This program has been considered by the European program “Hospitals for EurOPE” one of the three best practices in Spain and an example of environmental excellency for health systems in 2023.

Other public buildings:

There are regional and municipal programs for the installation of thermal and solar panels in these type of buildings.

- Bus stations
- Sport centres and other sport facilities
- Municipal Social Centres
- Municipal cultural centres and museums

2.3.2 Buildings and other premises (private)

There are regional and municipal programs for the installation of thermal and solar panels in these type of buildings:

- Neighbourhood associations
- Social housing
- Factories and other premises in industrial estates
- 6 industrial estates in Murcia

²¹ <https://mapaescolar.murciaeduca.es/>

- Logistics Activities Zone
- Agriculture cooperatives buildings and facilities
- 4 large shopping centres

2.3.3 Open areas

- Open areas in the Region of Murcia, including vacant lands and unused spaces, present opportunities for sustainable energy developments and some are being used as solar and wind farms. Agri photovoltaic and floating farms also exist in the region.

3. Key Stakeholders

ENTITY	TYPE
Region of Murcia Development and Infrastructures Council	Regional public administration
University of Murcia (UMU)	Public university
San Antonio Catholic University of Murcia (UCAM)	Private university
Municipality of Murcia	Municipality of more than 50.000 inhabitants.
Municipality of Alcantarilla	Municipality of less than 50.000 inhabitants.
Municipality of Aguilas	Municipality of less than 50.000 inhabitants.
Municipality of Lorquí	Municipality of less than 50.000 inhabitants.
Municipality of Cieza	Municipality of less than 50.000 inhabitants.
TRANVÍA: Tramway of Murcia	Private enterprise
Electric Sun Mobility	Cooperative
Regional Confederation of Business Organisations of Murcia (CROEM)	Association
Regional Federation of Metal Entrepreneurs of Murcia (FREMM)	Association
Road Transport Business Association (FROET)	Association
Business Association for the Development and Promotion of Electric Mobility (AEDIVE)	Association
Electric Vehicle Users Association (AUVE)	Association

Strategies for their mobilization and ongoing involvement in the project Phases 1 & 2

The FMRM is a key player in the regional ecosystem, through its extensive collaboration with both public administration and private sector actors.

It takes part in advisory boards and decision-making bodies of the government of the Region, ensuring the representation of the municipalities at a regional level. Mayors and designated councillors from the 45 town councils are part of this structure and of the organization chart of FMRM, providing it with a direct influence in the political decisions taken in the municipalities and with direct connection to them.

After the first outreach and information contact with the group's stakeholders, a mailing list will be created for the distribution of all meeting and project materials. The purpose of this list will be to maintain contact and inform the group's members.

In addition, the FMRM will be supported externally by a company specialised in co-creation activities for the facilitation of the activities planned in stakeholders meeting: workshops on specific issues, surveys and questionnaires, storytelling, brainstorming, mind mapping, design thinking, or rapid prototyping encouraging innovation and creativity. They will play the role of facilitator of the different sessions of the stakeholder group, to enhance their participation and achieve a continuous commitment over time by the actors involved.

4. Legislative and financial environment in support to renewable energy initiatives

4.1 Legislation, regulations etc.

National:

- **Royal Decree-Law 23/2020** defines **Renewable Energy Communities** as "legal entities based on open and voluntary participation, autonomous and effectively controlled by partners or members that are located in the vicinity of renewable energy projects owned and developed by such legal entities, whose partners or members are natural persons, SMEs or local authorities, including municipalities, and whose primary purpose is to provide environmental, economic or social benefits to their partners or members or to the local areas where they operate, rather than financial gain."
- Directive (EU) 2018/2001 of 11 December, on the promotion of the use of renewable energy sources, introduces the renewables communities that provide environmental benefits, and economic and social rights. Similarly, Directive (EU) 2019/944 of 5 June, on common rules for the internal electricity market and amending Directive 2012/27/EU, introduces citizens' communities of energy, which make up a vehicle for citizen participation in aspects relating to the electrical sector. There is a royal decree draft to mainstream national legal principles governing these communities and transposing fully these two directives, introducing a framework that provides legal certainty, the identification and elimination of barriers and measures for their development.
- Collective self-consumption is regulated by different Royal Decrees: 15/2018; 244/2019, TED order /1247/2021, modifying RD 244/2019, Law 29/2021, 14/2022,18/2022, 20/2022.
- **Royal Decree 1124/2021**, amended by Royal Decree 377/2022, approved the direct grant to the Spanish autonomous communities of aid for the **execution of incentive programmes for the implementation of thermal renewable energy installations** in different sectors of the economy, within the framework of the Recovery, Transformation and Resilience Plan (PRTR).
- **Royal Decree 266/2021, of 13 April**, which approves the direct grant of aid to the Spanish autonomous communities and for the **implementation of incentive**

programmes linked to electric mobility (MOVES III) within the framework of the European Recovery, Transformation and Resilience Plan.

Local:

- **Sustainable Urban Mobility Plan of Murcia**
- **Urban Agenda - Murcia 2030 Action Plan**
- **Integrated Urban Development Strategy "it Murcia: Innovation + Tradition":** Promotion of sustainable urban mobility: clean urban transport, collective transport, urban-rural connection, road network improvements, cycling, pedestrian transport, electric mobility and development of clean energy supply systems. Improving energy efficiency and increasing renewable energy in urban areas.
- **Sustainable Energy and Climate Action Plan (SECAP)**
- **Murcia’s Circular Economy Strategy – Action Plan**

4.2 Financial incentives etc.

National:

- **Incentive programme for unique energy community pilot projects ("CE IMPLEMENTA"):** The aid is awarded in the form of a non-repayable grant, which will be definitively received by the beneficiary once the implementation of the project has been verified and the investment has been certified. In order to facilitate the financing of the projects, 80% of the aid granted may be advanced to the beneficiary.
- **Income tax Deductions for energy rehabilitation of dwellings - R.D. Law 29/2021:** tax deductions of 20, 40 and 60% on works aimed at improving the energy efficiency of households for works carried out from Oct. 2021 to Dec. 2023.

Regional:

- **Grants for energy self-consumption installations in the service and other productive sectors, residential sector, public administrations and third sector and thermal applications in the residential sector.**
- **Grants for rehabilitation works at building scale:** Subsidies aimed at financing works in buildings of predominantly residential use, provided that a reduction of at least 30% is obtained in the non-renewable primary energy consumption.

5. S.W.O.T Analysis

STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> ● Availability of renewable energy resources ● Existing renewable energy installations. ● High solar energy potential (abundant solar resource) ● Availability of geological resources ● Financial incentives and favourable regulations to foster energy communities 	<ul style="list-style-type: none"> ● Overall penetration of renewable energy sources remains relatively low. ● High greenhouse gas emissions ● High share of hydrocarbons in the transport and mobility sectors. ● Economic constraints to finance renewable projects and energy communities. ● Scalability challenges to adapt mobility infrastructures to renewable energy-based vehicles and charging stations.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ● Policies that encourage the development of renewable energy systems. 	<ul style="list-style-type: none"> ● Uncertainty of energy supply and energy production costs

- EU funding for renewable projects can boost the region's energy communities.
- Development of renewable energy service companies and other business models
- High energy saving potential.
- Promoting energy self-sufficiency in the region reducing external dependency
- High impact of climate change effects
- Changes in policies or support for renewable energy could impact viability.
- Market barriers slow down the integration of energy communities into the grid.

6. Readiness model indicator results

CATEGORY			
1. Legislative		3	1
2. Behavioural/ Organisational		5	
3. Economic		8	
4. Technological		5	2
5. Operation scope and environment. Other features	8	1	6
TOTAL SCORE	8	22	9

7. Summary:

Overall, the creation of energy communities in the Region of Murcia presents an opportunity to capitalize on its abundant solar, wind and biomass energy sources to accelerate renewable energy adoption to boost a more sustainable mobility.

One of the main Drivers which is fully ready is the National and Regional government incentives and favourable regulations for renewable energy projects and energy communities that encourage investment and participation. Access to funding, subsidies, and grants for renewable energy initiatives can reduce the financial burden on individuals and communities, making projects more attractive. However, relevant directives for EC's are not fully transposed yet even if despite this, there are already more than 500 Energy Communities in Spain which can be a role model for those in the Region of Murcia.

To fully realize these opportunities, the region must address challenges related to regulatory barriers, economic constraints, low society's awareness fossil fuel dependency.

Concerning "Operation scope and environment", the Region of Murcia energy landscape is characterized by fossil fuel dependency and that reliance on traditional fossil fuel-based energy sources may encounter financial difficulties to evolve to renewable energy in the region. Besides, existing energy infrastructure and contracts with conventional energy providers may create resistance to change. Moreover, in the Readiness Model can be seen that the Region of Murcia's data on electric transport means on total is not relevant or there's no data available now, being this category where indicators are not ready (Red).

By leveraging government support, fostering collaborations, and embracing green mobility initiatives, Murcia can position itself as a leading region in Spain for renewable energy integration and sustainable community development.