

# VOLUNTARY LOCAL REVIEW 2024



SUSTAINABLE  
DEVELOPMENT  
**GOALS**

11 SUSTAINABLE CITIES  
AND COMMUNITIES



13 CLIMATE ACTION



MARINGÁ  
PREFEITURA

IPPLAM  
INSTITUTO DE PESQUISA E  
PLANEJAMENTO URBANO  
DE MARINGÁ

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INSTITUTE FOR RESEARCH AND URBAN PLANNING OF  
MARINGÁ, Maringá City Hall

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1. Sustainable development goals 2. Location of SDGs in Municipalities

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## CONTENT AND ORGANIZATION



### MARINGÁ

City Hall

The Voluntary Local Review (VLR) was prepared with the support of the project "Implementing the 2030 Agenda locally through urban development - cities, towns, villages and countries in a data- and guiding principle-based dialogue on urban development-related aspects of global sustainability" within the research programme "Experimental Housing and Urban Development" (ExWoSt) which is being conducted by the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) on behalf of the Federal Ministry for Housing, Urban Development and Building (BMWSB).

Maringá, 2024

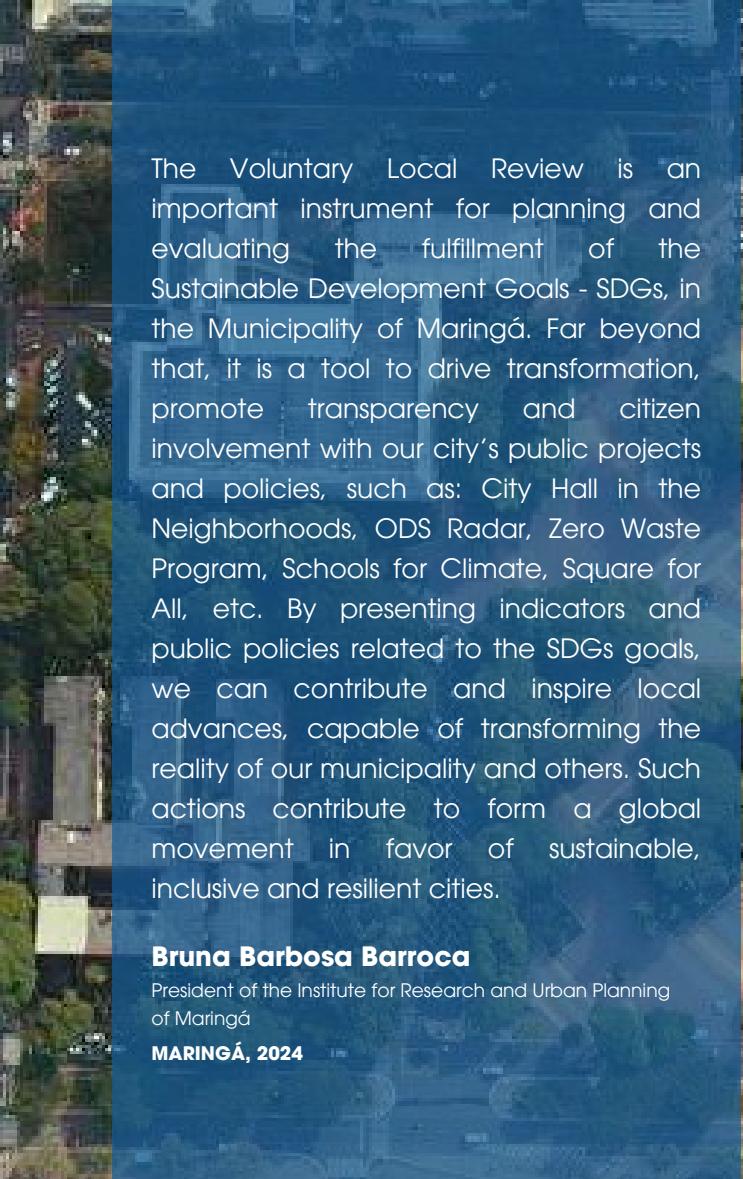
With funding from the



Federal Ministry  
for Housing, Urban Development  
and Building

by decision of  
the German Bundestag

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DE MARINGÁ

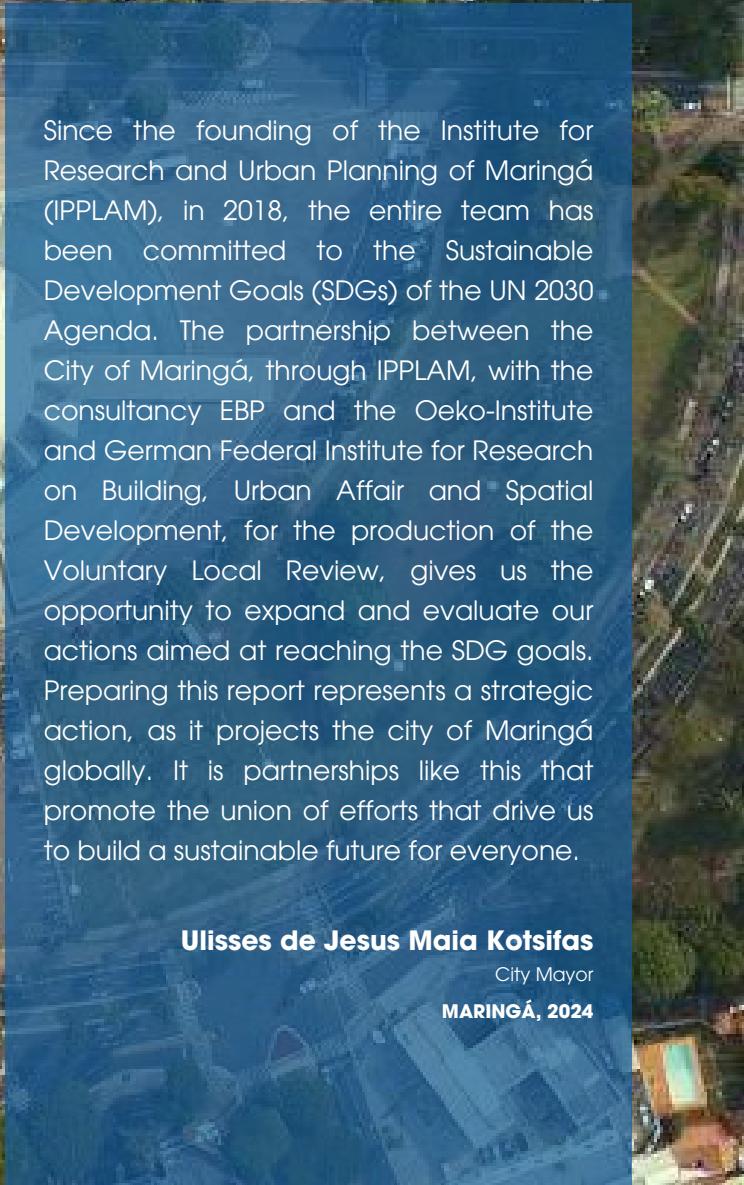


The Voluntary Local Review is an important instrument for planning and evaluating the fulfillment of the Sustainable Development Goals - SDGs, in the Municipality of Maringá. Far beyond that, it is a tool to drive transformation, promote transparency and citizen involvement with our city's public projects and policies, such as: City Hall in the Neighborhoods, ODS Radar, Zero Waste Program, Schools for Climate, Square for All, etc. By presenting indicators and public policies related to the SDGs goals, we can contribute and inspire local advances, capable of transforming the reality of our municipality and others. Such actions contribute to form a global movement in favor of sustainable, inclusive and resilient cities.

**Bruna Barbosa Barroca**

President of the Institute for Research and Urban Planning of Maringá

**MARINGÁ, 2024**



Since the founding of the Institute for Research and Urban Planning of Maringá (IPPLAM), in 2018, the entire team has been committed to the Sustainable Development Goals (SDGs) of the UN 2030 Agenda. The partnership between the City of Maringá, through IPPLAM, with the consultancy EBP and the Oeko-Institute and German Federal Institute for Research on Building, Urban Affair and Spatial Development, for the production of the Voluntary Local Review, gives us the opportunity to expand and evaluate our actions aimed at reaching the SDG goals. Preparing this report represents a strategic action, as it projects the city of Maringá globally. It is partnerships like this that promote the union of efforts that drive us to build a sustainable future for everyone.

**Ulisses de Jesus Maia Kotsifas**

City Mayor

**MARINGÁ, 2024**



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>> Ingá Park

# MARINGÁ

## A BRIEF PRESENTATION

Founded in 1947, Maringá is the third-largest city by population in the State of Paraná, with 409.657 inhabitants, according to the last census carried out in Brazil, through the Brazilian Institute of Geography and Statistics (IBGE), in 2022. Of this population, 52.3% are women and 47.7% are men. Furthermore, of the total population, 22.35% is represented by children and young people, from 0 to 19 years old, 59.35% is represented by the adult population, from 20 to 59 years old, and 18.31% of this population are elderly, aged 60 or over.

Its territorial area is 487.012km<sup>2</sup> and its project, dating from 1943, has a notable presence of wide avenues and green areas, forming large urban parks, based on the preservation of the riparian forests of the streams, known as valley bottom areas. These areas constitute an important urban planning asset for the city, both for environmental issues and for infrastructure and quality of life.

This focus on planning, since its creation, has meant that nowadays the city has a good urban mobility and a fully expanding cycling network, in addition to close contact with nature. Furthermore, urban afforestation is also highlighted, making Maringá synonymous with a green city, receiving the title of Tree City of the World, in 2022 and 2023, recognition from the Food and Agriculture Organization of the United Nations (FAO-UN) and The Arbor Day Foundation.

Maringá is a city that also stands out for its commitment to sustainable development, resulting in a high Human Development Index (HDI) and quality of life for its inhabitants. Currently, the municipality's MHDI is the 23rd best index in the country and the 2nd best in the state of Paraná (IDHM 2022 - Atlas BR).

It's also important to highlight other indexes such as the Firjan Fiscal Management Index (IFGF) related to Autonomy and Liquidity. The first, rated 1 in 2022 (highest score), denotes the ability to finance the administrative structure. The second, valued at 0.9159 in 2022, denotes compliance with financial obligations (IFGF - 2023). In 2022, referring to the base year of 2019, the city stood out with the 5th best GDP (Gross Domestic Product) in the country, compared to cities of the same size (IBGE - 2022).

Another milestone in the city's economic development is the regional airport, that, since 2007, has been enabled for international cargo aircraft traffic and has a cargo terminal bonded by the Federal Revenue Service, as well as an ANVISA office, streamlining its operations. The airport is classified as AP2 and has a recognized movement of between 600,000 and 1,000,000 people per year.

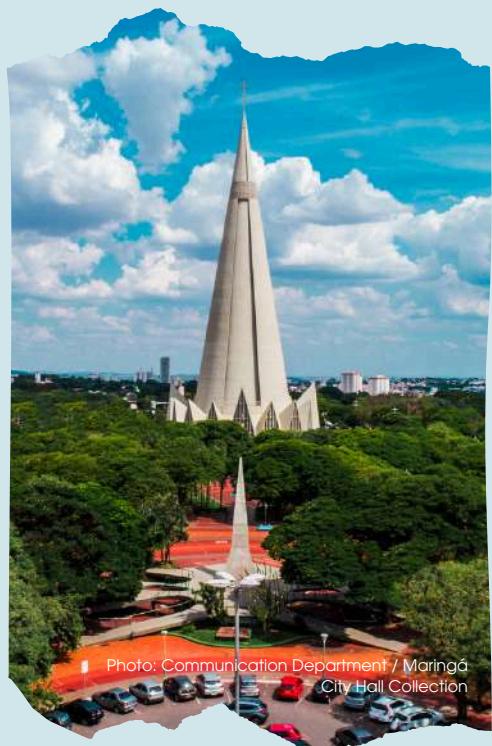


Photo: Communication Department / Maringá City Hall Collection

>> Monumental Axis of Maringá





Another point that deserves to be highlighted in Maringá is the educational hub formed in the city, which drives the growth of the population's income. According to data collected by the Paraná Institute of Economic and Social Development (IPARDES), in 2022 Maringá already had 13 Higher Education Institutions based in the city, 29,526 students enrolled in on-site undergraduate courses and 28,134 students enrolled in distance undergraduate courses. It is also worth noting that, of the total number of students taking on-site undergraduate courses mentioned, 11,862 refer to enrollments at the State University of Maringá, which has been located in the city for more than 50 years.

Therefore, the city is a symbol of the well-being of its citizens, providing quality education, security, access to healthcare, cultural activities, employment and leisure opportunities. This is only possible because there are continuous investments in infrastructure, public services and economic promotion, always seeking to improve service and generate opportunities for the entire population.

Maringá is much more than a beautiful city, it is an example of how commitment to sustainable development and urban planning are essential to create a prosperous and welcoming community, with constantly growing development rates. The city continues to work to ensure that it remains an attractive destination for everyone seeking quality of life and opportunities.

## MILESTONES OF THE 2030 AGENDA IN THE CITY OF **MARINGÁ**

2021 - 2023

Law 11366/2021  
Maringá adopts  
the 2030 Agenda  
as a public policy  
guideline

**October 2021**

Signature of the  
Global Covenant  
of Mayors for  
Climate &  
Energy

**November 2021**

Creation of the  
Municipal  
Commission for  
Sustainable  
Development

**August 2022**

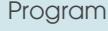
Partnership with the EBP consultancy and Oeko-Institut within the project "Implementing the 2030 Agenda locally through urban development" by the German Federal Institute for Research on Building, Urban Affairs and Spatial Development

**January 2023**



**November 2021**

Signature of the Letter  
of Commitment to the  
Sustainable Cities  
Program



**August 2022**

City Forum  
event and  
the SDGs



**January 2023**

Elaboration of the  
Municipal Target Plan -  
related to the SDGs  
and ESG



# INTRODUCTION

With accelerated urbanization across the world, it is necessary to recognize the need for cities to commit to the 2030 Agenda. Through local actions and the implementation of efficient urban planning and public policies, it is possible for cities to have a major impact in the world.

Validating the importance of this global commitment, in 2021, the adoption of the 2030 Agenda was established in the Municipality of Maringá as a guideline in the formulation of public policies. This fact strengthened the efforts that were being started, gradually, in the Municipality of Maringá, so that local actions, projects and plans focused on the SDGs,

Still in 2021, through the Institute for Research and Urban Planning of Maringá (IPPLAM), a series of dashboards were published, produced in Business Intelligence (BI), given the need to present the city's indicators to citizens, grouped by themes, in a simple and clear way, with data obtained from public information sources. This project, entitled "Maringá in Data", was the first step in the survey of indicators related to the SDGs, at the municipal level. At the end of this report, a little more about this project will be presented.

Now, in 2024, Maringá presents its Voluntary Local Review as a demonstration of its commitment to face global challenges, in a local way to achieve a more sustainable and inclusive future, contributing to the fulfillment of the 2030 Agenda. This report aims to highlight actions, progress and challenges faced by the municipality in relation to the Sustainable Development Goals (SDGs), with a special focus on SDG 11 - Sustainable Cities and Communities and SDG 13 - Climate Action.

SDG 11 encourages us to build inclusive, safe, resilient and sustainable cities. This way it will be discussed how Maringá is working to achieve this Goal, through the promotion of public policies focused on sustainability and citizenship. Furthermore in relation to SDG 13, Which brings the urgency of fighting climate change and its impacts, it will be presented how Maringá is committed to this issue and has been moving forward so that it can expand its actions, adopting strategies to reduce greenhouse gas emissions, becoming increasingly resilient.

It is hoped that, by sharing the municipality's experiences, other cities and communities will be inspired to follow the path of sustainable development and commit to the local implementation of the 2030 Agenda, contributing to the construction of a fairer, more prosperous and environmentally conscious world.





## METHODOLOGY

The establishment of the partnership with the EBP consultancy and Oeko-Institut within the project "Implementing the 2030 Agenda locally through urban development" by the German Federal Institute for Research on Building, Urban Affairs and Spatial Development, in 2023, was the start point for the preparation of this Voluntary Local Review. The structuring of the project, in general, consisted of the formation of a network of cities, from different countries around the world, in which they were encouraged to develop their reviews, through learning in pairs. Individual consultations and collective workshops were also carried out so that there were moments to exchange experiences and challenges in the process.

Thus, after the initial consultancy guidance, an analysis of the goals and indicators that make up the Sustainable Development Goals (SDGs) 11 and 13 was carried out. To analyze the applicability of the goals and indicators at the local level in the city of Maringá, studies on the SDGs carried out by the Brazilian Institute of Geography and Statistics (IBGE) and the Institute of Applied Economic Research (IPEA) were observed, considering that both show a framework of details and sources of consultation to quantify the indicators, applied in Brazil.

In a second stage, the indicators that make up this review were listed, beginning a search for data that quantifies/qualifies the indicators. To this end, data available online, as well as Municipal Departments and other research institutes were consulted.

The objective of the research was to obtain the most recent available data possible and even construct historical series for each indicator. However, in Brazil, several municipal data depend on census surveys, and the last census with fully analyzed and published data dated from 2010. Therefore, some indicators use the 2010 year base surveys as a reference. Other indicators depend on specific research and diagnosis of the area, such as the mobility ones, related to the mode of transport. These indicators come from studies whose diagnosis uses a specific period, without annual recurrence.

After the data was collected and the indicators were set up, the material was submitted to the consultancy partner of this project (EBP and Oeko-Institut), which raised strengths of the work and issues for improvement, as well as suggested guidelines on how to build some of the indicators that were missing.

The next step was to collect the measures, projects and actions that have been developed in the city of Maringá and that are related to the SDGs and the goals described in the report.

Finally, the Voluntary Local Review (VLR) was elaborated containing a summary of the implementation process of SDGs 11 - Sustainable Cities and Communities and 13 - Climate Action in the City of Maringá.



Photo: Communication Department / Maringá City Hall Collection

>> Skyline of Maringá



# **ACHIEVEMENT OF THE SUSTAINABLE DEVELOPMENT GOALS**

## **Indicators and Advances**

# SDG 11

## SUSTAINABLE CITIES AND COMMUNITIES

*Make cities and human settlements inclusive, safe, resilient and sustainable.*



**11.1 – By 2030, ensure access for all to safe, adequate and affordable housing and basic services and urbanize the slums.**

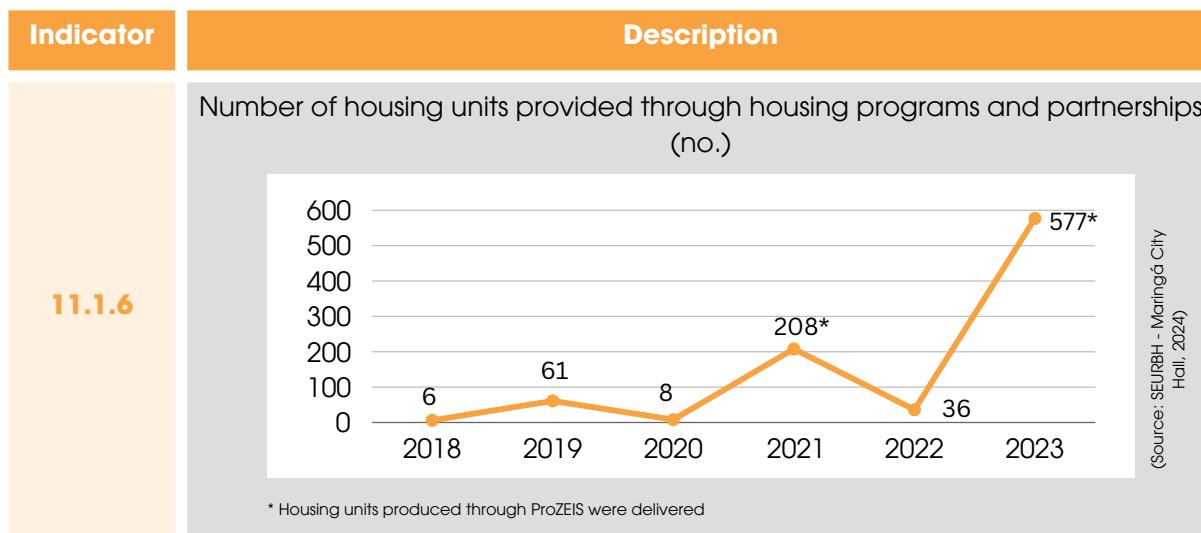
Target **11.1** brings to light an issue directly related to the principle of human dignity, with safe housing, equipped with sanitation and basic services, being necessary for the survival, inclusion and dignity of families.

### Indicators

Indicator	Description	Reference Year	Value
<b>11.1.1</b> <sup>1</sup>	Proportion of urban residents living in Subnormal Clusters  (Source: IBGE, 2010)	2010	0 %
<b>11.1.2</b> <sup>1</sup>	Proportion of households with poor or inadequate housing conditions - Resident/bedroom density greater than 3  (Source: IBGE, 2010)	2010	1.13 %
<b>11.1.3</b> <sup>1</sup>	Proportion of households with precarious or inadequate housing conditions - Inadequate water supply  (Source: IBGE, 2010)	2010	6.68 %
<b>11.1.4</b> <sup>1</sup>	Proportion of households with precarious or inadequate housing conditions - Inadequate sanitary sewage  (Source: IBGE, 2010)	2010	15.89 %
<b>11.1.5</b> <sup>1</sup>	Proportion of households with precarious or inadequate housing conditions - inappropriate wast disposal  (Source: IBGE, 2010)	2010	0.83 %

(1) Indicators 11.1.1, 11.1.2, 11.1.3, 11.1.4 and 11.1.5 are complementary. The resulting indicator expresses the proportion of the population that is exposed to precarious housing conditions, in a broad sense, in order to capture situations of precariousness as a whole.

Two axes make up a larger indicator: population living in precarious or informal settlements or housing. The precarious settlements include areas with precariousness of essential public services, lack of basic sanitation, without supply of treated water, overcrowding in dormitories and improper conditions of the physical structure of the residences. Finally, informal settlements are those not legally recognized or regulated by municipal instruments of control and planning. For Brazil, the cut of Subnormal Clusters produced by the IBGE contemplates, to a large extent, the two dimensions mentioned. However, many of the elements that make up the indicator are widely spread across territories in areas that do not necessarily make up low-income areas or subnormal clusters, so there is a need to apply the criteria described in all urban sectors of the country. So that the measurements do not overlap, the largest indicator that expresses the precarious conditions of habitability, in a broad sense, was divided into 5 indicators.



(Source: SEURBH - Maringá City Hall, 2024)

## Advances

### **Creation of the Department of Housing and Urbanism Development (SEURBH)**

The SEURBH was created in December 2020 from the segregation of functions of the former Municipal Department of Planning and Urbanism. Therefore, the attribution of urban planning was assigned to the Institute for Research and Urban Planning of Maringá (IPPLAM) and SEURBH began to focus on issues of social housing and urban control. This allowed the expansion of popular housing policies, as well as the improvement of the city's planning process.

### **Land Regularization Projects (REURB)**

The public policy for urban land regularization, instituted by Federal Law No. 13,465/2017 and regulated by Municipal Law No. 1,175/2019, aims to incorporate clandestine or irregular occupations into the urban territorial order and to give the proper ownership documents to its occupants through legal, urbanistic, environmental and social measures. Currently, in the Municipality of Maringá, 9 REURB cases are being processed, 4 of which are in the ownership verification phase, 2 in the preliminary study phase, 1 in the prior consent phase and 2 processes in the modality classification phase, and these processes make up an approximate total of 296 fractions, which are occupied by approximately 200 families.

### **Special Social Interest Zones (ProZEIS)**

The Municipality of Maringá carries out public calls in order to make possible housing developments based on a partnership between the Municipality and the owners of urban vacant land with low construction potential. The Public Authority alters the zoning of the lot, changing it into a Social Interest Special Zone. Thus, its constructive potential is increased. On the other hand, the constructors have the obligation to propose and produce housing of social interest, in the typology of apartment. After analysis by the public agency, the proposals, when approved, may be financed by the "Casa Verde e Amarela" Program, groups 1 and 2, of "Caixa Econômica Federal".

### **ATHIS Law for the qualification of social housing**

The Technical Assistance in Social Interest Housing Law (ATHIS) aims at the requalification of buildings for people in situation of social vulnerability. To this end, the Municipality of Maringá sanctioned Municipal Law 11,541/2022, which instituted the municipal ATHIS program. The Community Health Agents (ACSS) were trained to check the conditions of the residences and collect data, which will be analyzed by the municipal management. After registering these families, the necessary interventions will be carried out through the work of architecture and urban planning professionals.

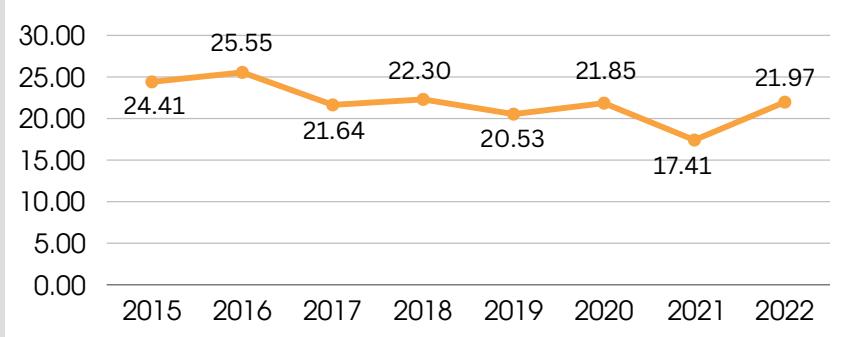




**11.2 – By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons**

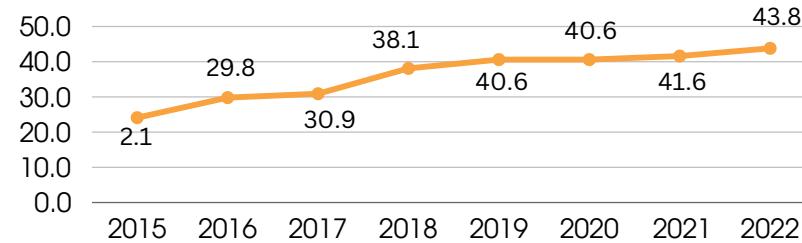
Target 11.2 demonstrates the importance of transport and urban mobility policies as drivers of safer, more inclusive and sustainable cities.

## Indicators

Indicator	Description	Reference Year	Value																		
<b>11.2.1</b>	Percentage of trips on public transport in relation to total trips <small>(Source: PlanMob, 2020)</small>	2020	19.94 %																		
<b>11.2.2</b>	Percentage of the low-income population who commutes to work for more than an hour <small>(Source: Atlas Brasil, 2010)</small>	2010	0.07 %																		
<b>11.2.3</b>	Percentage of the public transport fleet that is electric <small>(Source: Maringá City Hall, 2023)</small>	2022	0.85%																		
<b>11.2.4</b>	Percentage of bicycle trips in relation to total trips <small>(Source: PlanMob, 2020)</small>	2020	5.99%																		
Indicator	Description																				
<b>11.2.5</b>	Traffic deaths (rate per 100 thousand inhabitants)  <table border="1"> <caption>Data for Indicator 11.2.5: Traffic deaths (rate per 100 thousand inhabitants)</caption> <thead> <tr> <th>Year</th> <th>Rate (per 100 thousand inhabitants)</th> </tr> </thead> <tbody> <tr><td>2015</td><td>24.41</td></tr> <tr><td>2016</td><td>25.55</td></tr> <tr><td>2017</td><td>21.64</td></tr> <tr><td>2018</td><td>22.30</td></tr> <tr><td>2019</td><td>20.53</td></tr> <tr><td>2020</td><td>21.85</td></tr> <tr><td>2021</td><td>17.41</td></tr> <tr><td>2022</td><td>21.97</td></tr> </tbody> </table> <small>(Source: Datasus, 2024)</small>	Year	Rate (per 100 thousand inhabitants)	2015	24.41	2016	25.55	2017	21.64	2018	22.30	2019	20.53	2020	21.85	2021	17.41	2022	21.97		
Year	Rate (per 100 thousand inhabitants)																				
2015	24.41																				
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2017	21.64																				
2018	22.30																				
2019	20.53																				
2020	21.85																				
2021	17.41																				
2022	21.97																				

**11.2.6**

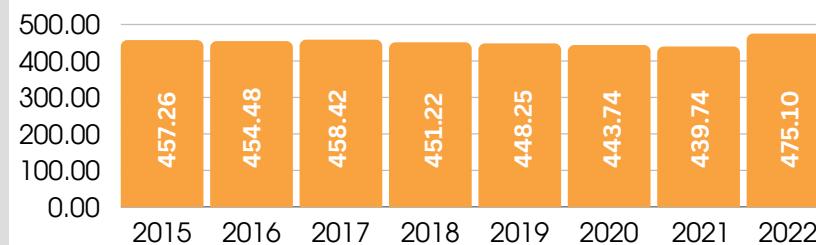
Kilometers of cycle paths/cycle lanes (Km)



(Source: PlanMob, 2020)

**11.2.7**

Passenger car density (rate per thousand inhabitants)



(Source: IBGE, 2024)

## Advances

### **Urban Mobility Plan - PLANMOB**

Maringá City Hall prepared, from 2020 to 2022, the Municipality's Urban Mobility Plan

- PlanMob, which establishes guidelines, projects and actions for the city's mobility system. The Plan covers the various aspects involved, mainly: public transport, walking and cycling, urban cargo transport, public and private parking, circulation in the central area and in the main roads, the road system and road safety.

The process of preparing PlanMob which lasted two years, was fully participative and included several hearings, meetings, workshops and conferences. The document points out the investments that must be made, as well as the origin of the resources to be invested.

In general terms, PlanMob's objectives are: I - guide the municipality's actions with regard to mobility modes, services and infrastructures in its territory;

II - guide public and private investments in urban mobility; III - promote the continuous improvement of infrastructures, services, equipment and urban mobility facilities; IV - expand the participation of public transport and non-motorized modes in total trips, promoting a balanced and sustainable modal division.

### **Bicycle policies in Maringá**

As part of the third and fourth phases of the PlanMob, a specific programmatic and technical nature document was developed focusing on promoting the use of bicycles in the city, based on three dimensions: infrastructure, measures to promote and governance. This document is entitled Policy Notebook for Bicycles in Maringá.

This notebook reinforces other actions that Maringá City Hall has been carrying out in favor of the cycling infrastructure modal, such as increasing the cycling infrastructure, constant maintenance of the existing ones, as well as modernizations and integrations of the cycling network.





### 11.3 - By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

Target 11.3 seeks to highlight social participation in the planning and management of policies focused on urban themes.

#### Indicators

Indicator	Description												
11.3.1	<p>Number of citizens involved in the urban planning process (hearings, public meetings, conferences and similar)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Number of Persons</th> <th>Number of events</th> </tr> </thead> <tbody> <tr> <td>2021</td> <td>239</td> <td>7</td> </tr> <tr> <td>2022</td> <td>213</td> <td>13</td> </tr> <tr> <td>2023</td> <td>910</td> <td>13</td> </tr> </tbody> </table> <p>(Source: IPPLAM - Maringá City Hall, 2023)</p>	Year	Number of Persons	Number of events	2021	239	7	2022	213	13	2023	910	13
Year	Number of Persons	Number of events											
2021	239	7											
2022	213	13											
2023	910	13											
Indicator	Description	Reference Year	Value										
11.3.2	<p>Percentage of the executed budget decided in a participatory manner in relation to the municipality's total revenue (%)</p> <p>(Source: SEFAZ - Maringá City Hall, 2021)</p>	2020	68.00 %										

#### Advances

##### Citizen Budgeting

The Territorial Planning and Management Assemblies (APGT), foreseen in the Maringá Master Plan Law, are called upon whenever there is a need to consult the population on urban and budget management issues. The Municipality of Maringá is currently divided into five APGTs, and each one participates in issues related to that territoriality.

Therefore, meetings are called annually for discussions involving the Annual Budget. This practice is called Citizen Budgeting.

In addition to the possibility of participating in the debates in person, citizens can respond to online forms, listing what they understand as priorities in the use of municipal resources in the areas of social assistance, culture, education, sport and leisure, housing, environment, sanitation, health, public safety, urban services, transport/traffic.

Furthermore, assemblies may be called whenever there is a topic relevant to that territoriality, in order to expand the debate and support decision-making by the public authorities.

## **Review of the Maringá Master Plan**

The Master Plan is the basic instrument of the municipality's urban development and expansion policy. Provided by Federal Law No. 10,257/2011 (Cities Statute), the Master Plan must be reviewed every ten years.

In the City of Maringá, the review process began in 2019. Popular participation was included at all stages of the process, and several mobilizations, participative events, hearings and public conferences were held.

Furthermore, a monitoring group, composed of representatives of the civil society, created to carry out continuous evaluation of the developed activities and community reading of the Master Plan review. A technical cooperation group was also implemented, open to all professionals who wanted to collaborate, providing technical data, materials and exchanging experiences.

## **Territorial Planning and Management Council**

The Territorial Planning and Management Council (CMPGT) was created through the Maringá Master Plan Law (No. 632/2006), as an integral part of the Municipal Planning and Management System.

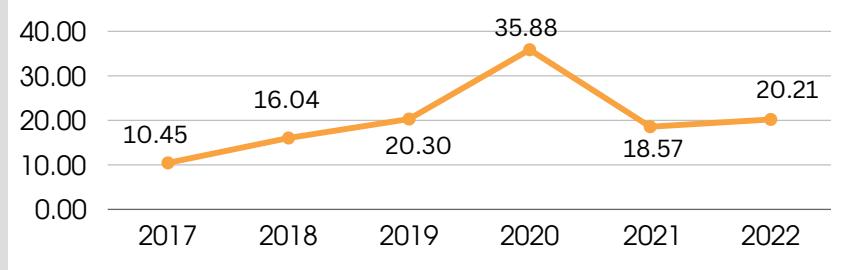
This Council is a consultative and deliberative agency in matters of management of territorial, urban and rural policies. Its composition is equal, with eight representatives from public authorities and eight representatives from civil society.

The CMPGT is responsible for deliberating, proposing, issuing opinions, monitoring and approving matters related to urban planning, including monitoring the application of urban planning instruments.

## **11.4 – Strengthen efforts to protect and safeguard the world's cultural and natural heritage**

Through target **11.4** the recognition of the link between the preservation of cultural and environmental heritage and the urban development planning process stands out.

### **Indicators**

Indicator	Description														
<b>11.4.1</b>	Total (public) expenditure <i>per capita</i> spent on the preservation, protection and conservation of all cultural and natural heritage - Expenses in subfunction 13,391 e 18,541 (R\$ <i>per capita</i> )  <table border="1"><thead><tr><th>Year</th><th>Value (R\$ per capita)</th></tr></thead><tbody><tr><td>2017</td><td>10.45</td></tr><tr><td>2018</td><td>16.04</td></tr><tr><td>2019</td><td>20.30</td></tr><tr><td>2020</td><td>35.88</td></tr><tr><td>2021</td><td>18.57</td></tr><tr><td>2022</td><td>20.21</td></tr></tbody></table>	Year	Value (R\$ per capita)	2017	10.45	2018	16.04	2019	20.30	2020	35.88	2021	18.57	2022	20.21
Year	Value (R\$ per capita)														
2017	10.45														
2018	16.04														
2019	20.30														
2020	35.88														
2021	18.57														
2022	20.21														

(Source: Siconfi, 2024)

(2) Subfunction 13,391 - Historical, Artistic and Archaeological Heritage. Subfunction 18,541 - Environmental Preservation and Conservation





## Advances

### Culture Diagnosis

Considering that popular participation is necessary at various stages of planning, the Maringá Culture Diagnosis was carried out from 2022 to 2023. Listening to the population and cultural producers, the objective was to collect data and recognize the demands and strengths of the cultural sector, serving as a basis for the formulation of public policies in culture.

Two main objectives were considered: to bring more culture to the population, decentralizing actions, and to support the initiatives of local artists and cultural producers.

To this end, the agents involved, equipment and cultural heritage, street artists were mapped, and budgetary issues were analyzed, among other items.

In addition to the diagnosis, other actions were carried out in favor of culture in the city: public conferences, the Culture Forum, sectoral dialogues, increase in the value of municipal funding awards, renovation of cultural spaces, exhibitions and creation of new notices for local artists, including the valorization of political-social minorities.

**11.5 – By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations**

## Indicators

Indicator	Description																								
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## 11.6 – By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Target 11.6 focuses on air quality and solid waste management, as environmental factors to be considered for the sustainable development of a city.

### Indicators

Indicator	Description																																							
11.6.1	<p>Proportion of urban solid waste collected and managed in controlled facilities in relation to total urban waste generated (%)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Proportion (%)</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>95.24</td> </tr> <tr> <td>2018</td> <td>95.24</td> </tr> <tr> <td>2019</td> <td>87.86</td> </tr> <tr> <td>2020</td> <td>100</td> </tr> <tr> <td>2021</td> <td>100</td> </tr> </tbody> </table> <p>(Source: SNIS, 2023)</p>	Year	Proportion (%)	2017	95.24	2018	95.24	2019	87.86	2020	100	2021	100																											
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11.6.2	<p>Monthly average level of inhalable particles in 2022 (PM2.5 and PM10 - <math>\mu\text{m}/\text{m}^3</math>)</p> <table border="1"> <thead> <tr> <th>Month</th> <th>PM 2.5 (<math>\mu\text{m}/\text{m}^3</math>)</th> <th>PM 10 (<math>\mu\text{m}/\text{m}^3</math>)</th> </tr> </thead> <tbody> <tr> <td>jan</td> <td>~5.5</td> <td>~5.5</td> </tr> <tr> <td>fev</td> <td>~8.5</td> <td>~10.0</td> </tr> <tr> <td>mar</td> <td>~6.0</td> <td>~6.5</td> </tr> <tr> <td>abr</td> <td>~8.0</td> <td>~9.0</td> </tr> <tr> <td>mai</td> <td>~13.0</td> <td>~14.0</td> </tr> <tr> <td>jun</td> <td>~14.0</td> <td>~14.5</td> </tr> <tr> <td>jul</td> <td>~13.5</td> <td>~14.0</td> </tr> <tr> <td>ago</td> <td>~15.0</td> <td>~16.0</td> </tr> <tr> <td>set</td> <td>~15.5</td> <td>~16.0</td> </tr> <tr> <td>out</td> <td>~12.0</td> <td>~13.0</td> </tr> <tr> <td>nov</td> <td>~5.5</td> <td>~6.0</td> </tr> <tr> <td>dez</td> <td>~6.0</td> <td>~6.5</td> </tr> </tbody> </table> <p>(Source: Eurogarden, 2023)</p>	Month	PM 2.5 ( $\mu\text{m}/\text{m}^3$ )	PM 10 ( $\mu\text{m}/\text{m}^3$ )	jan	~5.5	~5.5	fev	~8.5	~10.0	mar	~6.0	~6.5	abr	~8.0	~9.0	mai	~13.0	~14.0	jun	~14.0	~14.5	jul	~13.5	~14.0	ago	~15.0	~16.0	set	~15.5	~16.0	out	~12.0	~13.0	nov	~5.5	~6.0	dez	~6.0	~6.5
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dez	~6.0	~6.5																																						

### Advances

#### Zero Waste Program

Maringá City Hall has been expanding actions related to the waste generated in the city. As a result, the Zero Waste Program was created in 2022, with the aim of bringing together several projects and actions, with a single objective: to reduce the amount of waste discarded in landfills. One initiative of this program was the installation of compost bins for organic waste in some schools, as well as the provision of home composting courses for students' families. Consequently, students learn that some waste produced can return to the production chain as fertilizers.

Another project in this program is called "Moeda Verde" (green coin), which exchanges 1kg of recyclable material or 1 liter of used oil for 1kg of food, mainly targeting neighborhoods where the volume of recyclable material collected is smaller. The acquisition and installation of some "Ecolix", containers for receiving recyclable materials, at strategic points in the city, was another action of the program. In addition, specific containers for glass were installed in some city's bars, and the instalation of a Voluntary Delivery Point in a busy location in the city to receive recyclable materials is planned.

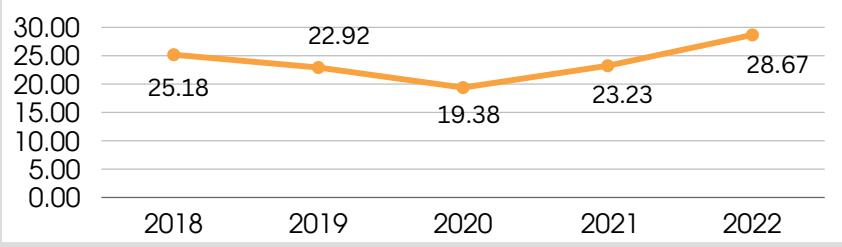




## 11.7 – By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

The formulation of target 11.7 highlights the relevance of public areas to promote healthy urban life, encouraging improvements and the construction of new public spaces.

### Indicators

Indicator	Description	Reference Year	Value												
11.7.1	Proportion of area of squares and parks per inhabitant ( $m^2/inhabitant$ ) * Parks with infrastructure for use  (Source: Masterplan research, 2023)	2019	4.13												
Indicator	Description	(Source: Ipdades, 2024)													
11.7.2	Crimes of theft, bodily injury and robbery (rate per thousand inhabitants)   <table border="1"> <caption>Data for Indicator 11.7.2: Crimes of theft, bodily injury and robbery (rate per thousand inhabitants)</caption> <thead> <tr> <th>Year</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>25.18</td> </tr> <tr> <td>2019</td> <td>22.92</td> </tr> <tr> <td>2020</td> <td>19.38</td> </tr> <tr> <td>2021</td> <td>23.23</td> </tr> <tr> <td>2022</td> <td>28.67</td> </tr> </tbody> </table>	Year	Rate	2018	25.18	2019	22.92	2020	19.38	2021	23.23	2022	28.67	(Source: Ipdades, 2024)	
Year	Rate														
2018	25.18														
2019	22.92														
2020	19.38														
2021	23.23														
2022	28.67														

### Advances

#### Playgrounds

Aiming to offer leisure options for all children in the city, the municipality has been installing modular playgrounds, in plastic wood or rope, in the various spots of the city, both downtown and in the neighborhoods. Furthermore, this project aims to bring families closer to public spaces, making them take ownership of these spaces and consequently, improving safety issues.

Since 2016, more than 60 playgrounds have been installed throughout the city, and Maringá City Hall plans to expand this project, with the installation of other units spread across the city.

#### Square for All

The revitalization of squares and public spaces program, entitled "Square for All", aims to return public spaces to citizens. Improvements were made to several public spaces that were previously "invisible" to the community. After the renovations, these spaces became safer and more enjoyable for families.

In all interventions we sought to maintain the main characteristics of the original projects, with the preservation of urban and historical aspects. Since 2016, more than 10 municipal squares have been revitalized and two new linear parks have been built in valley bottom areas. Additionally, several gardens have been established on previously underutilized public lands.



### 11.a - Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

Target 11.a demonstrates the importance of Metropolitan Regions as entities capable of integrated planning in different territorial areas.

#### Indicators

Indicator	Description	Reference Year	Value
11.a.1	Existence of an Integrated Urban Development Plan	2023	yes

#### Advances

##### **Integrated Urban Development Plan (PDUI)**

The Metropolitan Region of Maringá (RMM) was created in 1998, through State Complementary Law no. 83/1998. Currently, the RMM is made up of 26 municipalities, totaling 5,978,592 square kilometers.

Therefore, seeking to guide regional management, valuing integrated development, aligned with the Metropolis Statute, it was necessary to develop the RMM's Integrated Urban Development Plan (PDUI).

The PDUI is an urban planning instrument defined by Federal Law No. 13,089/2015. Its focus is to guide the planning and governance of Metropolitan Regions, aiming at the integration of public policies of the Municipalities belonging to these Regions.

As a territorially comprehensive planning, it is essential that its content is guided by spatial and thematic integration. In this regard, analysis of social, economic, environmental, cultural, physical and urban aspects are essential, enabling the characterization of the entire territory covered by the plan.

Its content is guided by Public Functions of Common Interest (FPICs), which are activities or services that cannot be carried out by the Municipality alone, or that impact other Municipalities that are part of the Metropolitan Region. For the RMM PDUI, the following FPIC were defined: Spatial Planning and Land Use, Metropolitan Mobility and Environment.

This plan is fully elaborated and currently awaits legal procedure at the Paraná Metropolitan Affairs Agency, and future definition of the Interfederative Agents.



**11.b - By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels**

## Indicators

Indicator	Description	Reference Year	Value
<b>11.b.1</b>	<p>Apply local disaster risk reduction strategies in line with national disaster risk reduction strategies</p> <p>* Similar indicator to 13.1.4 - check progress on SDG 13 chapter</p>	2017	yes

(Source: IBGE, 2017)

# SDG 11

## SUSTAINABLE CITIES AND COMMUNITIES

Image gallery



**Construction of housing units**  
(Meta 11.1)



**Building constructed by the ProZeis program**  
(Meta 11.1)



**Increase in the cycling network**  
(Meta 11.2)



**Citizen Budgeting**  
(Meta 11.3)



**Public Hearing of Master Plan**  
(Meta 11.3)



**Reform of cultural spaces**  
(Meta 11.4)



**Ecolix installation**  
(Meta 11.6)



**Square Reform**  
(Meta 11.7)



**Installation of playgrounds**  
(Meta 11.7)



**Delivery of the Integrated Urban Development Plan - PDUI** (Meta 11.a)



# SDG 13

## CLIMATE ACTION

*Take urgent action to combat climate change and its impacts*



### 13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

The focus on the target **13.1** is the quest for resilience, which consists of the ability of a system to recover and restore balance after being affected by external disturbances. Furthermore, it is also focused on adaptive capacity, which represents the ability to evolve to a more favorable state, given the impacts and risks arising from climate change.

#### Indicators

Indicator	Description																								
<b>13.1.1</b>	<p>Number of deaths, missing people and directly affected people attributed to disasters per 100,000 inhabitants</p> <p>The chart shows a significant decrease in disaster-related deaths from 2011 to 2017, followed by a sharp increase in 2021. Data points: 2011 (13.2), 2012 (6), 2013 (0.5), 2014 (7.9), 2015 (6.3), 2016 (3.5), 2017 (0.7), 2018 (1.9), 2019 (0.5), 2020 (4.0), 2021 (9.4).</p> <table border="1"><thead><tr><th>Year</th><th>Deaths per 100,000 inhabitants</th></tr></thead><tbody><tr><td>2011</td><td>13.2</td></tr><tr><td>2012</td><td>6</td></tr><tr><td>2013</td><td>0.5</td></tr><tr><td>2014</td><td>7.9</td></tr><tr><td>2015</td><td>6.3</td></tr><tr><td>2016</td><td>3.5</td></tr><tr><td>2017</td><td>0.7</td></tr><tr><td>2018</td><td>1.9</td></tr><tr><td>2019</td><td>0.5</td></tr><tr><td>2020</td><td>4.0</td></tr><tr><td>2021</td><td>9.4</td></tr></tbody></table> <p>(Source: IPBES, 2023)</p>	Year	Deaths per 100,000 inhabitants	2011	13.2	2012	6	2013	0.5	2014	7.9	2015	6.3	2016	3.5	2017	0.7	2018	1.9	2019	0.5	2020	4.0	2021	9.4
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<b>13.1.2</b>	<p>Percentage of the municipality deforested (%)</p> <p>The chart shows a steady decline in deforestation from 2017 to 2019. Data points: 2017 (0.04), 2018 (0.02), 2019 (0.02).</p> <table border="1"><thead><tr><th>Year</th><th>Percentage of the municipality deforested (%)</th></tr></thead><tbody><tr><td>2017</td><td>0.04</td></tr><tr><td>2018</td><td>0.02</td></tr><tr><td>2019</td><td>0.02</td></tr></tbody></table> <p>(Source: IDSC-BR, 2023)</p>	Year	Percentage of the municipality deforested (%)	2017	0.04	2018	0.02	2019	0.02																
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### 13.1.3

Total area of Municipal Conservation Units (ha)



(Source: IAM - Maringá City Hall, 2023)

\*The last Conservation Unit created by the Municipality of Maringá dates back to 2012

Indicator	Description	Reference Year	Value
13.1.4	Apply local disaster risk reduction strategies in line with national disaster risk reduction strategies  (Source: IBGE, 2017)	2017	yes
13.1.5	Proportion of urban afforestation, on public roads, by the total urban area (unit/Km <sup>2</sup> )  (Source: PGAU and Masterplan research, 2023)	2019	876.81

## Advances

### **Preservation of municipal valley bottom areas**

Maringá is richly drained by streams that pass through the urban perimeter of the city. Valley Bottom Areas were established along these streams by the municipality. There is great concern on behalf of the municipality about the maintenance, preservation and recovery of these areas, which are so important for the natural ecosystem of Maringá.

The municipality carries out several actions in favor of the maintenance of these areas, such as: the creation of linear parks in the valley bottom areas; planting of native trees, through the municipal plant nursery, or upon compliance with Terms of Conduct Adjustment with private companies; cleaning streams; among others.

### **Development of the Maringá Urban Afforestation Management Plan (PGAU)**

The Maringá Urban Afforestation Management Plan (PGAU) is the document that guides all actions carried out by the City Hall regarding the afforestation of public roads, squares and parks in Maringá. This document details the municipality's activities for the next 20 years and must be reviewed every 5 years. Its preparation began in 2017, and it was completed after 2 years, being the first one in the country to indicate the species of trees to be planted for each of the more than 3,500 streets in the municipality.

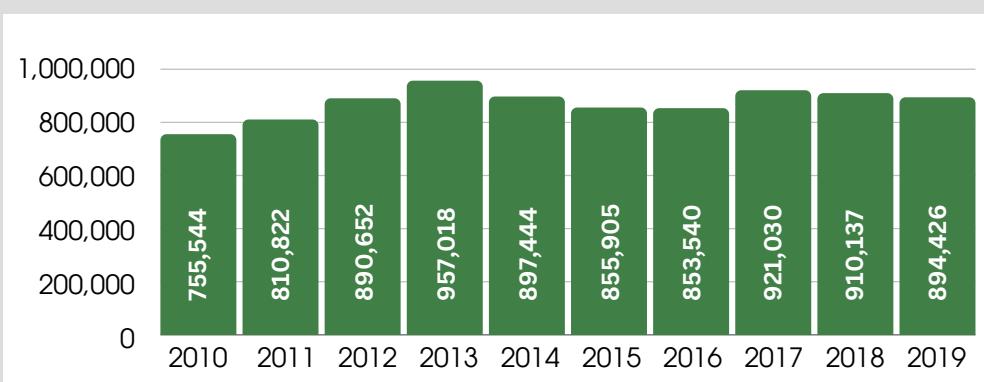
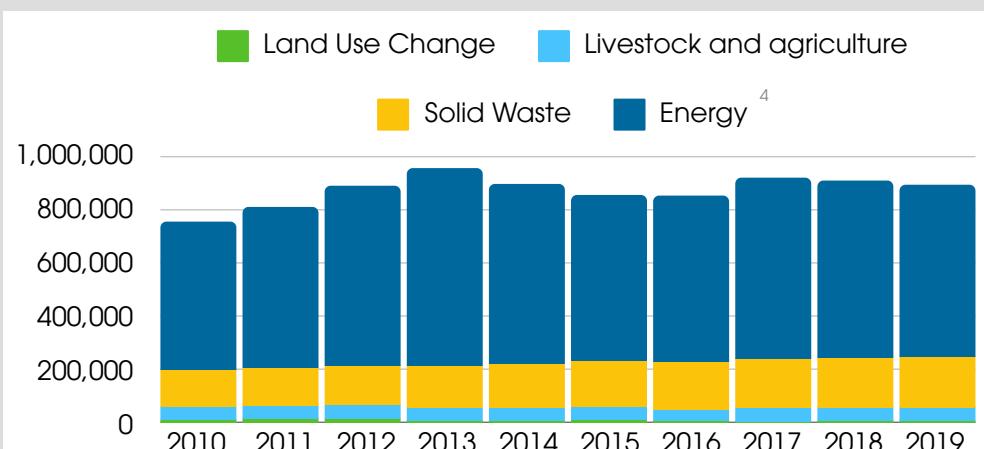




## 13.2 - Integrate climate change measures into national policies, strategies and planning

At the national level, target **13.2** seeks to integrate the National Plan on Climate Change into local policies, strategies and planning.

### Indicators

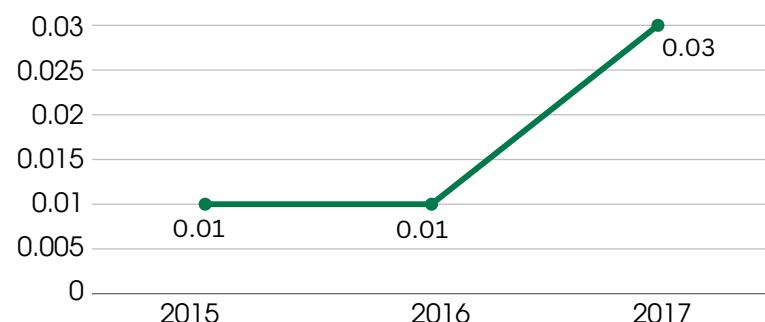
Indicator	Description																																																							
<b>13.2.1<sup>3</sup></b>	<p>Total greenhouse gas emissions per year (CO<sub>2</sub>e (t) GWP-AR5)</p>  <table border="1"> <thead> <tr> <th>Year</th> <th>Emissions (CO<sub>2</sub>e t)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>755,544</td></tr> <tr><td>2011</td><td>810,822</td></tr> <tr><td>2012</td><td>890,652</td></tr> <tr><td>2013</td><td>957,018</td></tr> <tr><td>2014</td><td>897,444</td></tr> <tr><td>2015</td><td>855,905</td></tr> <tr><td>2016</td><td>853,540</td></tr> <tr><td>2017</td><td>921,030</td></tr> <tr><td>2018</td><td>910,137</td></tr> <tr><td>2019</td><td>894,426</td></tr> </tbody> </table> <p>(Source: SEEG, 2023)</p>	Year	Emissions (CO <sub>2</sub> e t)	2010	755,544	2011	810,822	2012	890,652	2013	957,018	2014	897,444	2015	855,905	2016	853,540	2017	921,030	2018	910,137	2019	894,426																																	
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(3) The indicators presented here are compiled from the Greenhouse Gas Emissions and Removals Estimation System (SEEG), which is an initiative of the Climate Observatory. This system comprises the production of annual estimates of greenhouse gas (GHG) emissions in Brazil, in accordance with the guidelines of the Intergovernmental Panel on Climate Change (IPCC).

(4) According to the methodology established by SEEG, the burning of fuels in the transport sector is included in the Energy Sector.

## 13.2.2

Concentration of hot spots (municipality's share of total fires in Brazil - per thousand)



(Source: IDSC-BR, 2023)

## Advances

### Paraná Climate Seal - Gold Seal

The Paraná Climate Seal is an initiative of the Paraná State Government, through the State Department for Sustainable Development (SEDEST). This initiative was created in 2012 and since 2015 it has been delivering certificates to those who voluntarily measure, disseminate and reduce their carbon footprint, to mitigate the effects caused by climate change.

In 2021, the Municipality of Maringá adhered to the seal and forwarded its inventory of Greenhouse Gas Emissions, at governmental level, for submission to the Paraná Climate Seal, reaching the Gold category. Since then, for the third consecutive year, Maringá City Hall has forwarded its inventory. This initiative allows comparison and decision-making within the scope of greenhouse gas reduction and mitigation policies.

### Development of Municipal Greenhouse Gas Emissions Inventory

Considering that the estimates of the Municipality of Maringá regarding greenhouse gas emissions are currently prepared by the Climate Observatory, which systematically produces data for all municipalities in Brazil, there was a need to continue with the elaboration of our own GHG emissions inventory.

The inventory is being prepared by technicians from Maringá City Hall, observing local peculiarities and based on the methodology of the Global Protocol for GHG Emissions on a Community Scale - GPC.

It is known that the municipal inventory of a GHG emissions is a necessary tool to understand and monitor the emissions and removals of various gases that contribute to the greenhouse effect and, consequently, to climate change.



### 13.3 – Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

The central issue of target **13.3** is to guarantee everyone's knowledge and information about climate change, what can be achieved through education, especially for children and young people.

#### Indicators

Indicator	Description
<b>13.3.1</b>	<p>The extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment</p> <p>* See municipal actions described in advances</p>

#### Advances

##### Schools for Climate

The Schools for Climate movement is a community in which schools and individuals can exchange experiences to create actions aimed at combating climate change. The Municipality of Maringá joined the network and today has the largest number of school units participating in the movement.

Since its accession, the topic of climate change has been worked on with children in an interdisciplinary way and with family involvement. The objective is to enable students to understand their role in sustainability to build a better future.

In this context, one of the projects is "Sustentare - Living in harmony with the environment". This project is carried out by the Department of Education, in the 64 Municipal Early Childhood Education Centers, covering approximately 15 thousand students up to 6 years old.

Pedagogical actions related to combating climate change and its impacts are carried out, mainly involving the cultivation, protection and maintenance of plants, sustainable and intelligent use of water, natural resources and playful awareness among students about environmental care.

Still within the scope of Schools for Climate, another project is the "Conscious children for a different world". This is carried out by the Department of Education with students from the regular education program and the Youth and Adult Education from municipal schools. Activities are carried out to mobilize positive results in relation to the environment, involving students in the search for solutions, to become agents of transformation committed to the climate cause. Each school year has a subproject, in which climate-related topics are discussed in age-appropriate language.

# SDG 13

## CLIMATE ACTION

Image gallery



Linear park in the valley bottom area  
(Target 13.1)



Protection of valley bottom areas  
(Target 13.1)



Valley bottom area cleaning  
(Target 13.1)

PLANO DE GESTÃO DA ARBORIZAÇÃO URBANA- PGAU



Maringá Urban Afforestation Management Plan (PGAU) (Target 13.1)





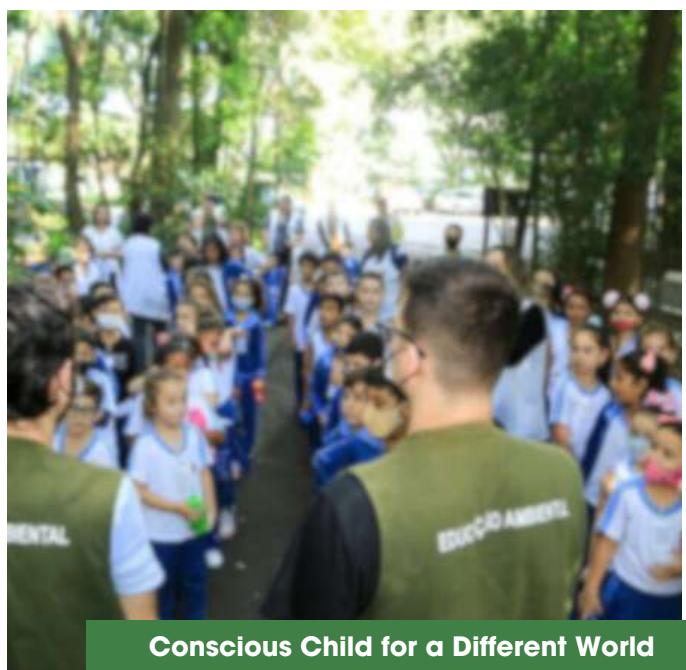
**Receipt of the Paraná Climate Seal**  
(Target 13.2)



**Sustentare Project**  
(Target 13.3)



**Sustentare Project**  
(Target 13.3)



**Conscious Child for a Different World**  
(Target 13.3)



The Maringá in Data, developed by the Institute for Research and Urban Planning of Maringá (IPPLAM), was produced given the amount of indicators and data available about the municipality, which are distributed in several public consultation sources. Although this data is public, it is not easy to access and it depends on a series of filters and even consultation of a code dictionary to identify data and indicators. Therefore, the main objective of the project is to present data and indicators in a simple and intuitive way to citizens. Within this portal, indicators are grouped by theme, which are presented in panels produced in Business Intelligence (BI). Parallel to this, there was a major movement by the city hall to correlate actions, projects and public policies with the SDGs. This movement contributed to one of the panels produced being precisely focused on the SDGs, so that it is possible to follow up and evolve the city towards the Global Goals.

Maringá in Data , available in: <https://www.ipplam.com/maringa-em-dados>



## NEXT STEPS



# MARINGÁ IN DATA



Always aiming for the continuous improvement of actions, plans and projects, so that the city advances in global indicators and goals, we present some of the actions that are being planned in Maringá for progress in relation to the SDGs, as well as strategies for more effective and efficient monitoring and evaluation of global goals, such as:

- Implementation of our own platform for the insertion, control, monitoring and evaluation of the indicators, especially those related to the SDGs, so that it is possible to link them to the Municipal Target Plan, creating historical series and analysis panels of results and impacts on achieving the Sustainable Development Goals;
- Promotion of partnerships with Universities to collect information and develop indicators, especially those related to the theme of sustainable urban development;
- Development of other sectoral plans, linked to the Municipal Master Plan, aligned with the SDGs, as established in the recently revised Master Plan;
- Promotion of actions that encourage community engagement and awareness about the SDGs;
- Creation of the Municipal Climate Forum with the aim of raising awareness and mobilizing the community to discuss the problems arising from global climate change.



## CONCLUSION

The Municipality of Maringá has made great efforts to meet the Sustainable Development Goals (SDGs) of the UN 2030 Agenda. The development of this document, the first Voluntary Local Review of the Municipality of Maringá, expand the horizons in understanding the importance of the role of local government in advancing global level indicators and goals.

Through the analysis of reports prepared by several cities around the world, it was possible to observe the progress achieved, the challenges faced and how important the local contribution is, especially for the promotion of public policies. Furthermore, the preparation of the Voluntary Local Review for the municipality made it possible to identify advances and good practices in Maringá that can also serve as inspiration for other cities seeking effective strategies for sustainable development.

It is important to understand that this document should not be a one-time exercise, but rather an ongoing cycle of assessment, action and monitoring. As the city of Maringá develops, constant reflection on results and adjustments to public policies will be necessary to ensure continuity on the path to sustainable development.



>> Square in Maringá





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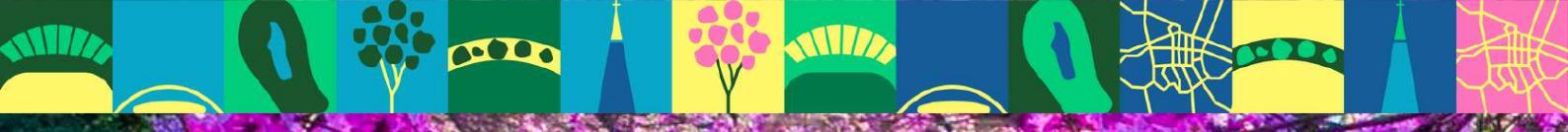


Photo: Communication Department / Maringá City Hall Collection





## GRAPHIC PROJECT

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## ORGANIZATION TEAM

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**MARINGÁ**  
PREFEITURA

