

Climate City Contract

2030 Climate Neutrality Action Plan

2030 Climate Neutrality Action Plan of Municipality of IOANNINA





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Summary

An abstract **summarizes the content** of the 2030 Climate Neutrality Action Plan (Action Plan) that is developed jointly by local authorities, local businesses and other stakeholders.

Textual element

The Municipality of Ioannina, is an interestingly bio-diverse city in Epirus region in northwestern Greece. With a population of about 130.000 people, it combines lush nature with mountains, water bulks and breathtaking green landscapes with intense human activity due to its social life and production units namely a University, local and major businesses, a unique local silversmiths' workshop network, agricultural and poultry farming units.

Although it seems quite a challenge, it is exactly this unique and complex profile that has led to this city willingly having putt itself forward in investing in a greener future and adjusting itself to a more climate neutral lifestyle. The effort towards climate neutrality for the city of Ioannina began several years ago. In 2016, when the mayor signed the letter to the Covenant of Mayors, setting an optimistic target of reducing emissions by 2023, and of course, committing to climate neutrality by 2050. Since then, the authorities, along with experts and qualified professionals of this area, have not only started deploying sustainable development and environmental conservation but also invest in monitoring, data collection and changing the mentality of the locals so that they make sure positive results will be permanent. Today, as a proud participant in the European Mission “100 Climate-Neutral and Smart Cities by 2030”, the Municipality of Ioannina stands at the forefront of a transformative journey towards having achieved **climate neutrality by 2030** through programmes and initiatives that encourage green practices and sustainability on every single sector of the life of a city. Thus, since April 2022 when the city of Ioannina was selected to join the European Commission's Mission Cities to become one of the 100 climate-neutral and smart cities by 2030, the Municipal Authority under the late Mayor Moses Elisaf was activated, simply to do the obvious thing: continue the collaboration with the proposals team and ensure its further expansion to create the Transition Team too.

However, the urgency of the global climate crisis and the directives of the European Green Deal have accentuated the need for a more aggressive and targeted approach. This Action Plan addresses this very gap, offering a comprehensive strategy that not only aligns with our local policy imperatives but also resonates with global climate goals. Having this in mind, the municipality in question, being the most urbanized and populous one in Epirus as approximately ¼ of its total population lives there, has started taking steps through interventions in public buildings, the city's infrastructure, encouraging businesses and citizens' initiatives for a greener lifestyle and plans to invest further in every possible way in saving energy, reducing waste and CO2 emissions and making the best out of the abundant local nature while preserving it.

This very approach is iterative, ensuring adaptability to emerging challenges and opportunities while maintaining a clear vision. In the report, the positive results achieved so far are presented in detail and through specific valid data. Based on that and the high expertise of the working groups involved, the next steps and plans are presented so that the city can continue this hard but well worthy journey towards making itself a model city for its green practices and the sustainable potential.

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Abbreviations and acronyms

The list of abbreviations and acronyms **identifies the abbreviations** (a shortened form of a word used in place of the full word) **and acronyms** (a word formed from the first letters of each of the word in a phrase or name) used in the Action Plan.

Abbreviations and acronyms	Definition
AFOLU	Agricultural, Forestry and Land Use
BECCS	Bioenergy Production Stations with Carbon Capture and Storage System
BEI	Baseline Energy Inventory
EFE	Local Emissions Factor for Electricity
EU	European Union
GHG	Green House Gases
IPPU	Industrial Process and Product Use
JTDP	Just Transition Development Plan
NEEFE	National or European Emissions Factor for Electricity
NECP	National Energy and Climate Plan
NKUA	National & Kapodistrian University of Athens
NTUA	National Technical University of Athens
PPC	Public Power Corporation
PV	Photovoltaics
RES	Renewable Energy Sources
SECAP	Sustainable Energy and Climate Action Plan
SUMP	Sustainable Urban Mobility Plan

1 Introduction

The introduction should outline the local policy context in which the Action Plan is being developed and describe the gap it is addressing in broad terms.

Introduction - textual element

Introduction

The Municipality of Ioannina, as a proud participant in the European Mission “100 Climate-Neutral and Smart Cities by 2030”, stands at the forefront of a transformative journey towards having achieved climate neutrality by 2030. This Action Plan is a testament to our commitment, describing in detail the strategic roadmap that bridges the gap between our current greenhouse gas (GHG) emissions inventory and the ambitious 2030 climate neutrality target.

Ioannina’s local policy landscape has been progressively evolving, with a keen focus on sustainable development and environmental conservation. However, the urgency caused by the global climate crisis and the directives of the European Green Deal have accentuated the need for a more proactive and targeted approach. This Action Plan addresses this very gap, offering a comprehensive strategy that not only aligns with our local policy imperatives but also resonates with global climate objectives.



Drawing inspiration from the European Environment Agency's urban environment mapping and assessment, we've adopted the innovative Climate Neutrality Zones (CNZs) methodology. This approach allows us to segment our territory into distinct zones, each with its unique environmental characteristics and challenges. By doing so, we can tailor our strategies to the specific needs of

each zone, ensuring maximum effectiveness of our pursuit of climate neutrality.

Furthermore, the establishment of Climate Neutrality Offices (CNOs) and the Climate Neutrality Observatory signifies our dedication to systematic monitoring, coordination, and implementation of our climate action plans. With the invaluable support of the Technical Chamber of Greece (TEE) and its vast engineering expertise, we are poised to roll out comprehensive climate action initiatives in sync with the European Green Deal's objectives.

This Action Plan is not just a document; it's a reflection of our collective will, our shared vision, and our unwavering commitment to a sustainable future. By leveraging innovative methodologies, fostering stakeholder collaboration, citizens engagement and ensuring transparent communication, we aim to set a benchmark for other cities to emulate our effort to reduce greenhouse gas emissions.

The effort towards climate neutrality for the city of Ioannina began several years ago. In 2016, the mayor signed the letter to the Covenant of Mayors, setting an optimistic target of reducing emissions by 40% by 2023, and of course, committing to climate neutrality by 2050. As we can all observe, according to the recent emissions inventory of the steps taken in 2019 (as presented in section 3.1), the reduction is evident, already approaching 30%, thus demonstrating the city's commitment to climate neutrality.

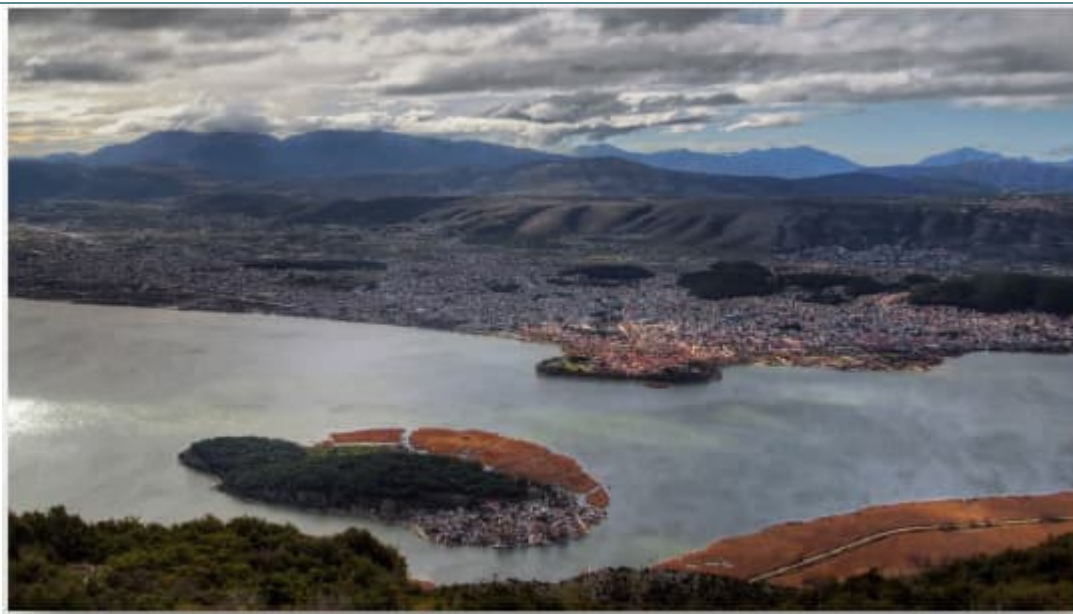


Figure 1: Photo of Ioannina city

Description of Ioannina City

Ioannina is the capital city and the largest in the Epirus Prefecture (North-West part of Greece). The City is built on the bank of Pamvotia Lake (500 m. altitude). The Municipality of Ioannina has a population of about 130.000 inhabitants, an airport, a university, two major university hospitals, sufficient hospitality capacity as well as a qualitative business-tourism infrastructure.

The city of Ioannina stands out as a multicultural centre throughout its rich history, with the coexistence of three communities that have left their mark over time: the Christian, Muslim and Jewish communities. Those multicultural characteristics are visible through the city's architecture and traditions, while Ioannina has always been a famous centre of trade, education and craftsmanship.

Today the city of Ioannina, throughout its long and turbulent history, has become a vibrant city, with an active academic community, vigorous market people, and citizens interested in improving their living conditions and protecting the environment.

Epirus occupies the northwestern part of Greece. It borders with Albania and to the west, through the port of Igoumenitsa, is adjacent to Italy. The Region covers an area of 9,203 square km. occupying 6.97% of the total acreage of Greece. It includes four prefectures: Ioannina, Arta, Thesprotia and Preveza with Ioannina city being the country town of the region and capital city of the prefecture.



Figure 2: Photo of Ioannina city 2

The municipality of Ioannina belongs to the prefecture of Ioannina. The prefecture of Ioannina also includes other minor municipalities, those of North Tzoumerka, Dodoni, Zagori, Zitsa, Konitsa, Metsovo and Pogoni. The municipality was established in 2011 by the union of the pre-existing municipalities of Anatoli, Ioannina, Bizani, Pamvotida, Perama and the community of Nisos of Ioannina. The municipal and its local communities are all illustrated below.

The municipality in question, is the most urbanized and populous one in Epirus, as approximately $\frac{1}{4}$ of its total population lives there. The capital is Ioannina, which is also the administrative seat of the Region of Epirus and the Decentralized Administration of Epirus-Western Macedonia. Its acreage is 403.32 km² and its population, according to the temporary results of the 2011 census report of HEL.STAT (Hellenic Statistical Authority), amounts to 111,740 permanent residents. This makes it a quite densely populated municipality with 277.05 inhabitants per square kilometer.

The municipality of Ioannina is located in the northwestern part of the mainland of Greece, in the center of the homonym basin and almost in the center of the Prefecture of Ioannina. It is located in the south of Mount Mitsikeli, at an altitude of approximately 480 meters and at a distance of 446 kilometers northwest of Athens. The actual municipality extends along the perimeter of Lake Pamvotida.



Figure 3: Location of Ioannina

It is the most urbanized and populous municipality of Epirus and consists of the Municipal Units (M.U.) of Perama, Pamvotida, Anatoli, Bizani, Ioannina as well as the Community of Nisos of Ioannina. The acreage of the Municipality is approximately **390km²** and its population is 112,486 inhabitants according to the census of 2011. The seat of the Municipality is Ioannina. It borders with the Municipalities of Zagori (M.U. N. Zagori & S. Zagori), Zitsa (M.U. Ekalis & Passaronos), N. Tzoumerka (M.U. Syrrako & Tzoumerka), Zagori (M.U. N. Zagori & S. Zagori) and Metsovo (M.U. Egnatia) as shown in the image below.



Figure 4: Municipal Units

Ioannina is the major urban center of the region with interregional and transnational range (Albania) mainly due to the provision of higher education (University of Ioannina). There are also smaller urban residential centers of Anatoli, Katsika, Pedini and Perama with remarkable population potential due to their proximity to the city of Ioannina along with which they all form a wider residential complex.

Precise figures on the permanent population of the Municipality of Ioannina are presented below:

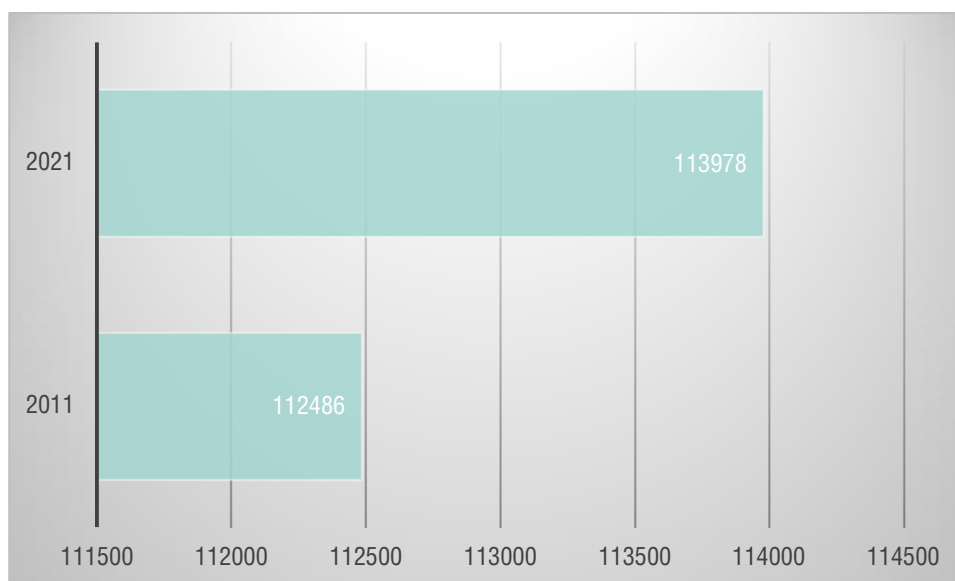


Figure 5: Ioannina City Permanent population

When it comes to the geomorphology of the area, it is characterized by mostly mountainous terrain and - abundance of surface water mass. The only lowland areas can be found in the prefectures of Arta and Preveza, and the valleys of the rivers Acheron and Kalamas. The mountains are typical of the area, covering 74.2% of the total surface and account for 33.4% of the region’s population. The mountain range of Pindos, follow the Albanian Alps, is a natural geographical boundary for the Western Region of Macedonia (northern part) and Thessaly (south).

The total area of the region covers 9,203 square kilometers, of which 14% is agriculture land, 52% is - grassland, 26% - forest and a 3% that representing the surface waters, while built up areas and other uses account for the remainder of the land. In total, a 74% of the region is mountainous area.



Figure 6: An Overview of Castle of Ioannina City

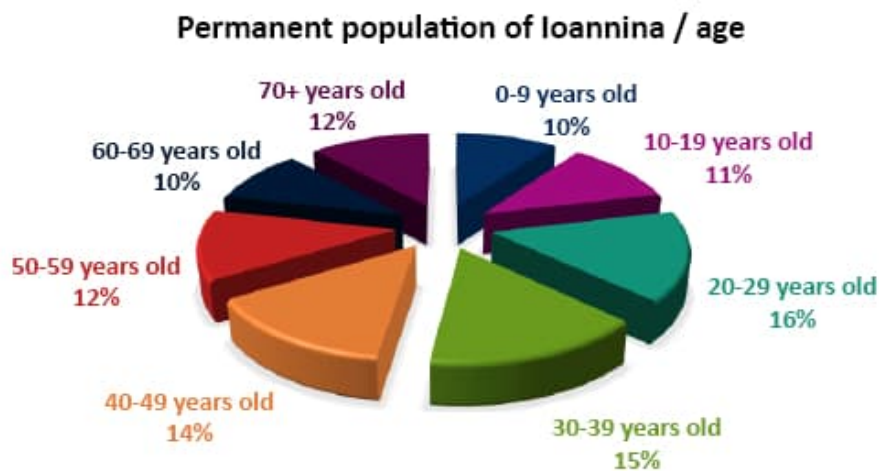


Figure 7: Permanent population of Ioannina per age

Building stock of the Municipality of Ioannina

According to the text of the Strategy for Sustainable Urban Development (SUD), it appears that in the Municipality of Ioannina there are 717 exclusively public buildings, while 43 are jointly owned by the State and individuals:

Table 1: Building stock of the Municipality of Ioannina

Description of administrative division / Entity using the building	Total of buildings	Ownership entity		
		Public	Private	Both
Regional Unit of Ioannina	83.780	4.169	79.507	104
Central / Decentralized Administration	124	102	19	3
Local Self-Administration Organization and its entities	1.092	1.035	42	15
Other Public entities	2.313	2.284	21	8
Other Private entities	301	108	177	16
Other case	78.387	429	77.919	39
Two or more entities	371	114	237	20
The entity using the building has not been declared	1.192	97	1.092	3
Municipality of Ioannina	28.527	717	27.767	43
Central / Decentralized Administration	47	37	9	1
Local Self-Administration Organization and its entities	236	221	12	3
Other Public entities	323	314	5	4
Other Private entities	54	14	38	2
Other case	27.354	71	27.260	23
Two or more entities	225	35	181	9
The entity using the building has not been declared	288	25	262	1

In addition, most of the buildings of the Municipality were built before 1985, while the Municipal units of Anatoli and Bizani Municipal Units are relatively newly built.

Table 2: Time period of building's construction

Description of administrative division	Total number of buildings	Time period of building's construction											
		Before 1919	1919 - 1945	1946 - 1960	1961 - 1970	1971 - 1980	1981 - 1985	1986 - 1990	1991 - 1995	1996 - 2000	2001 - 2005	After 2006	Under Construction
Regional Unit of Ioannina	83.780	4.004	7.582	15.579	11.731	14.898	7.733	5.058	3.992	4.147	4.412	4.022	622
Municipality of Ioannina	28.527	650	791	3.035	3.979	5.215	2.847	2.339	2.056	2.169	2.643	2.448	355

Municipal Unit of Ioannina	15.492	496	382	1.401	2.214	2.695	1.401	1.311	1.170	1.189	1.558	1.422	253
Municipal Unit of Anatoli	3.345	0	49	160	349	558	294	261	282	397	497	481	17
Municipal Unit of Bizani	2.226	20	69	298	204	336	301	210	208	174	164	220	22
Municipal Unit of Nisos of Ioannina	164	75	7	9	10	21	14	2	6	6	7	5	2
Municipal Unit of Pamvotida	5.312	45	199	814	963	1.216	577	383	252	305	282	238	38
Municipal Unit of Perama	1.988	14	85	353	239	389	260	172	138	98	135	82	23

The following Table shows the inventory of buildings, grouped by use or purpose of use (exclusive and mixed). According to the latest census, 75.3% of the buildings in the wider area of the Municipality are used exclusively as residences, a similar percentage to that of the buildings used in the Municipal Unit of Ioannina (76.08%). It is also noted that the majority of the Municipality buildings (90.75%) are for exclusive use.

Table 3: Building uses

Description of Administrative Division	Total of buildings	Total of buildings of exclusive use	Buildings of exclusive use									Total of buildings of mixed use	Buildings of mixed use								
			Residence	Churches - Monastery	Hotel	Factory - Laboratory	School	Store - Office	Parking	Hospital, Clinic etc	Other use		Residence	Churches - Monastery	Hotel	Factory - Laboratory	School	Store - Office	Parking	Hospital, Clinic etc	Other use
Municipality of Ioannina	28.527	25.888	21.474	176	71	155	194	1.321	51	10	2.436	2.639	1.975	3	34	22	23	553	0	0	29
Municipal Unit of Ioannina	15.492	13.401	11.787	28	40	54	96	852	28	7	509	2.091	1.734	0	9	12	13	311	0	0	12
Municipal Unit of Anatoli	3.345	3.102	2.567	10	0	33	19	204	11	0	258	243	123	1	0	1	1	110	0	0	7
Municipal Unit of Bizani	2.226	2.162	1.682	30	1	20	17	73	2	1	336	64	23	1	1	4	0	29	0	0	6
Municipal Unit of Nisos of Ioannina	164	156	120	9	0	0	3	22	0	0	2	8	7	1	0	0	0	0	0	0	0
Municipal Unit of Pamvotida	5.312	5.166	3.837	75	3	24	47	107	10	2	1.061	146	52	0	2	2	2	87	0	0	1
Municipal Unit of Perama	1.988	1.901	1.481	24	27	24	12	63	0	0	270	87	36	0	22	3	7	16	0	0	3

Description of Climate Information for Ioannina City

Based on the Regulation on the Energy Performance of Buildings (REPB), the Greek territory is divided into four climate zones based on heating degree days. The zones are denoted by the first four letters of

the Greek alphabet with zone A including the warmest - and zone D the coldest areas. The prefectures of the Greek territory by climate zone are presented in the Table below:

Table 4: Prefectures of Greek territory by climate zone

Climatic Zone	Prefectures
Zone A	Heraklion, Chania, Rethymnon, Lasithi, Cyclades, Dodecanese, Samos, Messinia, Laconia, Argolis, Zakynthos, Kefalonia, Ithaca
Zone B	Corinthia, Iliia, Achaia, Aetoloakarnania, Fthiotida, Phocida, Biotia, Attica, Evia, Magnesia, Sporades, Lesbos, Chios, Corfu, Lefkada, Thesprotia, Preveza, Arta
Zone C	Arcadia, Evrytania, Ioannina , Larissa, Karditsa, Trikala, Pieria, Imathia, Pella, Thessaloniki, Kilkis, Halkidiki, Serres, Kavala, Drama, Thassos, Samothraki, Xanthi, Rodopi, Evros
Zone D	Grevena, Kozani, Kastoria, Florina

The criteria for categorizing the climate zones apart from the heating degree days were the average temperature per month, the speed and direction of the winds, the level of humidity as well as the level of rainfall in the area. It should be noted that in each prefecture the areas situated in an altitude higher than that of 500 meters are included in the next colder climate zone than the one to which they belong.

The prefecture of Ioannina belongs to climate zone C meaning that the climate is continental and humid. The climate conditions are affected by the relief of the ground, which explains why low temperatures prevail in the mountains during the winter. The area is characterized by intense and regular rainfall, which actually makes it one of the most rainy areas in Greece.

The climate is one of the most important factors affecting the environment and the activities of organizations. The regional atmospheric level of precipitation, combined with the temperature fluctuations throughout the year, are key factors on which the physicochemical processes in the water-soil-flora-fauna system depend.

The geomorphological diversity of Epirus creates a corresponding variation in the climatic conditions. Thus on the coasts of the Ionian sea the climate is mediterranean, while towards the interior, where the Ioannina basin is also located, the climate is continental with heavy rainfall, low temperatures in winter and high temperatures in summer. The average annual rainfall for the period 1951-2004 has been recorded as 1079.5 mm by the Ioannina station of the National Weather Service (N.W.S) and for the period 1967-2004 as 1082.6 mm from the weather station of THE Ministry of Agriculture in Katsika. The distribution of rainfall is approximately 70% during the winter period (October – March) and 30% in summer (April – September). The maximum monthly value is recorded in November and the minimum one in August. The average monthly air temperature is - 4.9 °C at a minimum in January while in July the maximum temperature mounts to - 25.5 °C. The absolute minimum temperatures are usually recorded in January (-13.0 °C) and the maximum ones in July (42.4 °C). The average annual temperature is - 14.3 °C and the average monthly relative humidity -shows a smooth variation with a maximum percentage of 81% (December) and a minimum of 51% (July). The average annual relative humidity is 67% (Institute of Geological and Mining Research (I.G.M.R.) 2010).

For the needs of this study, the data for the years 2007-2014 have been drawn from the station in the position of Anatoli which is on an altitude of 475 m. The station in question is placed in soil. Height of heat/humidity sensors: 2 m. Anemometer height: 5 m.

-The tables below, present data regarding temperature, rainfall and wind measurements of the National Meteorological Service, for the Ioannina station (National Meteorological Service – N.M.S.). The information they provide - are extremely useful for understanding the general state of the natural

environment of the wider area. Special microclimate characteristics are not found in the area under study so it is not considered -relevant to analyze the local microclimate of the area in -the context in question.

Table 5: General meteorological characteristics in the wider area of the City of Ioannina for the year 2014 (Source: N.M.S.)

High / Low	
High temperature	36,7 °C
Low temperature	-5,4 °C
Higher average temperature	32,3 °C (August)
Lower average temperature	1,2 °C (December)
Total annual rainfall	1.486,10 mm
Maximum monthly rainfall	245,30 mm (December)
Minimum monthly rainfall	26,80 mm (June)
Higher Average Wind Speed	2,9 km/hr (February)
Lower Average Wind Speed	1,1 km/hr (November)

Temperature:

In the wider area of Ioannina the average temperature shows smooth changes with the highest temperatures being -recorded in the summer months and the lowest between December and February. The highest temperatures during the summer months reach - 40° C while the lowest can reach -10° C during the winter months.

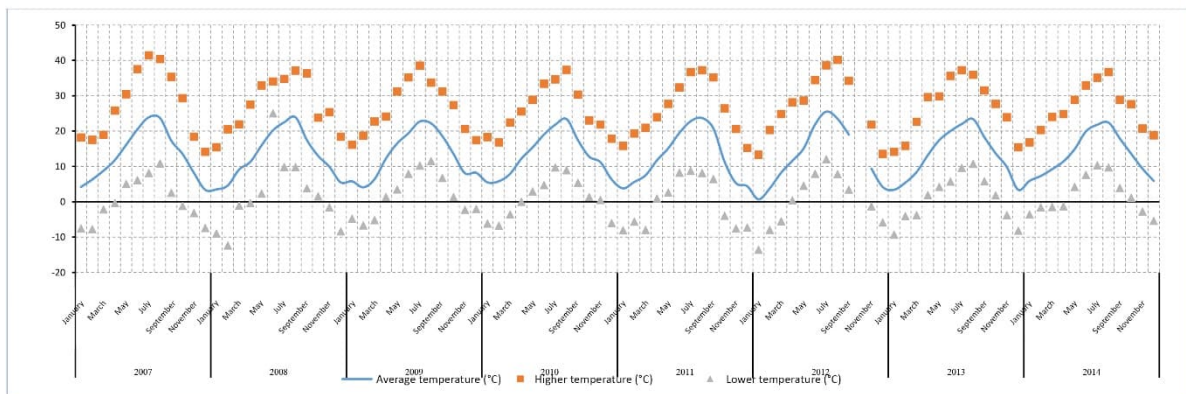


Figure 8: Chart of temperature fluctuations for the average, highest and lowest temperature per month for the city of Ioannina (years 2007-2014 Source: N.M.S)

Rainfall

As it can be seen in the diagram below, which presents the data on the height of rainfall and the total days with rain each month, in the last two years (2009 and 2010) the average rainfall measured in height of rain (millimeters) has increased quite a bit. The same has -has been noted regarding the total number of rainy days per month.

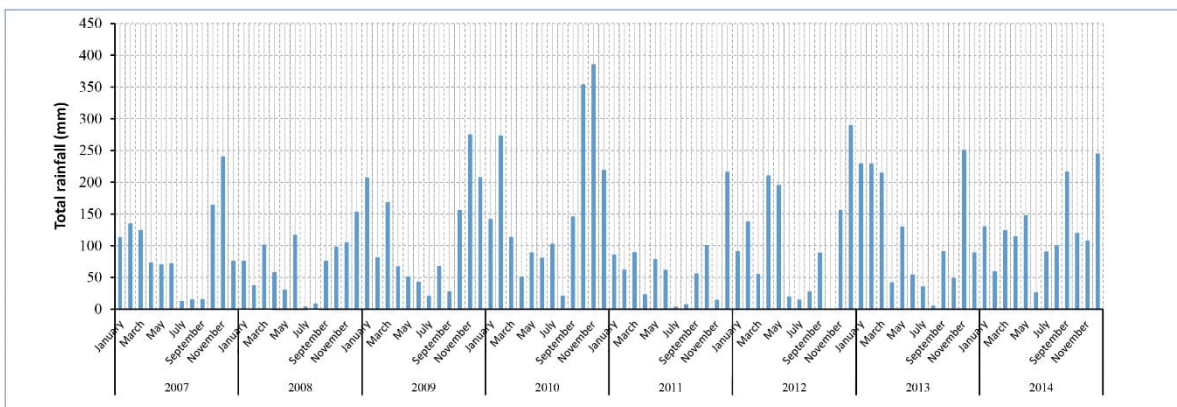


Figure 9: Rainfall chart by months of the year (years 2007-2014 Source: N.M.S.)

The wind intensity shown in the diagram below, reveals the highest values from February to April each year. The maximum value exceeds 5 km/hr and the minimum one is observed in January 2012, with the intensity reaching 1.2 km/hr.

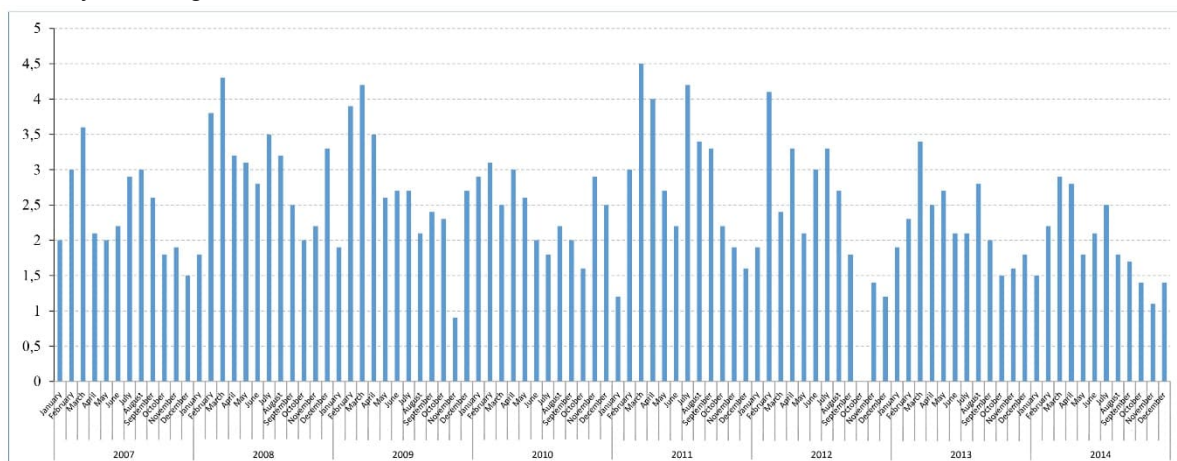


Figure 10: Wind intensity chart by months of the year (years 2007-2014 Source: N.M.S.)

The wind direction during the last 8 years is shown in the table below:

Table 6: Wind direction the last 8 years

1st Semester (2007)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	2	3	3,6	2,1	2	2,2
Wind direction	S	S	S	SW	NW	NW
2nd Semester (2007)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	2,9	3	2,6	1,8	1,9	1,5
Wind direction	NW	NW	NW	SSE	NW	S
1st Semester (2008)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,8	3,8	4,3	3,2	3,1	2,8
Wind direction	S	ENE	S	S	SSE	SE
2nd Semester (2008)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	3,5	3,2	2,5	2	2,2	3,3
Wind direction	WNW	WNW	WNW	SE	SSE	SE
1st Semester (2009)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,9	3,9	4,2	3,5	2,6	2,7
Wind direction	SE	SE	SE	SSE	SE	WNW

2nd Semester (2009)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	2,7	2,1	2,4	2,3	0,9	2,7
Wind direction	WNW	SE	SE	SE	SE	SE
1st Semester (2010)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	2,9	3,1	2,5	3	2,6	2
Wind direction	SE	SE	SSE	WNW	SE	WNW
2nd Semester (2010)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	1,8	2,2	2	1,6	2,9	2,5
Wind direction	WNW	WNW	WNW	SE	SE	SE
1st Semester (2011)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,2	3	4,5	4	2,7	2,2
Wind direction	SE	ESE	SSE	NE	SE	WNW
2nd Semester (2011)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	4,2	3,4	3,3	2,2	1,9	1,6
Wind direction	WNW BBA	NE	NE	NE	NE	NNE
1st Semester (2012)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,9	4,1	2,4	3,3	2,1	3
Wind direction	WNW	ENE	NE	SE	WNW	WNW
2nd Semester (2012)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	3,3	2,7	1,8		1,4	1,2
Wind direction	WNW	WNW	WNW		SE	SE
1st Semester (2013)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,9	2,3	3,4	2,5	2,7	
Wind direction	SE	SE	SSE	SSE	SE	
2nd Semester (2013)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	2,1	2,8	2	1,5	1,6	1,8
Wind direction	WNW	NE	WNW	SE	SE	SE
1st Semester (2014)	Jan.	Feb.	Mar.	Apr.	May	June
Average wind speed (km/hr)	1,5	2,2	2,9	2,8	1,8	2,1
Wind direction	SE	SSE	NE	NE	WNW	WNW
2nd Semester (2014)	July	Aug.	Sep.	Oct.	Nov.	Dec.
Average wind speed (km/hr)	2,5	1,8	1,7	1,4	1,1	1,4
Wind direction	WNW	WNW	WNW	SSE	SE	SE

As it has been already mentioned, the Municipality of Ioannina, which actually constitutes the basin of Ioannina, divides the prefecture into two single parts the northern and southern districts of it and therefore, combines Central European and Mediterranean geographical, climatic and ecological elements, meaning that this very region combines the warm and mild Mediterranean climate elements with the rainy and harsh Central European climate. Heavy rains are observed in winter and storms in summer. In the past, snowfall was intense with snow covering the ground even for several days, but in recent years this phenomenon has changed due to the frequent sunshine.

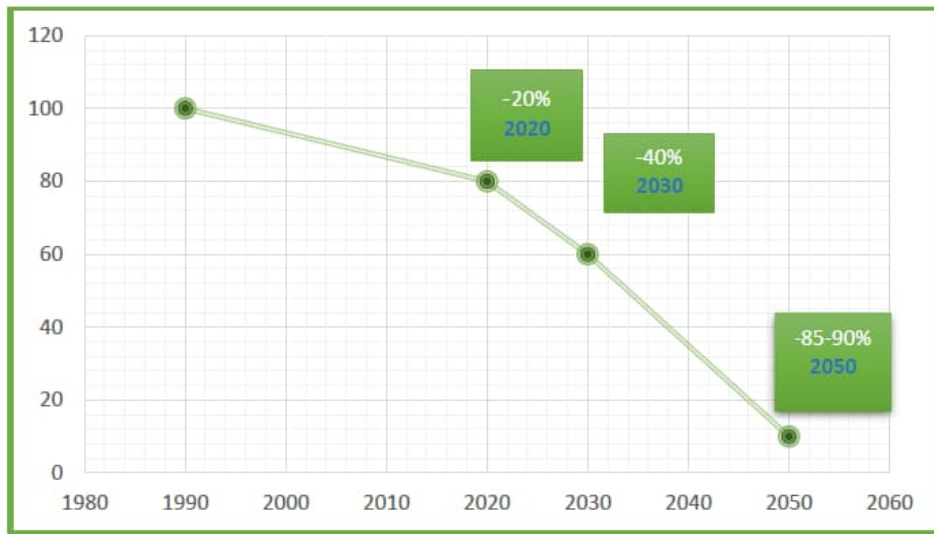


Figure 11: Chart of commitment targets for signatories of the Covenant of Mayors 2020-2030-2050

Table 7: Calculation of Annual Energy Savings (A.E.S) 2014-2020

Year	Annual Energy Savings							Total
2014	158,7							158,7
2015	158,7	158,7						317,4
2016	158,7	158,7	158,7					476,1
2017	158,7	158,7	158,7	158,7				634,8
2018	158,7	158,7	158,7	158,7	158,7			793,5
2019	158,7	158,7	158,7	158,7	158,7	158,7		952,2
2020	158,7	158,7	158,7	158,7	158,7	158,7	158,7	1.110,9
Total								4.443,7

Landscapes of Special Natural Beauty (LSNB)

The "Peri-urban Forest of Ioannina" (AT3011034) is included in the local landscapes of special beauty. Covering a total area of 106.06 ha., the n artificial pure pine forest, aged 80-90 years - extends to the outskirts of the city of Ioannina on 3-4 hills, and tends to become an urban grove since it has already been surrounded by the residential expansion of the city.

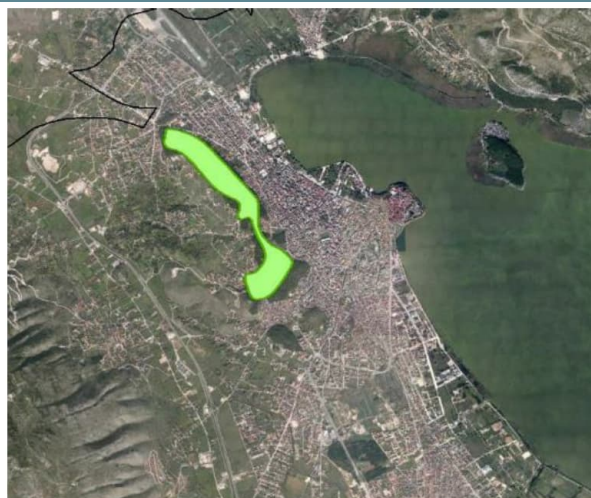


Figure 12: Ioannina's Peri-urban Forest

Proposal to become to become climate-neutral and smart city by 2030

In 2022, during the tenure of the late Mayor Moses Elisaf, who was a professor of Medical Pathology at the University of Ioannina and known for his optimistic and innovative approaches for the city's well-being, the Municipality's Financial Decisions Committee (Οικονομική Επιτροπή Δήμου Ιωαννιτών) took the optimistic decision to participate in the European Commission's invitation for the 100 European cities aspiring to become climate-neutral and smart cities by 2030. This nomination aspires to serve as a beacon for all the others, setting as an example that all European cities can follow.

The latest Mayor teamed up a group of experienced collaborators with the aim of drafting a proposal that will be addressed to the European Commission and the Net Zero Cities organization, so to present the broader plans along with the framework that the Municipality has already developed (Sustainable Energy Management Plan, Local Waste Management Plan, Sustainable Development Plan, Sustainable Urban Mobility Plan). The proposal team is organized through official collaboration with the School of Architecture at the Polytechnic Department of the University of Patras, led by two renowned professors G. Panetsos and I. Aisopos. Other distinguished members of the team are -the law attorney Kostas Karatsolis, the experienced doctoral researcher on the impact of Climate Change on cities, Angelos Chasiotis, companies ABB S.A. and POLYECO S.A., and further collaborators.

The proposal team is supported by the Municipality through the special advisor to the mayor for environmental issues, Katerina Vini.

Ioannina 2030 Proposal Team

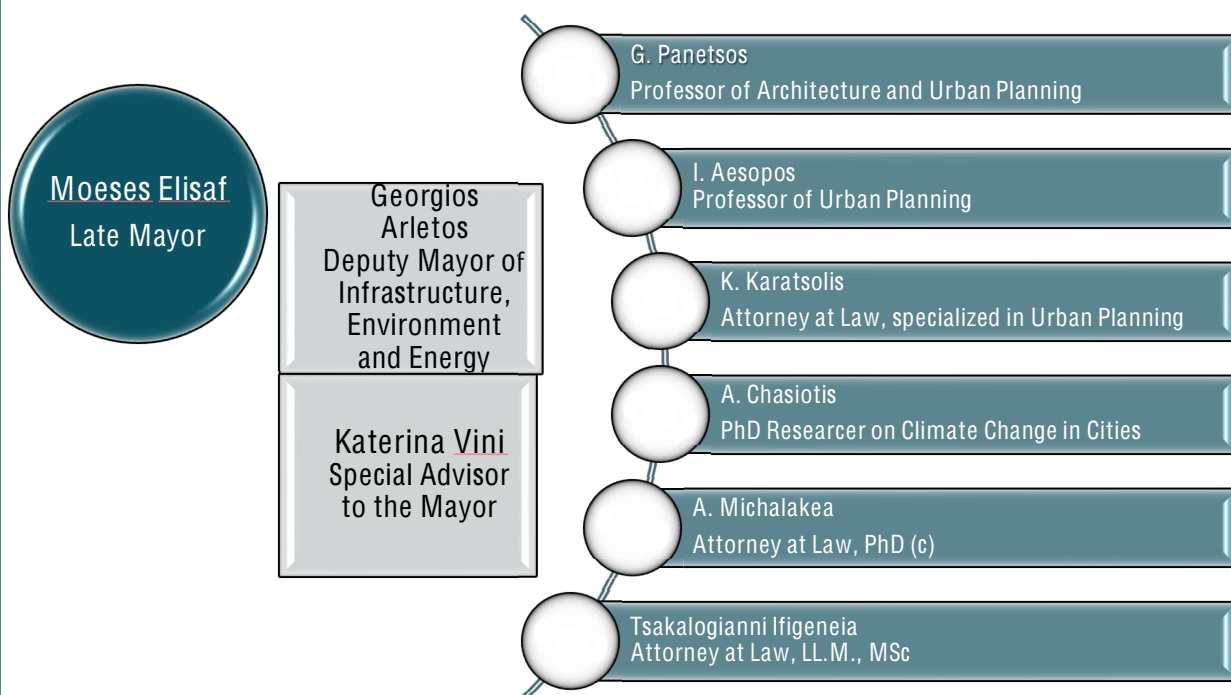


Figure 13: Proposal team

The proposal team initially records the existing greenhouse gas emissions as calculated by the SECAP for the base year 2014:

Table 8: Total emissions per sector

Sectors	Total emissions (t CO ₂ e)
Stationary energy	177.799
Transport	177.825
Waste/wastewater	19.321
Industrial Processes and Product Use (IPPU)	17.3017
Agriculture, Forestry, and Other Land Use (AFOLU)	4.466
TOTAL EMISSIONS	552.428

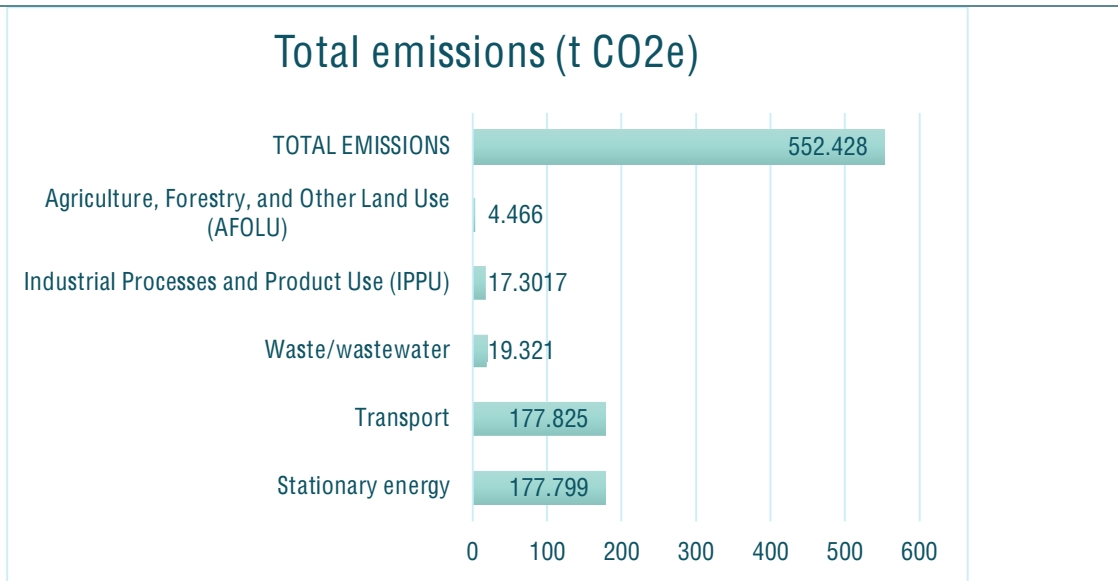


Figure 14: Chart of emissions per sector

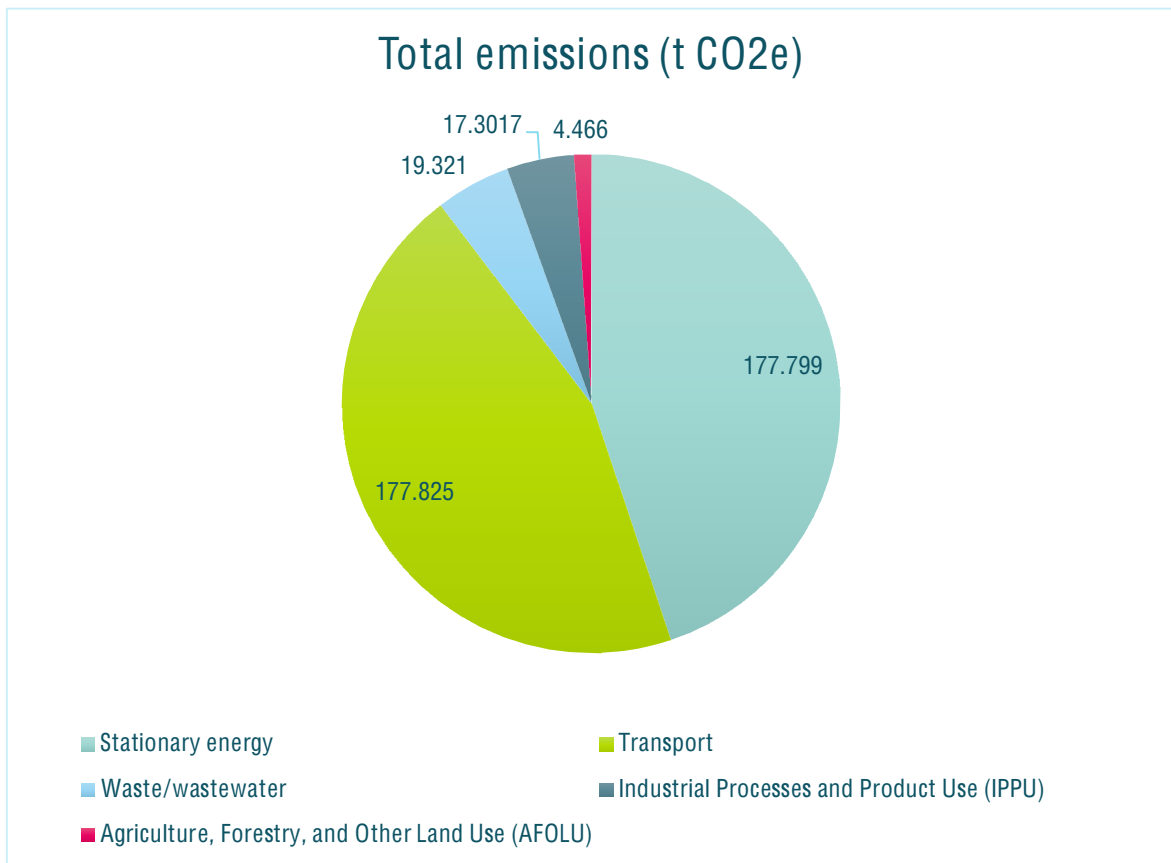


Figure 15: Pie chart of emissions per sector

Subsequently, the proposal team documents and organizes the various existing general plans, extracting the key elements from them so to demonstrate Ioannina's potential to lead in the effort towards climate neutrality by 2030.

Already in 2022, the Municipality of Ioannina has developed the following plans:

Sustainable Energy Action Plan of Ioannina Municipality (SEAP)

Year of adoption: 2018

End year: 2030

Sustainable Urban Mobility Plan of Ioannina Municipality (SUMP)

Year of adoption: 2017

End year: 2039

Local Waste Management Plan of Ioannina Municipality

Year of adoption: 2021

End year: 2030

Smart City Action Plan for Municipality of Ioannina

Year of adoption: 2018

End year: 2022

Sustainable Urban Development Strategy for Municipality of Ioannina

Year of adoption: 2017

End year: 2023

The Municipality, as stated in the Smart City Action Plan, has planned to develop new digital services and intelligent applications to support the reduction of GHG and mitigate climate change effects. Here are the short-term actions planned:

- E-Government system for the digitalization of municipal services
- Digitalization of municipal buildings security systems
- Creation of digital information system for culture and tourism
- Digital environmental monitoring and citizen information
- Integrated intelligent control system for access to municipal infrastructures using mobile devices
- Digital services for accessible and secure mobility
- Online real-time monitoring of municipal vehicle fleet
- Water digital twins
- Digital integrated systems for monitoring water loss
- Use of renewable energy sources with ICT systems for positive energy buildings (PEBs)

The main actions that have already been described in the plans and implemented with the goal of climate change mitigation/GHG reduction measures since 2005 were the following:

- Energy saving in municipal buildings, facilities and infrastructure using smart solutions
 - o Replacement of incandescent light bulbs with LED bulbs, aiming to reduce energy consumption by
 - o more than 80%, resulting to a total annual benefit in CO₂ emissions of approximately 101,24 tn
 - o Monitoring and management of electric consumption in public buildings through sensors
 - o Upgrading of urban lighting and road infrastructure energy performance



- Upgrading of municipal buildings energy performance
- Improvement in energy performance and resources management in municipal infrastructures for water supply, sewage and waste management
 - Energy upgrading of the Municipal system of water supply and sewerage
 - Energy upgrading of the central pumping station
 - Improved waste management, prevention and reuse of materials, separation at source, information, awareness and reward, management of residual assemblers of municipal waste, aimed to be reduced by 42.78% at 2025.
 - Installation of fuel saving systems and optimization of waste collection process
- Measures related with sustainable Urban Mobility
 - Acquisition of new garbage-collection vehicles
 - Upgrading and replacement of the Municipal vehicle fleet for improved energy efficiency and low emission
 - Expansion of pedestrian areas particularly in the city center
 - Electric vehicle charging plan and installation of electric vehicles charging stations
 - Actions to raise public awareness on sustainable mobility issues
- Smart City Pilot Digital Applications
 - Integrated biowaste monitoring application and monitoring of fullness of underground garbage bins.
 - Application for monitoring and managing power consumption in public buildings through sensors.
 - Application for the collection and management of environmental data through sensors.
 - Remote monitoring and remote-control application of electricity and energy consumption
- Land use actions and GIS applications
 - Urban microclimate improvement through urban regeneration projects (e.g. Kouramba Park, Hatzi square).
 - Upgrading of the Vrysoula district into a "green neighborhood".
 - Green redesign of public spaces
 - Creation of green ventilation and cooling corridors
 - Regeneration of Pysinella Park, with a total area of 21,000 sq.m., into a multifunctional activity area

Supplementary to the measures/actions that the city has - taken to address climate change mitigation/GHG reduction measures since 2005, the municipality is participating in relevant European R&I projects to support the primary focus on climate change mitigation/GHG emissions reduction:

- A Positive Energy CITY Transformation Framework – POCITYF (as partner / Horizon 2020 project)
 - Ioannina has renovated 2 buildings funded by the ERDF and will continue with 20 buildings until 2030 (fund seeking). Also plans to retrofit and upgrade street lighting network (9.000 lamps with smart control system by 2025 - fund seeking). Finally, Ioannina City Center has already identified as a potential replication district by POCITYF. The post-POCITYF RES production is estimated 6,500 MWh/year and expected energy savings to be 1,300 tons CO₂/year



- Sustainable Policy Response to Urban mobility Transition - S.P.R.O.U.T. (as a pilot city / Horizon 2020 project)
 - o The project studies the parameters that determine urban mobility and how they will be affected in the coming years. Creating scenarios for pilot cities and challenges - solutions to urban mobility with visibility in 2025 and 2030, as well as tools that will be fed with data and forecasts from indicators that affect urban mobility and will help define new policies for addressing the challenges of sustainable urban mobility. Urban mobility solutions are implemented and studied in the "pilot cities"

- Coproduction with Nature for City Transitioning, Innovation and Governance - CONNECTING Nature (as a pilot city / Structural Funds)
 - o Promotion and implementation of Nature-based solutions (NBS) in EU cities. Expansion of urban development tools and good practices for the design, implementation and financing of NBS projects. Transfer of know-how from Guide Cities to Pilot Cities Globalizing the Connecting Nature approach in cities outside Europe. The methodology is based on the following pillars:
 - Performance Indicators Monitoring.
 - Technical Solutions
 - Financing
 - Entrepreneurship

- Promoting citizens active involvement in the development of Sustainable Travel Plans in MED cities (as a partner/follower)
 - o The project promotes a new model for the development of SUMP's based on participatory design utilizing - social media and IT applications for data collection. The goal for these data is to contribute to the design of policies focusing on the citizens and the satisfaction of their needs. The central philosophy of the MOTIVATE project is citizens to raise their voice, cooperate with the competent bodies, and make their cities sustainable.

- LOCAL Fiscal Policies for GREEN Energy Mainstreaming - Local4green (as a case study)
 - o The Municipality has joined the project as an associated partner to receive technical assistance from EGTC Efxini Poli (Network Of European Cities For Sustainable Development) to develop local fiscal policies that will promote RES within municipality. The Assistance will set a number of fiscal policies that can be implemented locally.

Furthermore, it is important to state, that –already before this proposal, the Municipality of Ioannina has joined specific initiatives relevant to climate change mitigation/GHG emissions reduction:

- Covenant of Mayors for Climate and Energy (as a Demonstrator City)
 - o The Municipality of Ioannina has entered the CoM in 2015, signing the letter of Commitment with specific targets:
 - Reduction of CO₂ emissions by at least 40% by 2030.
 - Increased resilience by adapting to the impacts of climate change.
 - o So far, the Municipality has monitored emissions and used CoMs tools to achieve these targets

- 100 Intelligent Cities Challenge/Digital Cities Challenge (as a Demonstrator City)



- In June 2018, the city hosted the launch of the Greek National Coalition for Digital Skills and Jobs, which became the 20th national coalition of this kind within the European Union. The city of Ioannina and the region of Epirus aim to increase the digital skills of their residents for increased employment and improvement of the region's tourism sector.
- International Urban Cooperation programme (IUC) (2016-2020) (as a replicator city)
 - IURC will lead and develop a form of decentralised international urban and regional cooperation whose main axes of activity would be two-fold: sustainable urban development and innovation in key partner countries and regions in line with the external dimension of 'Europe 2020'. Based on capitalisation of results and lessons learned in the previous phase, the new program optimizes the added-value of international cooperation, transforming IURC into a Global Network of reference for urban innovation
- URBACT (as a replicator city)
 - URBACT's mission is to enable cities to work together and develop integrated solutions to common urban challenges, through networking, learning from others' experiences, drawing inspiration and identifying good practices to improve urban policies. The URBACT III program is organized around four main objectives:
 - Capacity for policy delivery, policy design, policy implementation, building and sharing knowledge.

After joining the Mission we succeeded in joining the call HORIZON-MISS-2021-CIT-02 of the program with the acronym CLIMABOROUGH, joining the call HORIZON-MISS-2021 HORIZON-MISS-2 program with the acronym ELABORATOR, as well as the inclusion of the project with the acronym "MOBILITIES" and the title "New Mobility solutions for climate neutrality in EU cities", in the framework of the program-3-HORIZ20 -CIT -01 and in the selection HORIZON-MISS-2023-CIT-01-01.

In addition to the above, the city's efforts have been participating in European Mobility week of 2021 (<https://ioannina.gr/εκδηλώσεις-για-την-ευρωπαϊκή-εβδομάδα/>) and 2022 (<https://2030.ioannina.gr/?p=786>, <https://2030.ioannina.gr/?p=762>, <https://2030.ioannina.gr/?p=769>)

The initiatives and actions in the areas of Sustainable Urban Mobility brought the reward for the Municipality of Ioannina. The Municipality was awarded in the context of the Urban Mobility Days 2022 conference, of the European initiative CIVITAS, which was held in Brno, Czech Republic (<https://drive.google.com/file/d/1uKoFLi8pika4EeMwgZMvltqC7Inq-kvZ/view?pli=1>). This year the Urban Mobility Days coincided with the European Mobility Week. Therefore, in the context of the Conference and during a special ceremony organized on the occasion of the 20th anniversary of the CIVITAS Awards, the Municipality of Ioannina was awarded the "CIVITAS Transformation Award", which recognizes and rewards the city that implements an integrated set of mobility measures with aiming to become a smarter and more sustainable place for everyone. (<https://2030.ioannina.gr/?p=780>)

Upon the decision of the Municipality's Decisions Committee to submit the proposal, the - Mayor commits, through the following letter, to the city's vision of becoming climate-neutral and smart by 2023.

Our main target is for our city to reach climate neutrality by obtaining Net-zero GHG emissions. To fill that gap, we, the Municipality, the Task Team, the Local Society, will take actions on every possible field, focusing on Stationary Energy and Transport, envisioning a city pedestrianized center -, with citizens using more bicycles than cars, and electric cars replacing gas cars. Those actions will be developed through extensive cooperation among the Municipality – Academic Institutions and the locals, that are all already in force, to Co-create our future Climate Neutral and smart City



We see our will to become one of the 100 climate-neutral and smart European Cities by 2030 as a great opportunity for the City of Ioannina and for Greece in general. Amid climate crisis, we also face a serious risk of energy poverty. Thus, the City's Municipality, cooperating with the citizens and local stakeholders, aspires that Ioannina will pioneer in the process of neutralizing GHG emissions and climate mitigation, and in the radical transformation of mentality as well.

The Municipality of Ioannina is in mid-level of ripeness to reduce overall GHG emissions by 2030, as several plans (e.g. the Sustainable Energy Action Plan, Sustainable Urban Mobility Plan, Sustainable Urban Development Strategy, Waste management plan and cross-sectoral Smart City plan) have been developed in the last 3 years, and all of them fall within the implementation period. For sure, participation in the "Covenant of Mayors for Climate and Energy" and "100 Intelligent Cities Challenge/Digital Cities Challenge" initiatives offer primary tools for our main target, as several measures are now being taken for reducing CO2 emissions. Yet, the vision of Ioannina city is to scale up.

To reach the target of climate neutrality by 2030, the municipality has decided to change the current organization chart and create a new administrative unit, focusing on climate neutrality planning and monitoring. Furthermore, the unit will be responsible for coordinating a Task Force of experts, offer guidance under the supervision of the Mayor, and monitor the project results. The factors who developed this proposal will also be part of the Task Force -

Proposal related large companies as ABB S.A., TERNA S.A and POLYECO S.A., Ministry of Environment and Energy.

Major academic institutions, such as:

- Department of Architecture - University of Patras
- Laboratory of Sustainable Mobility - National Technical University of Athens
- Laboratory of Climatology - National and Kapodistrian University of Athens
- Local stakeholders, as VIKOS S.A. and Local courier companies
- local society, thought their involvement on consultations and questionnaires

The citizens and inhabitants of Ioannina will help its transformation to a climate neutral and smart city.

One of our targets is to update the collected data, create a tool for monitoring and reporting, evaluate the current situation and propose policies/actions for updating the existing plans. In close cooperation with the new unit, the Team will create an overall new monitoring system to keep track on GHG emissions and climate mitigation, using also tools developed by several EU projects that Municipality has taken part, or will take part. This new system will also be disseminated over other Municipalities that share the goal of climate neutrality.

Along with our primary target, we evaluate the cooperation of the civil society in the co-creation of a climate neutral future of great importance. The start has already been made, through workshops, living labs and public questionnaires, accessible to all. The local society, scientific and commercial associations, public institutions and private stakeholders have embraced the Municipality's vision by actively engaging and massively participating in such actions.



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΔΗΜΟΣ ΙΩΑΝΝΙΝΩΝ
ΓΡΑΦΕΙΟ ΔΗΜΑΡΧΟΥ



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**Letter from the Mayor of Ioannina for the announcement of the candidacy of
the municipality for the 100 climate neutral cities until 2030**

The Municipality of Ioannina decided to respond to the challenge of the European Commission and to submit a candidacy file for the pilot program "100 energy neutral and smart cities".

We have all decided together, city stakeholders, city's political parties, neighboring municipalities, citizens, along with the Central Administration, that we must radically change our mentality, our planning strategies, our decision-making processes.

In this context, within the last months:

We organized public events and workshops aimed at the participation and information of all citizens;

We gained valuable knowledge and experiences from the participation of worthy scientists and academics;

We contacted the competent Ministries, we were informed, we provided information;


We exchanged views and experiences with other Greek and European cities;

We decided that we will do our best to change our city for the benefit of the next generations. Cities, due to the rapid urbanization of the past decades, are posed at the center of attention for mitigating and adapting to climate change. The right to clean and affordable energy is among the 17 Sustainable Development Goals and should therefore be guaranteed to every European citizen. The right of the future generations of Ioannina to enjoy a sustainable city is the basis of our decision and our vision.

Through the effort and the possible participation in the program, we aim for the city of Ioannina to incorporate experiences, funding opportunities and practices to enhance sustainable urban mobility, save energy in buildings, mitigate climate change, but also to improve the living standard of all of us.

In our city, as a result of collective effort, we won massive support, resulting to the citizen's and stakeholders consent and co-decision to proceed with the submission of the proposal. We know that the road is difficult, demanding and requires joint action, majorities and participation of all parties involved.

I, the Mayor of the city of Ioannina, having in my hands the joint will for change of the citizens, I personally declare my unwavering willingness to serve the goal of the program, as a debt to the next generation of our city. "



MOSES ELISAF
MAYOR OF IOANNINA

Figure 16: Letter from Mayor of Ioannina for the announcement of the candidacy of the municipality for the 100 climate neutral cities until 2030

Finally, it is of paramount importance to highlight citizens' and local stakeholders' engagement in climate change mitigation /GHG emissions reduction policies.

Partnerships with other cities is essential for the success of the mission. Municipality is already member of Covenant of Mayors Initiative among others, but this is not enough. We have ensured the cooperation with 2 Greek Cities Networks, to gather all lessons learnt and best practices within Greek cities, and also communicate projects progress and results to the same target. This support essential, as every city and municipality share the same target, even not for 2030, but for 2050. Furthermore, we have ensured cooperation and support with Cities from EU counties, that share the same vision and could also contribute with their policies development as a joint team. More information about the partnership with other cities could be found on proposal's site: https://2030.ioannina.gr/?page_id=559

Finally, as the citizens' engagement is considered the most important step towards climate neutrality, the Team alongside the Municipality, had organized multiple actions to gather citizens views on climate neutrality at the 1st stage, that of Proposal Submission,.

These initiatives started with a consultation with citizens in the form of an online questionnaire consisting of both general questions on climate neutrality and action-oriented questions.

The answers to this survey can be seen in Annex I, whereas in the following chart one can see the responses on the need to take action on climate neutrality - which appears to be unanimously agreed.

What is your opinion on climate change? Do we need to act immediately to deal with it?

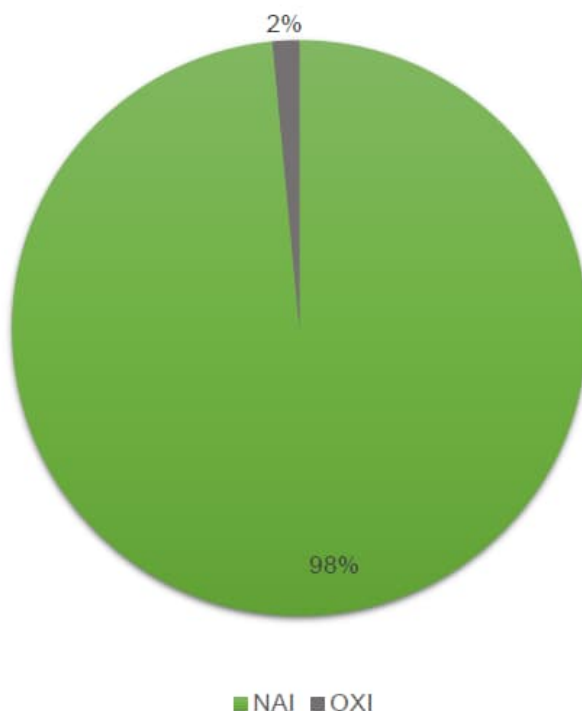


Figure 17: Survey for the necessity of dealing with climate change

Regarding the efforts of the Municipality of Ioannina to propose climate neutrality towards 2030, there have been many endorsements. Not only from citizens, but also from many institutions and organisations even outside the municipality, who expressed their willingness to support these efforts. Some of them can be presented in the list below, all of them are gathered in Annex II:

- Laboratories and Universities
 - Laboratory of Climatology and Atmospheric Environment (LACAE) of the Department of Geology and Geoenvironment at the National and Kapodistrian University of Athens (NKUA)
 - Sustainable Mobility Unit – National Technical University of Athens, School of Rural Surveying and Geoinformatics Engineering
 - UNESCO Chair Con – E – Ect, International Hellenic University
 - University of Ioannina
- Greek Municipalities
 - Municipality of Dodoni
 - Municipality of Zagori
 - Municipality of Zitsa
 - Municipality of Metsovo
 - Municipality of Voria Tzoumerka
 - Municipality of Konitsa
- Foreign Municipalities
 - Kiryat Ono Municipality
 - Municipality of Valladolid
- Greek Ministry of Environment and Energy
 - General Secretariat of Natural Environment and Water
 - General Secretariat of Design & Urban Planning
- Greek Ministry of Transport



- Local Stakeholders
 - Panhellenic Association of Certified Engineers of Public Works Contractors
 - Poultry Organization of Ioannina
 - Secretariat for Primary education of Ioannina
 - Regional federation of persons with disabilities of Epirus
 - Organization of urban transport of Ioannina
 - Police Station of Ioannina
 - Municipal Enterprise of Water & WasteWater of Ioannina
 - Bar Association of Ioannina
 - Chamber of Ioannina
 - Hoteliers union of Epirus
 - Association of property owners of Ioannina City
 - Greek Water Airports
 - Transports Association of Ioannina City
 - Association of industry enterprises of Ioannina
- Cities Networks
 - Network of Cities with Lakes
 - Greek network of small islands
 - EOTC Efxini Poli
 - Sustainable Cities
- Private Companies
 - ABB SA Greece
 - POLYECO SA
 - TERNA SA
 - ZAGORI Water
 - VIKOS Water
 - Nea Idea Metaforiki
 - Lakiotis Metaforiki

In April 2022, it was announced by the European Commission that the city of Ioannina was selected among 377 applicant European cities to be among the 100 cities that will strive to achieve this optimistic goal.

2 Work Process

This section should list the working steps carried out, for example along the NZC Climate Transition Map, or related steps planned as well as outline timeline and milestones for future iterations for the continuous development of the Action Plan.

Work Process - combination of textual and visual elements

Journey of the Municipality of Ioannina'- towards having achieved climate neutrality by 2030 is mapped out using the NZC Climate Transition Map, which provides a structured framework for our actions. Our approach is iterative, ensuring adaptability to emerging challenges and opportunities while maintaining a clear vision.

From the very day that the city of Ioannina was selected to join the European Commission's Mission Cities programme to become one of the 100 climate neutral and smart cities by 2030 (April 2022), the Municipal Authority under the late Mayor Moses Elisaf was mobilised, simply acting on the obvious: continuing the cooperation with the Proposal Team and ensuring its further expansion to create the Transition Team. The Transition Team was essentially tasked with organizing and structuring a more precise plan for climate neutrality by 2030, amplifying the City's already significant efforts. Team's primary objective was to increase active citizen involvement, initially by providing them with the necessary information and mobilising them to help shape the plan that the city will follow.

The structure of the Transition Team, as it was formed, is as follows:

The structure of the transition team, as it was formed:

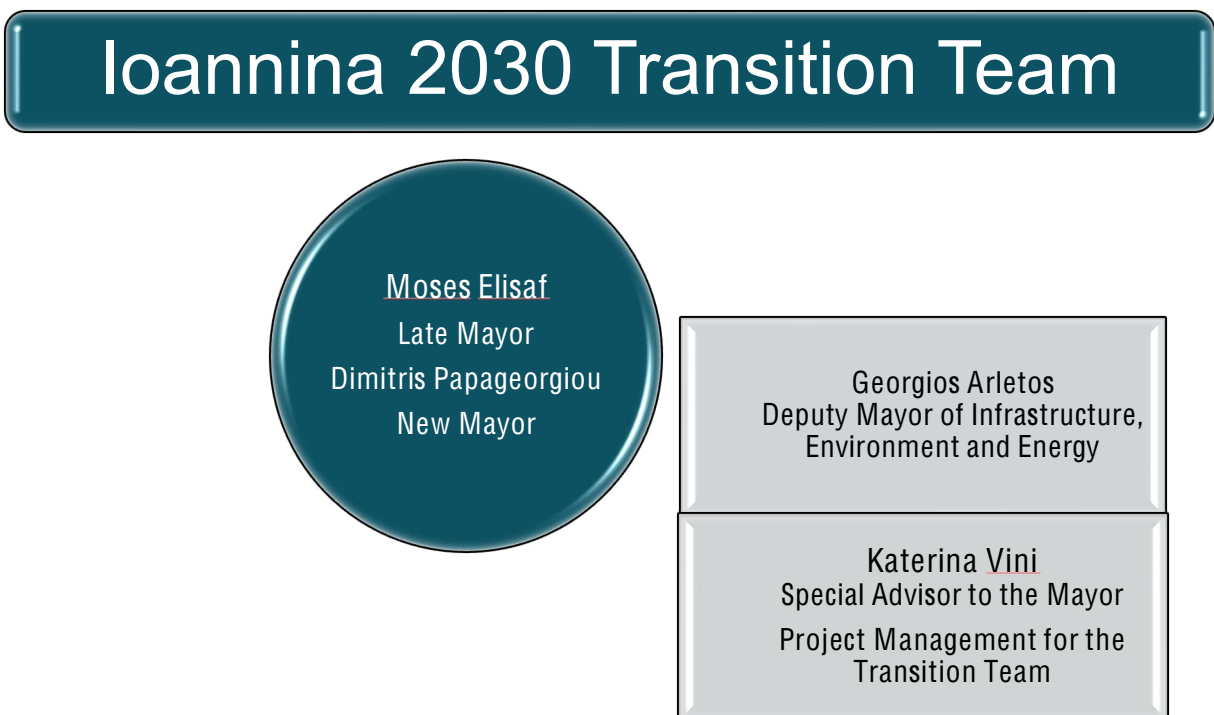


Figure 18: Transition team

Katerina Vini, who has been serving as a Special Advisor to the Mayor, accepted to take on the project management for the Transition Team, working closed with all the teams that will be described below. Together

with the Mayor, they formed several teams in order to work on every aspect of the Climate City Contract, getting as much help needed, both from external advisors and university professors.

The Transition Team plays a pivotal role in:

- **Promoting the Portfolio:** The team contributes to the promotion of the emerging portfolio and the full ecosystem contributing to its creation, delivery, and evolution over time.
- **Implementation:** The team coordinates the implementation of actions among different organizations and groups, ensuring efficient, orchestrated implementation of actions.
- **Tracking Progress:** The team evaluates how portfolio actions contribute to the city's achievement of the climate neutrality goals, focusing on ongoing, transparent learning.
- **Learning and Reflection:** The team facilitates, collects, and disseminates learning among actors of the ecosystem and interventions of the portfolio to accelerate knowledge sharing and impact. It also participates in exchanges with other cities and their Transition Teams, through national or regional networks.
- **Adaptation:** The team constantly works on adapting portfolio actions to meet context-specific needs and respond to recent lessons learnt. It creates a culture in which changing needs and challenges are constantly addressed, discussed, and addressed.

The Transition Team, with its structured approach and commitment to the continuous learning and adaptation, ensures that the Municipality of Ioannina remains on track to achieve its climate neutrality goals.

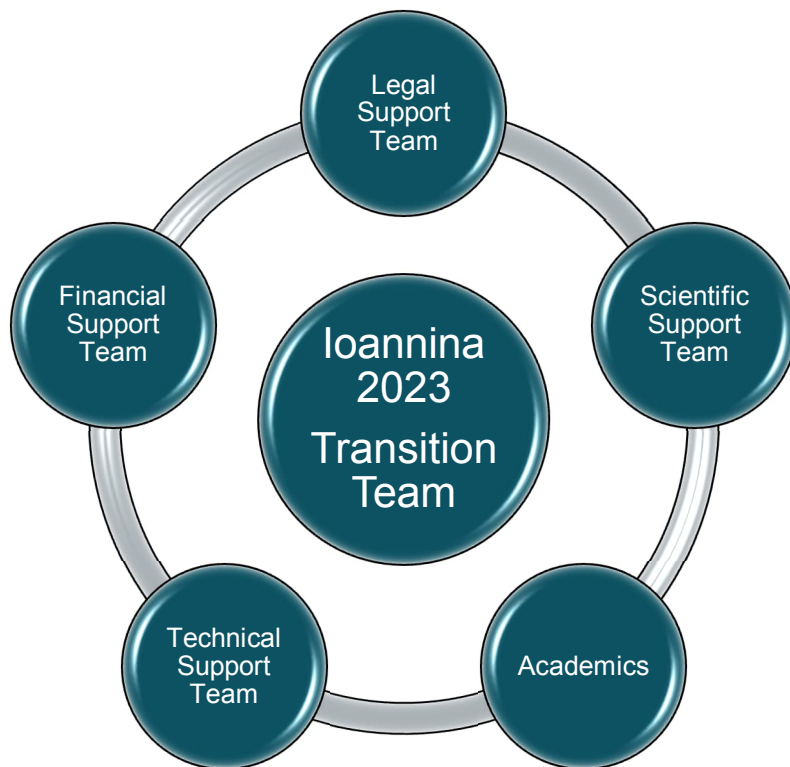


Figure 19: Transition team composition

The total transition team consists of:

- Legal support team
- Financial support team
- Technical support team
- Scientific support team
- Academics

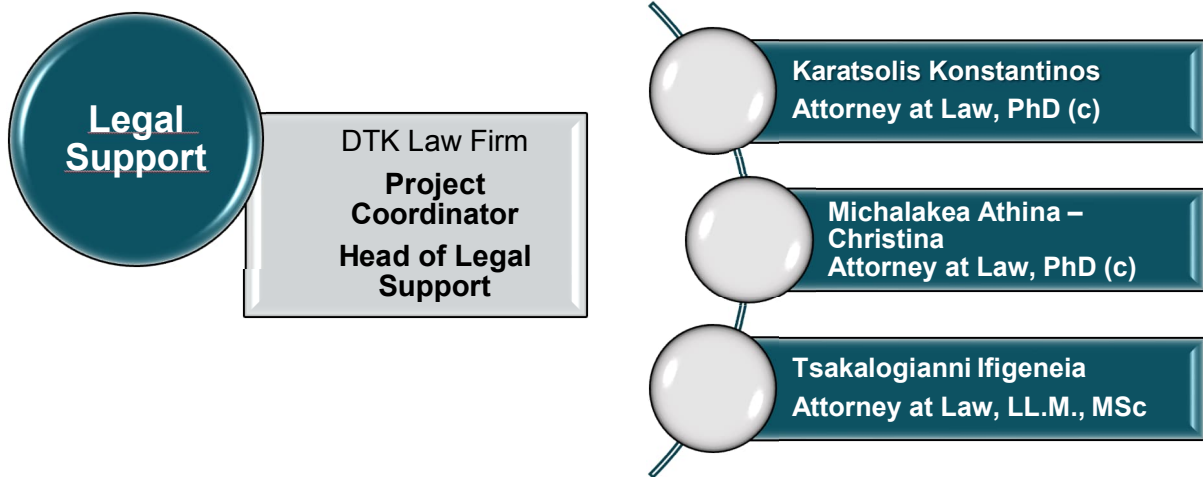


Figure 20: Legal support composition

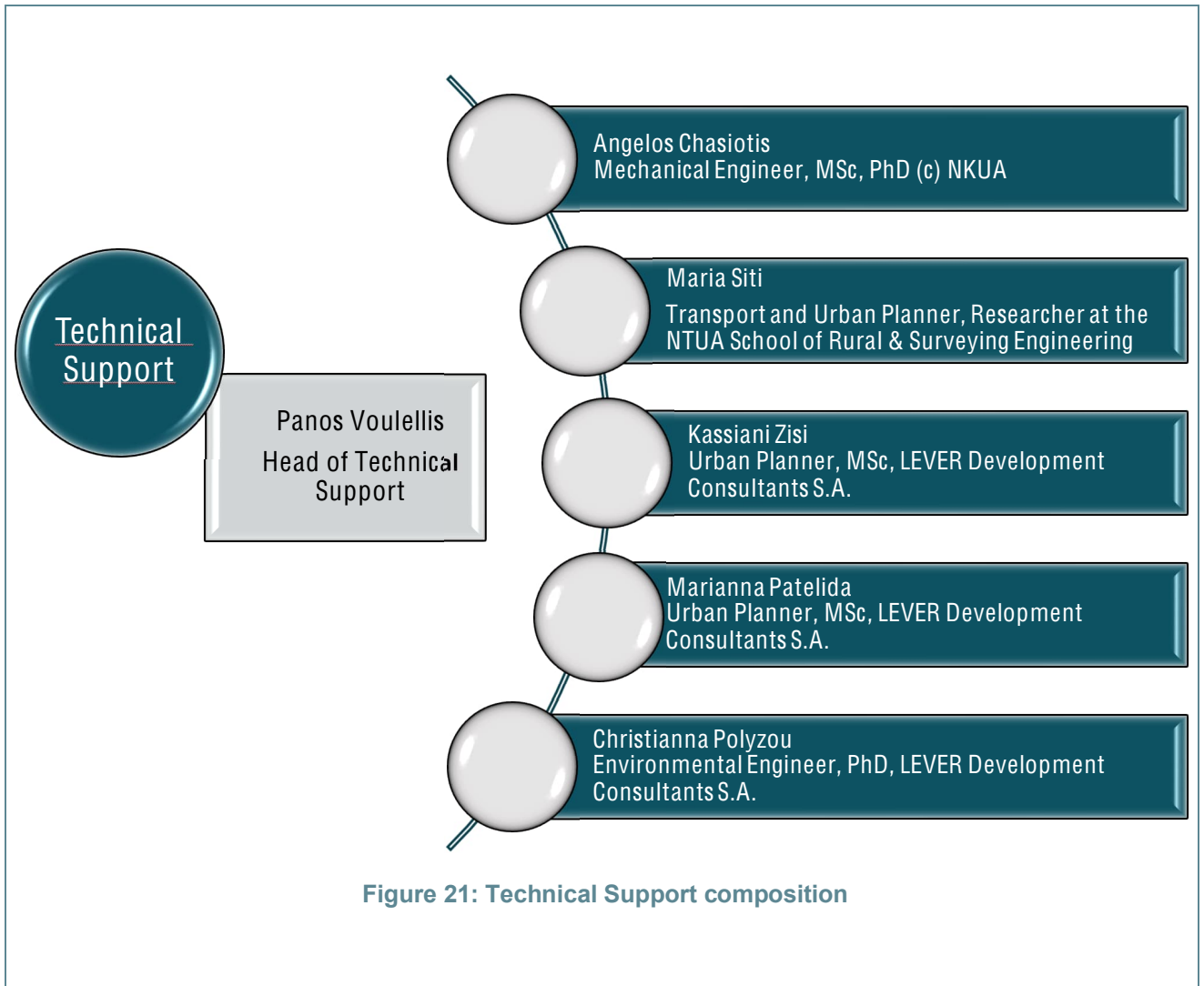


Figure 21: Technical Support composition

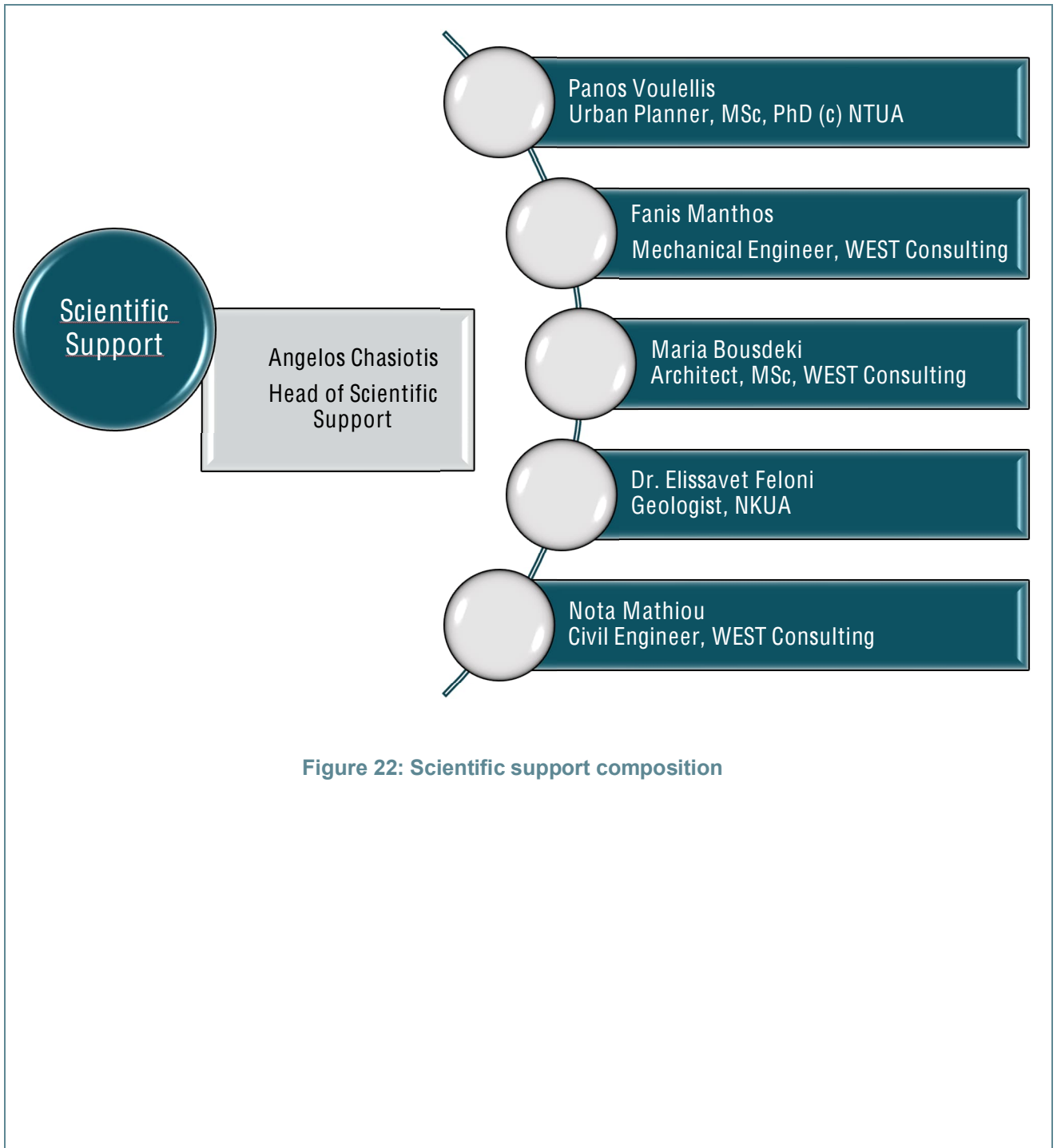


Figure 22: Scientific support composition

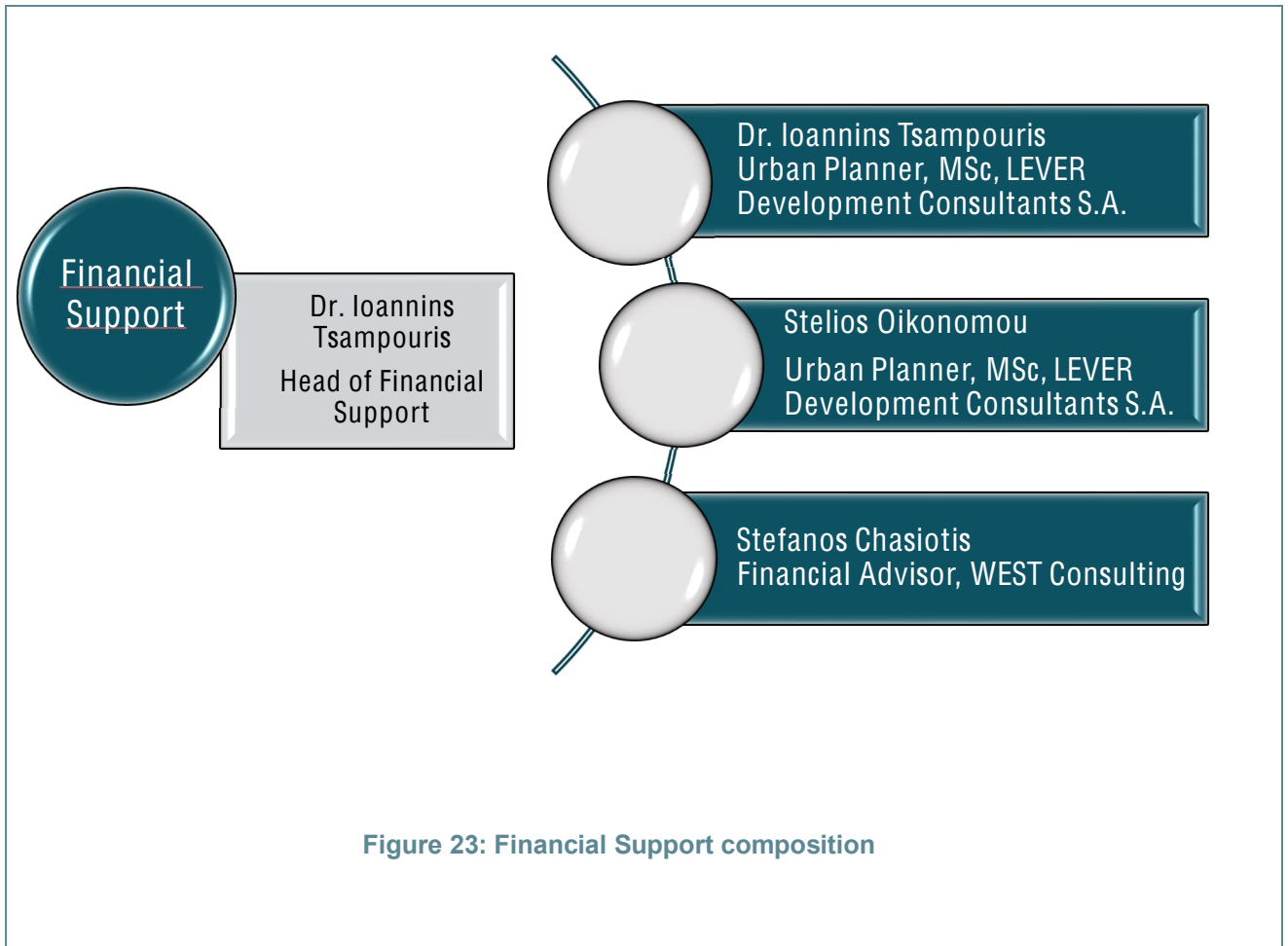


Figure 23: Financial Support composition

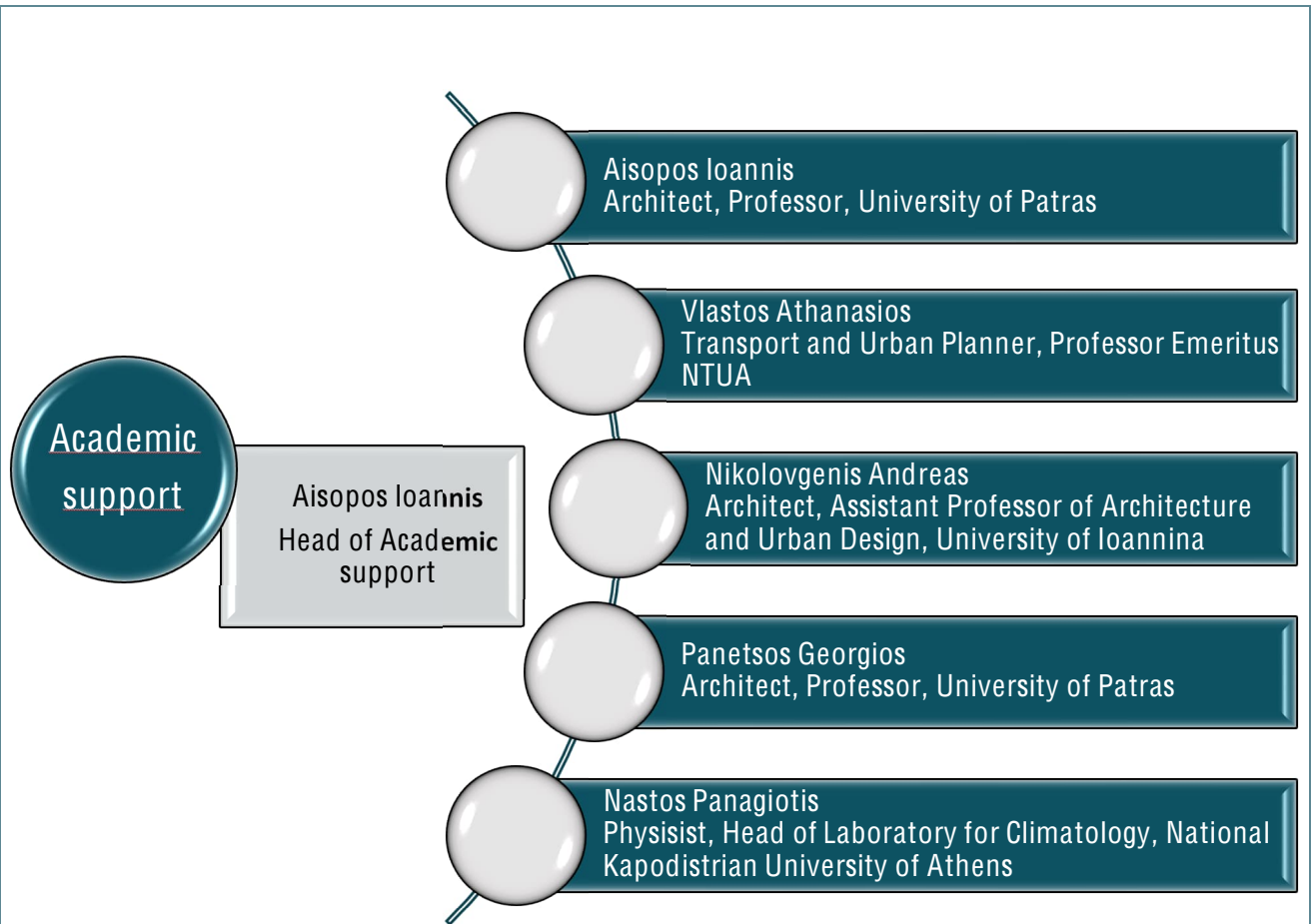


Figure 24: Academic support composition

The initial responsibility of the transition team was to create the fundamental climate neutrality plan, in accordance with the initial proposal selected by the Municipality of Ioannina. A key step was the development of the current Action Plan, which is accompanied by the Investment Plan. To support the completion of the Action/Investment Plan, another commitment plan was also prepared, including - support letters, MOUs, and specific commitments related to the execution of the Action Plan.

During the development of the Action Plan, the teams collaborated with each other to gather the necessary information, create the necessary actions for Ioannina to achieve climate neutrality, and organize essential workshops and seminars to inform citizens, aiming to later engage them directly in co-creating the actions.

The overall project management, included coordination activities and meetings, financial administration & management, data management, project (impact) monitoring and evaluation and reporting (incl. key-performance indicators (KPIs)). The key objectives are:

1. To ensure a High-quality Implementation of the Work Plan within Budget and Timescales

In-depth Analysis:



- **Investment Plan Tracking:** To implement a rigorous tracking system in order to monitor the progress of the investment plan. This system should be designed to provide real-time updates on the allocation and performance of investments in energy-efficient technologies, renewable resources, and other sustainability-related expenditures.
- **GHG Reduction Tracking:** In parallel with the investment plan, a parallel tracking mechanism specifically for GHG emissions is to be created. This should measure reductions in the level of CO₂e/y so to align with the project's sustainability goals. It utilizes specific software or tools that can integrate this environmental data directly into broader project tracking systems.
- **Climate-specific KPIs:** Key Performance Indicators should include metrics related to the effectiveness of the investment plan in achieving its stated goals, as well as specific targets for GHG reduction in the CO₂e/y. These KPIs should be reported together Transitional project metrics would provide a holistic view of project performance.

Transition Team Roles:

- **Investment Tracker:** This role will be focused on ensuring that the funds allocated in the investment plan are utilized effectively and as planned, while also track ROI on sustainability investments.
- **GHG Analyst:** Responsible for collecting and interpreting data on GHG emissions, translating them into tn CO₂e/y, and integrating this data into regular project performance reports.
- **Climate Finance Expert:** This role will focus on overseeing both the investment and any GHG tracking processes, ensuring they are well-integrated and align with the project's financial and environmental goals.

By ensuring rigorous tracking mechanisms for both the investment plan and the GHG emissions, the Transition Team can provide the Municipality of Ioannina with a robust and integrated approach of the project management. This dual tracking will be crucial in meeting the demands of both financial responsibility and environmental sustainability, thereby aligning the project more closely with the requirements and objectives of the European Cities Mission program.

2. Effective Organization, Coordination, and Day-to-day Management

In-depth Analysis:

- **Collaborative Platforms:** Utilizing collaborative platforms that are not only effective in terms of task and project management but also have low environmental impact (e.g., cloud-based systems running on renewable energy).
- **Sustainability Milestones:** Within the project management timeline, milestones that are specifically related to GHG reduction in tn CO₂e/y and other sustainability indicators are included, ensuring that these milestones are following the overall project timeline.
- **Partner Integration:** Facilitating effective communication and collaboration with consortium partners and stakeholders, ensuring that all parties are on the same page regarding their efforts to achieve the project's sustainability and climate neutrality goals.
- **Decision-making Protocols:** Establishing clear protocols for making decisions that affect both the project's progress and its sustainability goals. This can include consensus methods or weighted scoring systems that stress the importance of the environmental factors.
- **Eco-friendly Meeting Policies:** Encourage practices like paperless meetings and the use of video conferencing to minimize travel, thereby reducing the project's GHG footprint.



- **Sustainability Crisis Management:** Develop contingency plans for any disruptions that may affect the project's sustainability goals. This should include both immediate remedial action and strategies to recalibrate and refocus on the project's environmental objectives.

Transition Team Roles:

- **Organizational Coordinator:** This role is responsible for the logistical aspects of team coordination and should have a solid understanding of the project's sustainability goals.
- **Sustainability Integration Manager:** A key player who ensures that the sustainability goals, particularly GHG reductions in tn CO₂e/y, are embedded in the day-to-day operations and decision-making processes.
- **Stakeholder Liaison:** This role focuses on ensuring effective communication and alignment between the Transition Team and external partners and stakeholders, particularly concerning sustainability and climate neutrality goals.

By integrating sustainability practices into the day-to-day management and organizational structure, the Transition Team can foster an environment project that is not only efficient but also ecologically responsible. In this way, the Municipality of Ioannina can work towards fulfilling the stringent criteria set forth by the European Cities Mission program for climate neutrality and sustainability.

3. Preparation and Elaboration of the Consortium Agreement

In-depth Analysis:

- **Sustainability Clauses:** Embed clauses that explicitly lay down the responsibilities and expectations of each consortium member regarding the project's sustainability goals, specifically GHG reduction in tn CO₂e/y.
- **Investment Plan Compliance:** Include terms that bind consortium members to adhere to the financial commitments outlined in the project's investment plan, ensuring that funds dedicated to achieving climate neutrality are used judiciously.
- **GHG Emission Reporting:** Mandate regular reporting of GHG emissions in tn CO₂e/y by each consortium member, coupled with penalties for failure to meet reduction targets.
- **Conflict Resolution Mechanisms:** Establish protocols for resolving conflicts that may arise, especially those that impact the sustainability objectives of the project.
- **Third-party Audits:** Make provisions for external audits by environment-focused bodies to independently verify progress towards GHG reduction and other sustainability targets.
- **Exit Strategy:** Clearly outline the criteria under which a member may exit the consortium, ensuring that the withdrawal does not adversely impact the project's sustainability goals.

Transition Team Roles:

- **Environmental Legal Advisor:** This role is critical for crafting the consortium agreement with a keen focus on sustainability clauses and compliances.
- **Financial Compliance Officer:** Responsible for ensuring that the consortium members are in adherence with the investment plan and any related financial obligations in the agreement.
- **GHG Reporting Coordinator:** Manages the collation, verification, and submission of GHG emissions data in tn CO₂e/y by each consortium member, to ensure compliance with the agreement's terms.



By diligently incorporating sustainability and climate neutrality considerations into the consortium agreement, the Transition Team can establish a strong contractual framework that incentivizes all members to actively contribute to these goals. This approach not only enhances the project's alignment with the European Cities Mission program but also fortifies its credibility and impact in the realm of sustainable urban development.

4. Project Monitoring and Evaluation

In-depth Analysis:

- **Real-time Data Dashboard:** A system -utilizing the existing project management software that also incorporates real-time data tracking on sustainability metrics, including GHG emissions in tn CO₂e/y.
- **Quarterly Assessments:** - Comprehensive assessments conducted every quarter that include an in-depth review of the investment plan's ROI, as well as report on how effectively GHG reduction targets are being met.
- **Environmental Impact Assessments (EIAs):** Assessment carried out at critical project milestones to gauge the long-term environmental impacts, either positive or negative, of the project initiatives.
- **Financial Audit and Sustainability Audit:** Audits conducted separately but in parallel focusing on financial compliance as per the investment plan and progress on sustainability and climate neutrality objectives.
- **Stakeholder Reviews:** Involve consortium members, local authorities, and even citizen representatives in periodic reviews to collect feedback on both operational and sustainability aspects of the project.
- **Corrective Action Mechanisms:** Deployed in cases when targets, particularly in GHG reductions, are not being met. They include a predetermined set of corrective actions and strategies to get the project back on course.

Transition Team Roles:

- **Monitoring and Evaluation (M&E) Officer:** Oversees the entire M&E process, ensuring that both financial and sustainability metrics are accurately and timely captured.
- **Sustainability Auditor:** Specializes in auditing the sustainability aspects of the project, particularly focused on GHG reduction in tn CO₂e/y, energy efficiency, and waste management.
- **Financial Auditor:** Ensures that the investment plan followed and that financial milestones are met, by conducting audits in alignment with the project's financial goals.
- **Stakeholder Feedback Coordinator:** This role is crucial for gathering and synthesizing stakeholder feedback, which can be invaluable for both operational adjustments and improving sustainability outcomes.

By incorporating rigorous monitoring and evaluation processes that focus on both operational efficiency and sustainability metrics, the Transition Team will provide the Municipality of Ioannina with actionable insights. This will enable data-driven decision-making to achieve both the project goals and the climate neutrality targets as stipulated by the European Cities Mission program.



5. Coordination and Information of Civil Society

In-depth Analysis:

- **Public Awareness Campaigns:** Campaigns that are regularly conducted to keep the civil society informed about the project's aims, progress, and specifically, to maintain its commitment to GHG reduction in tn CO₂e/y and the other broader sustainability goals.
- **Citizen Feedback Mechanism:** Accessible channels through which citizens can offer feedback or voice concerns related to the project, ensuring that this input is systematically integrated into project evaluations.
- **Sustainability Education:** With the use of public platforms, the community is educated on the importance of sustainability and how the project aims to contribute to local and global environmental goals.
- **Community Engagements:** Community workshops, webinars, and public forums where citizens can directly engage with the Transition Team and other project stakeholders.
- **Transparency Tools:** An online portal where all key project documents, including financial disbursements from the investment plan and data on GHG emissions in tn CO₂e/y, are publicly accessible.
- **Citizen Representation:** A team including citizen representatives in key decision-making bodies or committees that influence the project's sustainability policies and objectives.

Transition Team Roles:

- **Community Relations Manager:** Responsible for orchestrating all forms of engagement with the community, from disseminating information to organizing public events.
- **Transparency Officer:** Focuses on ensuring that all relevant project information, especially those pertaining to sustainability and GHG reductions, are readily accessible to the public.
- **Educational Outreach Coordinator:** Develops and delivers educational content and programs that aim at increasing public awareness and understanding of the project's sustainability goals.
- **Feedback Analyst:** Gathers and analyzes citizen feedback to inform project decisions, particularly in areas affecting public opinion and sustainability.

The proactive engagement of civil society not only enhances the project's social license to operate but also fosters a community-centric approach towards achieving sustainability and climate neutrality. By making this a key objective, the Transition Team ensures that the Municipality of Ioannina's project aligns closely with the participatory and transparency requirements of the European Cities Mission program. This broad base of public engagement and support can serve as a valuable asset in meeting both local and global sustainability targets.

The Transition Team, entrusted with the multi-faceted role of guiding this ambitious project to success, is fundamentally aligned with the overarching objectives of achieving sustainability and climate neutrality by 2030. Through a meticulously crafted framework of key objectives, the team is poised to deliver operational excellence while embedding the ethos of environmental stewardship in each project facet.

1. **High-quality Implementation within Budget and Timescales:** By keenly tracking financial commitments in the investment plan and GHG reduction in tn CO₂e/y, the Transition Team establishes a strategic approach that balances economic and environmental dividends.
2. **Effective Organization, Coordination, and Day-to-day Management:** A culture of proactive collaboration and strategic alignment with sustainability milestones ensures that the project stays true to its dual aims of operational efficiency and climate neutrality.



3. **Preparation and Elaboration of the Consortium Agreement:** A legally binding consortium agreement, fortified with sustainability clauses and financial commitments, provides a contractual foundation that aligns every stakeholder with the project's environmental objectives.
4. **Project Monitoring and Evaluation:** Through real-time data monitoring, regular audits, and stakeholder feedback, the Transition Team generates actionable insights for dynamic, data-driven decision-making aimed at sustaining financial and environmental goals.
5. **Coordination and Information of Civil Society:** An approach rooted in transparency, education, and citizen engagement ensures that the project garners a broad base of public support, enhancing its social license to operate and creating a community-centric pathway to sustainability.

By integrating these key objectives into its project management framework, the Transition Team plays an irreplaceable role in piloting the Municipality of Ioannina towards a future that not only meets the stringent criteria set forth by the European Cities Mission program but also elevates it as a model of sustainable urban governance. The finely-tuned balance of financial diligence, stakeholder alignment, rigorous monitoring, and public engagement all pave the way for Ioannina to make a transition as a climate-neutral municipality by 2030, setting a precedent for urban sustainable development in Europe.

Through collective effort and strategic foresight, the Transition Team is fully equipped to navigate the complexities of this multi-stakeholder, multi-objective project, steering it towards a sustainable future that stands as a testament to what can be achieved through thoughtful planning, community engagement, and unwavering commitment to environmental stewardship.

Workshops and seminars

During the development of the plans (Action - Investment - Commitment plans), the transition team and other collaborating entities conducted various workshops and seminars aimed at encouraging the achievement of climate neutrality. The objectives of these actions were to inform citizens therefore foster the necessary culture for climate neutrality as well as to co-create views and actions for the common goal by 2030.

The most significant of these are presented below:

A. Workshops 'Designing Together for Bicycles'

Specifically, three workshops were conducted by members of the transition team, T. Vlastos (renowned Greek Professor Emeritus of Topography at the National Technical University of Athens for the development of bicycle usage culture) and M. Siti (a well-known researcher in Topography at the National Technical University of Athens specializing in bicycle lane planning in cities).

A.1: 1st Bicycle Workshop:

In the workshop, the Municipality, the study group and the citizens discussed the basic concepts related to the design for the bicycle as well as the future actions.

NTUA Professor Emeritus, Urban Planner - Transportation Specialist T. Vlastos emphasized the participation of citizens in planning for the bicycle use. "Using the bicycle will make the city more humane and a lot friendlier. The bicycle is the means that guarantees the best utilization of space. Today the car has taken over everything and the point is to create space for both pedestrians and cyclists," said Mr. Vlastos, emphasizing that very well-organized steps must be taken for the city to meet its climate neutrality commitments. (<https://2030.ioannina.gr/?p=726>)

A.2: 2nd Workshop in conjunction with the European Mobility Week 2023:

On 9/19, the 2nd Workshop followed with the topic "Planning together for the bicycle" - "What are the problems of cycling in Ioannina? Discussion of what could be done". In the workshop, which is the second consultation



process for the integration of the bicycle in the life of the city, the study group presented the policies to strengthen the presence of the bicycle, taking into account basic planning elements and the peculiarities of the road network of the city of Ioannina. This was followed by a presentation of proposals on the designing of cycle paths around the city, strengthening the existing network.

<https://2030.ioannina.gr/?p=747>,

<https://2030.ioannina.gr/?p=775>

A.3: 3rd Workshop:

In the 3rd Workshop, the Municipality, the study group, a representative of the Ministry of Environment and Energy, representatives of Entities and citizens discussed the proposed final bicycle infrastructure network in the city of Ioannina, the priorities for its implementation, as well as the policies to raise awareness and activate residents in relation to the bicycle. Basic principles of the network for the bicycle are the connection of important activities of the city, the activation of predetermined pedestrian paths from the urban planning regime in force, the reinforcement of the sidewalk network, the reduction of the speed limit, etc.

<https://2030.ioannina.gr/?p=819>,

<https://2030.ioannina.gr/?p=822>

The 'Designing Together for Bicycles' workshops aimed to create a masterplan for the development of a bicycle network in the city of Ioannina. There have been three co-design meetings with the public, city stakeholders, and experts. Initially, the participation and awareness methodology for integrating bicycles into the city's daily life were presented, so the public was familiarized with common policies for increasing bicycle usage. Then, through presentations, public exercises, and discussions, the topic of how to incorporate bicycles into the city of Ioannina was raised and analysed in depth.

During the public exercises, participants designed desired routes, connections, points of interest, and various specific elements on maps. This was followed by dialectical discussions.

In subsequent workshops, measurements of the city's network dimensions were presented, focusing on axes that could potentially accommodate bicycle infrastructure. An analysis of survey questionnaires aimed at identifying problems and difficulties related to the everyday use of bicycles by citizens was also conducted. The questionnaires sought to gather public opinions on specific interventions, and approximately 400 people responded.

Finally, an extensive preliminary proposal for a strategy to integrate bicycles into Ioannina was presented in another workshop. The proposal clarified distinct policies for a) reclaiming space from cars, b) coexistence of bicycles with automobiles, and c) granting access privileges to bicycles. The proposal was based on protecting the city center and interrupting traffic flows within it, creating areas/zones of mild traffic, etc. It included proposals for organizing major road axes, connecting the existing bicycle network, and rectifying current network shortcomings. Special emphasis was put on iconic routes and the lakeside front in terms of providing space for pedestrians and cyclists. Additionally, proposals were made for serving the city center with small public transport vehicles on two circular routes, bicycle-taxi vehicles, and an emphasis on the importance of switching to cargo bikes for deliveries.

Among other activities, the public exercises involved rating and prioritizing interventions on maps, followed by dialectical discussions.

QUESTIONNAIRE – conducted during the workshops – parallel survey

A survey through a questionnaire was conducted with the aim of identifying problems and difficulties faced by citizens regarding bicycles, while simultaneously seeking public opinions on specific interventions. Approximately 400 individuals responded.

- In the assessment of issues (why I don't cycle in Ioannina), 84% responded that there are no bike lanes and special lanes to ride a bicycle, 68% mentioned that drivers do not pay attention to cyclists,

66% noted the absence of safe roads in their neighborhood for cycling. and a 23% cited heavy rainfall as a deterrent.

- Regarding infrastructure preferences, 58.9% preferred bike lanes, while 24.9% favored bike lanes, followed by other infrastructure options with lower percentages.
- In response to the question about selecting roads where respondents would prefer less space for cars and more bicycle infrastructure, 58.9% chose L. Dodonis Street, 48.6% selected Averof Street, 41.8% chose the lakeside front, 35.3% mentioned 28th October Street, and so on.

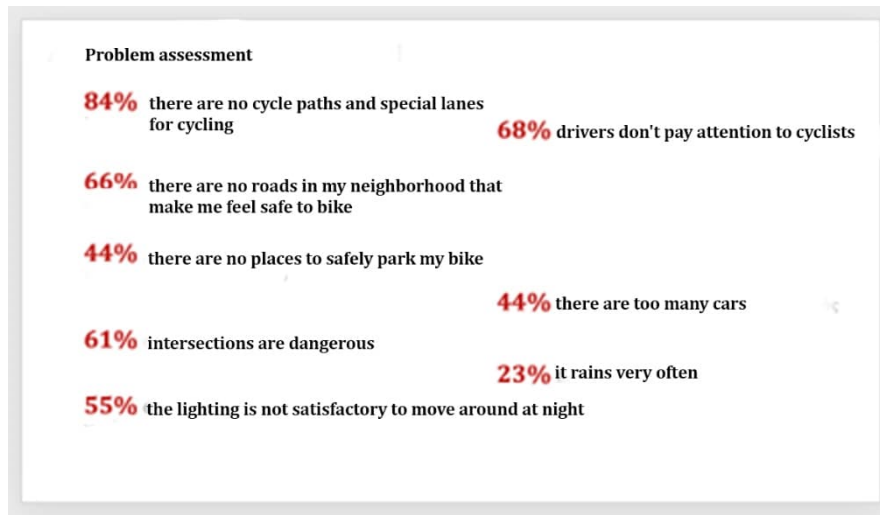


Figure 25: Problem assessment

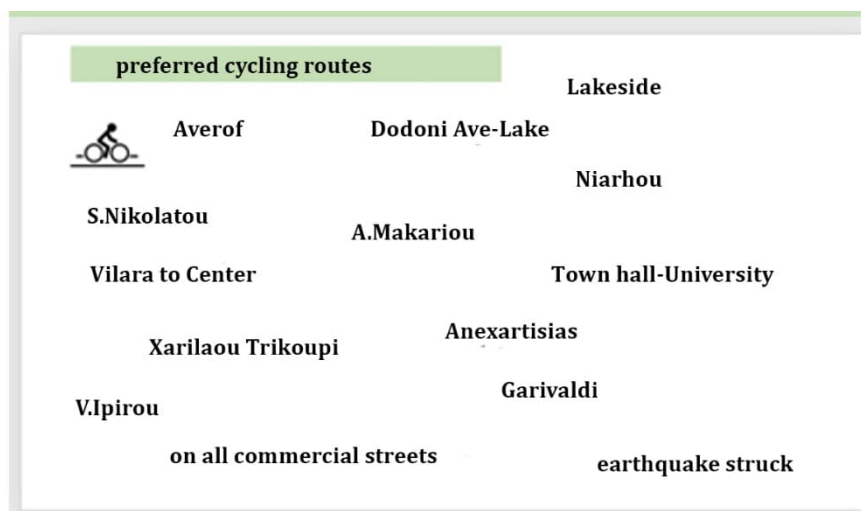


Figure 26: Preferred cycling routes

B. Climate Neutrality Week - Energy Regulator Authority (E.R.A.) (14-22/11/2022)



The Municipality of Ioannina and the Hellenic Energy Regulatory Authority organized the Climate Neutrality Week from November 14 to 22, 2022 in Ioannina.

During the Week, meetings were organized with all local stakeholders of the city. Workshops were held with the Municipality's services and its legal entities where constructive discussions were held on the objectives of the European Mission and the ways they can be achieved.

The culmination of the actions was the implementation of an interactive educational programme for secondary and primary school students in order to shape energy and climate awareness in the new generation, because climate change ultimately concerns its own future. More than 1250 pupils from schools in our municipality participated in the interactive energy education programme, which included information trips to renewable energy plants in the region

https://2030.ioannina.gr/?page_id=828

<https://2030.ioannina.gr/?p=805>

<https://2030.ioannina.gr/?p=802>

<https://2030.ioannina.gr/?p=796>

C. Consultation with the participation of all the services of the Municipality and their political superiors as well as Legal Entities and their administrations for energy saving actions in municipal infrastructures and schools

At the meeting, the measures that should be taken immediately in the context of those defined by the Joint Ministerial Decisions (J.M.D.) to save energy by 10% were analyzed, while at the same time it was pointed out that problems mainly arise from the use of buildings by the Municipality, meaning that it uses many facilities to house services and of legal entities.

<https://2030.ioannina.gr/?p=791>

D. Consultations on Sustainable Urban Development (SUD):

- Public consultation on SUD:

The Municipality of Ioannina, as part of the preparation of the Sustainable Urban Development Plan (SUD) for the period 2021-2027, has started the public consultation process.

- 1st presentation of SUD to entities and citizens:

On Thursday, February 23, 2023, the study group held a public presentation and open discussion of the Plan for institutions and citizens in the meeting room of the Municipal Council. All the preparation stages were analyzed and include the characteristics, the dynamics of the area, the Axes - Objectives of the Strategy and the Action Plan. <https://2030.ioannina.gr/?p=990>

- 2nd consultation on SUD:

All the major and core interventions that will be implemented by the Municipality of Ioannina during the new programming period and have been incorporated in the Sustainable Development Plan (SUD), was the



discussion topic at the meeting of the Consultation Committee and members of the Municipal Council. The Plan is prepared by "Epiros SA" and the presentation was made by the company's executives. The actions of the Plan are divided into four categories: The new projects that will be funded by the Operational Program of the Region of Epirus, the projects that will be funded by other sources, the ongoing projects and the projects of the Municipality that have been included in the Development Fund.

Vision of Sustainable Urban Development: The Municipality of Ioannina has set it's the vision for the Sustainable Urban Development Strategy (SUDS). The aim is Ioannina to become a hub of innovation for all European cities, developing a repository of best practices from successful innovative projects and full-scale investments with the main goal of achieving climate neutrality by 2030, through greenhouse gas emissions reduction and by focusing also on energy efficiency in all sectors such as transportation, urban and regional planning, and building infrastructure.'

Furthermore, due to the rich natural environment, the connection between the nature and the city of Ioannina is multifaceted and robust, constituting a valuable heritage for future climate neutrality initiatives. Nature-based solutions (NbS) can effectively address a variety of societal challenges, such as climate change, contributing in this way to sustainable development, creating business opportunities, and restoring ecosystems, all while fostering increased participatory decision-making, in conjunction with a polycentric system of local governance.

In addition, the Sustainable Urban Development plan was put into consultation with citizens and institutions through the consultation platform of the Municipality (<https://2030.ioannina.gr/?p=990>)

D. 15/05 - workshop: https://youtu.be/dYMIAsU8_Cs,

The Municipality of Ioannina organized an open event under the title: "Agency and Citizens discuss the Climate Pact" on Monday, May 15, 2023 in the meeting room of the Municipal Council "A.TSAKALOF". The purpose of the event was the Municipality, agencies and citizens to discuss the climate pact, to be informed and to determine the actions aiming at the continuous upgrading of a circular model of development and economy as a lever for promoting climate neutrality and effectively addressing climate change. (<https://2030.ioannina.gr/?p=1040>)

E. Participation in the Memorandum of Cooperation of the Ministry of Environment and Energy:

The signing event of the Memorandum of Cooperation was successfully held in the Amphitheater of the Ministry of Environment and Energy. More than 80 new Municipalities participate in the Memorandum, creating a "network" of Greek cities that would work towards achieving climate neutrality. At the same time, the networking of the cities has been strengthened, the transfer of the know-how, the good practices has been ensured and the securing of funding from national and European programs and mainly from the HORIZON Program was achieved.

<https://2030.ioannina.gr/?p=975>

F. Presentation of the Municipality in Barcelona (15/11/2022):

"Mission Cities representatives exchanged opinions on the challenges they face in their cities and what they do to find solutions to reaching climate neutrality by 2030. Bringing all stakeholders on board and engaging them well in the Climate City Contract process, simplifying processes to move forward faster and having access to more financial and human resources were some of the points raised by cities."

"Cities will need to adopt a systemic and innovative approach in order to overcome the obstacles on the path to climate neutrality by 2030" was one of the key reflections shared during the Smart City Expo World Congress



sessions in which NZC participated. The project was presented at SCEWC from 15 to 17 November as part of the European Smart Cities and Communities joint presence of projects under the umbrella of the European Commission. At the European Smart Cities and Communities joint booth, NetZeroCities led the session "Climate Neutral by 2030: European Cities are on a Mission!" that featured a roundtable discussion with city representatives from Helsingborg, Liepaja, Ioannina and Angers, moderated by Thomas Osdoba, NZC coordinator. (<https://netzerocities.eu/2022/11/28/netzerocities-at-the-smart-city-expo-world-congress/>)

G. Silver Award for the Culture Park:

In the Best City Awards 2023, the Municipality of Ioannina was honoured with a Silver Award for the proposal submitted. In specific, the Municipality of Ioannina was awarded in Section 1 "Liveable City, 1.1 Infrastructure & Urban development, 1.1.1 Redevelopment projects", for its "Culture Park" project implemented in the Castle district. "With the restoration interventions that are evolving and those that have been planned, the functional integration of the space will be achieved, the monuments will be highlighted and the surrounding space will be upgraded. Through all the interventions, the uniform promotion of the area of the Castle of Ioannina as an emblematic monumental complex of the city, will be achieved" the deputy mayor of works Mr. G. Arletos underlined.

(<https://2030.ioannina.gr/?p=968>)

H. Municipality – Technical Chamber of Greece (TCG) cooperation, to achieve our goals: <https://2030.ioannina.gr/?p=1077>

A working meeting between the Municipality of Ioannina and the TCG of Epirus took place in the context of the cooperation for the 100 climate neutral cities. In the working meeting, the framework of the strategic cooperation of the Municipality with the TCG was defined by the citizens and for them. At the initiative of TCG of Epirus and in collaboration with the Municipality, it was decided to set groups of Engineers per areal sector (neighborhood) of the city with specific purposes and responsibilities. The broader aim of this new institution, which will be an innovation at the national level, is to contribute to maintaining the viability of urban areas, to their renewal and upgrading, through targeted initiatives, together with the residents. The success of the institution will contribute to the climate sustainability and urban renewal of the city of Ioannina, combining the protection of the rich cultural heritage and the historical building stock of the city, with innovative proposals. The sectors (neighborhoods) that will be selected in the first pilot level, will be decided in collaboration with the Municipality and according to the problems that have been identified by the citizens. The action will focus on the following axes:

- Urban and Urban Planning
- Energy Upgrade of Building Infrastructures
- Sustainable Mobility Actions
- Digital Applications
- Renovations of Areas
- Nature-based solutions based on shared and free neighborhood spaces

I. The network of cities for climate neutrality in Greece and Cyprus starts from Ioannina.

At the celebratory event held on the Nisos of Ioannina city, representatives of local authorities were present, while two General Secretaries from the Ministry of Environment addressed the proceedings via teleconference.



Six Greek cities and Limassol, Cyprus undertake to lead the significant effort initiated by Europe, aiming to become climate-neutral by 2030. The goal is for other cities to follow the same model in the future.

The founding signing of the Network attended the Mayor of Trikala and President of the Central Union of Municipalities of Greece, Dimitris Papastergiou; the Mayor of Kozani, Lazaros Maloutas; the Deputy Mayor of Athens, Christos Tentomas; the Deputy Mayor of Thessaloniki, Michalis Koupkas; the Deputy Mayor of Kalamata, Nikolaos Basakidis; and the Municipal Councilor and President of the European Affairs Committee of the Municipality of Limassol, Charis Trikis.

On behalf of the Municipality of Ioannina, Mayor Dimitris Papageorgiou signed the agreement.

The proceedings commenced with a welcome address from the Mayor of Ioannina, who welcomed the representatives of the Network's cities and local stakeholders. The wishes of the Metropolitan of Ioannina, Maximus, were conveyed by Hegumen Kallinikos.

Representing the Region of Epirus, the Deputy Regional Governor Kostas Siaravas wished success to the Network and emphasized that the Region has prioritized actions addressing climate change with a commitment of significant resources in the new program period.

The programs implemented by the Ministry of Environment for energy conservation were presented by General Secretary Alexandra Sdoukou, who announced that 100 million euros would be allocated in the near future to finance energy communities in local self-government, including the Municipality of Ioannina.

The members of the Mission Board '100 Climate-Neutral Cities by 2030,' Chrysses Nicolaides and Maria Vasilakou, elaborated on aspects of the European Mission for 100 climate-neutral cities, with the central theme 'from and for the citizens.'

Other speakers at the event:

- Ioannis Leonardos, the Vice-Rector of the University of Ioannina.
- Ioannis Tsigris, the President of the Technical Chamber of Epirus.
- Lefteris Arampatzis, the President of the Industrialists Association of Northern Greece.
- Konstantinos Zonidis, the Chairman of the Board of Directors of the Cooperative Bank of Epirus.
- Ioannis Vougioukas, the CEO of the Cooperative Bank of Epirus.
- Christoforos Saplouras, the Director of Financing at the Cooperative Bank of Epirus.

In addition, pilot actions aimed at sensitizing citizens regarding the achievement of our goals have been implemented:

(1) pilot application of the cycle path on the lake front (<https://2030.ioannina.gr/?p=1056>),

(2) In the context of celebrating World Bicycle Day:

- Pilot application of the 30 km/h measure. On that day on all city roads the speed limit was 30 km/h.
- Decongesting the center using Urban Transport. To decongest the center, two routes were implemented with the assistance of the City Bus, where citizens will be able to move to and from the center without financial burden. (<https://ioannina.gr/draksis-viósizimis-kinotikitis-στην/?lang=en>)
- the 'Bicycle Information Centre' was established, where everyone can be informed about cycling actions

The Municipality of Ioannina, in collaboration with its citizens and local stakeholders, aspires for Ioannina to lead in the climate transition process and in the fundamental transformation of mindset



As the Municipality of Ioannina progresses with the implementation of the Action Plan, it is essential to recognize that the journey towards climate neutrality is dynamic. The challenges and opportunities we face will evolve, and so must our strategies.

1. **Review and Feedback Mechanism:** At the end of each year, a comprehensive review will be conducted to assess the progress of each thematic axis. This review will gather feedback from stakeholders, CNOs, and the public to understand the successes and areas of improvement.
2. **Data-Driven Decision Making:** The Climate Neutrality Observatory, along with the electronic platforms, will continuously collect and analyze data. This data will guide the refinement of strategies and the introduction of new initiatives.
3. **Stakeholder Engagement:** Regular workshops and consultation sessions will be organized to ensure that the voices of all stakeholders are heard. Their insights will be invaluable in refining the Action Plan.
4. **Pilot Projects:** Based on emerging technologies and best practices globally, pilot projects will be introduced in specific CNZs. Successful pilots will then be scaled across the municipality.
5. **Annual Updates:** The Action Plan will undergo annual updates to incorporate the findings from the reviews, data analysis, and stakeholder feedback. These updates will ensure that the plan remains relevant and effective.
6. **Long-Term Vision:** While the current Action Plan outlines strategies up to 2030, a long-term vision extending to 2050 will be developed. This vision will set ambitious goals beyond 2030 and outline the roadmap to achieve them.

Through committing to regular reviews, stakeholder engagement, and data-driven refinements, the Municipality of Ioannina ensures that the Action Plan remains a living document, adaptable to the changing landscape of climate action and sustainability.

Vision of the Late Mayor: The late Mayor's vision was to transform Ioannina into a beacon of sustainability and resilience. His commitment to the environment and the well-being of the citizens has been the driving force behind our ambitious goals. Today, the Mayor Mr. Pappageorgiou continues to uphold and champion this vision. Together with all the employees and partners of the municipality, he aims at the green transition of the municipality, ensuring that Ioannina remains at the forefront of sustainable urban development. The late Mayor's vision was to transform Ioannina into a beacon of sustainability and resilience. His commitment to the environment and the well-being of the citizens has been the driving force behind our ambitious goals. His legacy continues to inspire our actions and decisions

3 Part A – Current State of Climate Action

Part A “Current State of Climate Action” describes the point of departure of the city towards climate neutrality, including commitments and strategies of key local businesses, and informs the subsequent modules and the outlined pathways to accelerated climate action.

3.1 Module A-1 Greenhouse Gas Emissions Baseline Inventory

Module A-1 “Greenhouse Gas Emissions Baseline Inventory” should detail and describe the city’s latest GHG inventory to establish the emission baseline and to establish the emissions gap to 2030 climate neutrality according to the inventory specifications defined in the Cities Mission’s *Info Kit for Cities* and the process outlined in the Action Plan Guidance.

A-1.1: Final energy use by source sectors				
Base year	2019			
Unit	MWh/year			
	Scope 1	Scope 2	Scope 3	Total
Total	1.206.125,97	150.287,00	33.507,65	1.389.920,62
Buildings	283.086,56	124.711,25	-	407.797,81
Private Sector Electricity	-	108.045,00	-	108.045,00
Private Sector Diesel	177.809,05	-	-	177.809,05
Private Sector LPG	7.257,51	-	-	7.257,51
Private Sector Natural Gas	21.772,53	-	-	21.772,53
Private Sector Firewood/Pellet	72.163,28	-	-	72.163,28
Public Sector Electricity	-	8.358,03	-	8.358,03
Public Sector Municipal Lighting	-	8.308,22	-	8.308,22
Public Sector Diesel	956,82	-	-	956,82
Public Sector Diesel (Schools)	3.127,37	-	-	3.127,37
Transport	560.711,324	-	-	560.711,324
Public Sector Diesel (Public Vehicles)	2.782,26	-	-	2.782,26
Public Sector Gasoline (Public Vehicles)	261,82	-	-	261,82



Private Sector Fuel of Citizens Vehicles	410.218,364	-	-	410.218,364
Private Sector Diesel (Intercity Bus)	23,1	-	-	23,1
Private Sector Diesel (City Bus)	7,96	-	-	7,96
Private Sector Diesel (Lake Boats)	689,5	-	-	689,5
General Transportation In & Out Boundary emissions	146.728,32	-	-	146.728,32
Waste	265,83	-	33.507,65	33.773,48
Municipal Waste Disposal	-	-	33.495	33.495
Transport of Municipal Waste within Boundaries (Diesel)	265,83	-	-	265,83
Transport of Municipal Waste outside Boundaries (Diesel)	-	-	12,65	12,65
Water	628	-	25575,75	26203,75
Public Sector Diesel usage	628	-	-	628
Public Sector Electricity usage	-	-	25575,75	25575,75
Industrial Process and Product Use (IPPU)	1009,58	-	-	1009,58
Industry Diesel	997,85	-	-	997,85
Industry LPG	3,6	-	-	3,6
Industry CNG	8,13	-	-	8,13
Agricultural, Forestry and Land Use (AFOLU)	3303,64	-	-	3303,64
Agriculture Diesel	3264,54	-	-	3264,54
Animal husbandry	39,10	-	-	39,10

Diesel				
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A-1.2: Emission factors applied

The emission factors provided below have been derived from the Municipal Emission Reduction Plans in accordance with the IPCC 2006 methodology. They serve as coefficients within the equations utilized for the computation of greenhouse gas emissions stemming from various sources such as Diesel, Gasoline, Electricity, and more. These equations have been excerpted from the Municipal Emission Reduction Plans Guide, which was issued for Local Government Organizations. They are specifically designed to facilitate the conversion of energy source consumption into greenhouse gas emissions, encompassing CO₂, CH₄, and N₂O, measured in tons. To facilitate cross-gas comparisons, these emissions are standardized as carbon dioxide equivalent (CO₂e). This standardization relies on the utilization of specific factors known as Global Warming Potentials (GWPs), which quantify each gas's heat-trapping potential relative to carbon dioxide. The Municipal Emission Reduction Plans Guide was developed in compliance with Article 16 of the National Climate Law (4936/2022) and officially published in the Government Gazette with reference number 4145/23.07.2023.

For calculation in t or MWh of primary energy

- CO₂ emissions are calculated using the method of IPCC (IPCC 2006, IPCC Guidelines for national greenhouse gas inventories, Prepared by the National Greenhouse Gas Inventories Programme, IGES, Japan.) updated by the JRC: GHG Emission Factors for Electricity Consumption. European Commission, Joint Research Centre

Primary energy/ energy source	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	F-gases (hydrofluoro carbons and perfluorocarbons)	Sulphur hexafluoride (SF ₆)	Nitrogen trifluoride (NF ₃)
Compressed Natural Gas (CNG)	55,69 tn/TJ	5 tn/TJ	0,1 tn/TJ	-	-	-
Diesel	73,78 tn/TJ	5 tn/TJ	2,14 tn/TJ	-	-	-
Liquefied Petroleum Gas (LPG)	63,1 tn/TJ	8,71 tn/TJ	1,64 tn/TJ	-	-	-
Electricity	601,4 g/KWh	0,012957 g/KWh	0,006860 g/KWh	-	-	-
Gasoline	73,26 tn/TJ	20,44 Kg/TJ	1,66 Kg/TJ	-	-	-

A-1.3: Activity by source sectors

Base year	2019		
Sector	Scope 1	Scope 2	Scope 3
Buildings			
Public Buildings (Diesel for Heating)	+		



Schools (Diesel for Heating)	+		
Public Buildings and Schools (Electricity)		+	
Private Buildings (Diesel for Heating)	+		
Private Buildings (LPG for Heating)	+		
Private Buildings (Natural Gas for Heating)	+		
Private Buildings (Pellet/Firewood for Heating)	+		
Private Buildings (Electricity for Heating/Cooling/Cooking)		+	
Municipal Lightning (Electricity for Lightning)		+	
Transport			
Public Vehicles (Gasoline for Transportation)	+		
Public Vehicles (Diesel for Transportation)	+		
Private Vehicles (Gasoline for Transportation)	+		
Private Vehicles (Diesel for Transportation)	+		
Private Vehicles (LPG for Transportation)	+		
Waste			
Waste Transportation (Diesel)	+		+
Waste Disposal			+
Water			
Buildings of Municipal Water and Sewerage Company (Diesel for Heating)	+		
Buildings of Municipal Water and Sewerage Company (Electricity for Heating/Cooling, Lightning)		+	
Vehicles of Municipal Water and Sewerage Company (Diesel for Transportation)	+		
Pump Stations of Municipal Water and Sewerage Company (Electricity for Pumps)		+	
Industrial Process and Product Use (IPPU)			
Industry Process and Vehicles (Diesel)	+		
Industry Process and Vehicles (LPG)	+		
Industry Process and Vehicles (CNG)	+		
Agricultural, Forestry and Land Use (AFOLU)			
Engines for Agricultural Process (Diesel)	+		
Engines for Husbandry Process (Diesel)	+		

A-1.4: GHG emissions by source sectors				
Base year	2019			
Unit	t. CO₂equivalent / year			
	Scope 1	Scope 2	Scope 3	Total
Total	273.908,18	90.712,15	9.027,14	373.647,47
Buildings	110.172,27	75.273,30	-	185.445,57
Private Sector Electricity	-	65.213,87	-	65.213,87



Private Sector Diesel	44.006,28	-	-	44.006,28
Private Sector LPG	1.698,37	-	-	1.698,37
Private Sector Natural Gas	4.378,09	-	-	4.378,09
Private Sector Firewood/Pellet	58.989,25	-	-	58.989,25
Public Sector Electricity	-	5.014,68	-	5.014,68
Public Sector Municipal Lighting	-	5.044,75	-	5.044,75
Public Sector Diesel	257,77	-	-	257,77
Public Sector Diesel (Schools)	842,51	-	-	842,51
Transport	160.427,807	-	-	160.427,807
Public Sector Diesel (Public Vehicles)	749,54	-	-	749,54
Public Sector Gasoline (Public Vehicles)	65,53	-	-	65,53
Private Sector Fuel of Citizens Vehicles	107.059,03	-	-	107.059,03
Private Sector Diesel (Intercity Bus)	6.445,07	-	-	6.445,07
Private Sector Diesel (City Bus)	2.122,88	-	-	2.122,88
Private Sector Diesel (Lake Boats)	185,75	-	-	185,75
General Transportation In & Out Boundary emissions	43.800,00	-	-	43.800,00
Waste	71,61	-	9.027,14	9.098,75
Municipal Waste Disposal	-	-	9.023,73	9.023,73
Transport of Municipal Waste within Boundaries (Diesel)	71,61	-	-	71,61
Transport of Municipal Waste	-	-	3,41	3,41

outside Boundaries (Diesel)				
Water	169,17	15.438,85	-	15.608,02
Public Sector Diesel usage	169,17	-	-	169,17
Public Sector Electricity usage		15.438,85	-	15.438,85
Industrial Process and Product Use (IPPU)	2.190,68	-	-	2.190,68
Industry Diesel	501,50	-	-	501,50
Industry LPG	0,98	-	-	0,98
Industry CNG	1.688,20	-	-	1.688,20
Agricultural, Forestry and Land Use (AFOLU)	876,65	-	-	876,65
Agriculture Diesel	866,28	-	-	866,28
Animal husbandry Diesel	10,37	-	-	10,37

A-1.5: GHG emissions including absorption 2019

Unit	CO2equivalent / year
GHG emissions	373.647,47
GHG Absorption	21.500,00
Total	352.147,47

To determine the total greenhouse gas emissions accurately, it's essential to deduct the emissions absorbed by trees through photosynthesis from the baseline emissions.

The Municipality of Ioannina contains within its boundaries 720.685 trees. Using the equation:

$$AR_{BW} = T_{MP} \times ADR_2 \times C_w \times 44/12$$

where,

AR_{BW} : total removal of CO₂ from the atmosphere due to the creation of new woody biomass from trees within the specified time period, in tons of CO₂

T_{MP} : number of trees in a park or green space that are in the mature growth phase

ADR_2 : annual growth rate of woody biomass (trunk, branches, roots) of a tree species (i) that is in the mature growth phase, in dry tons of woody biomass per tree. Estimated 0,01695

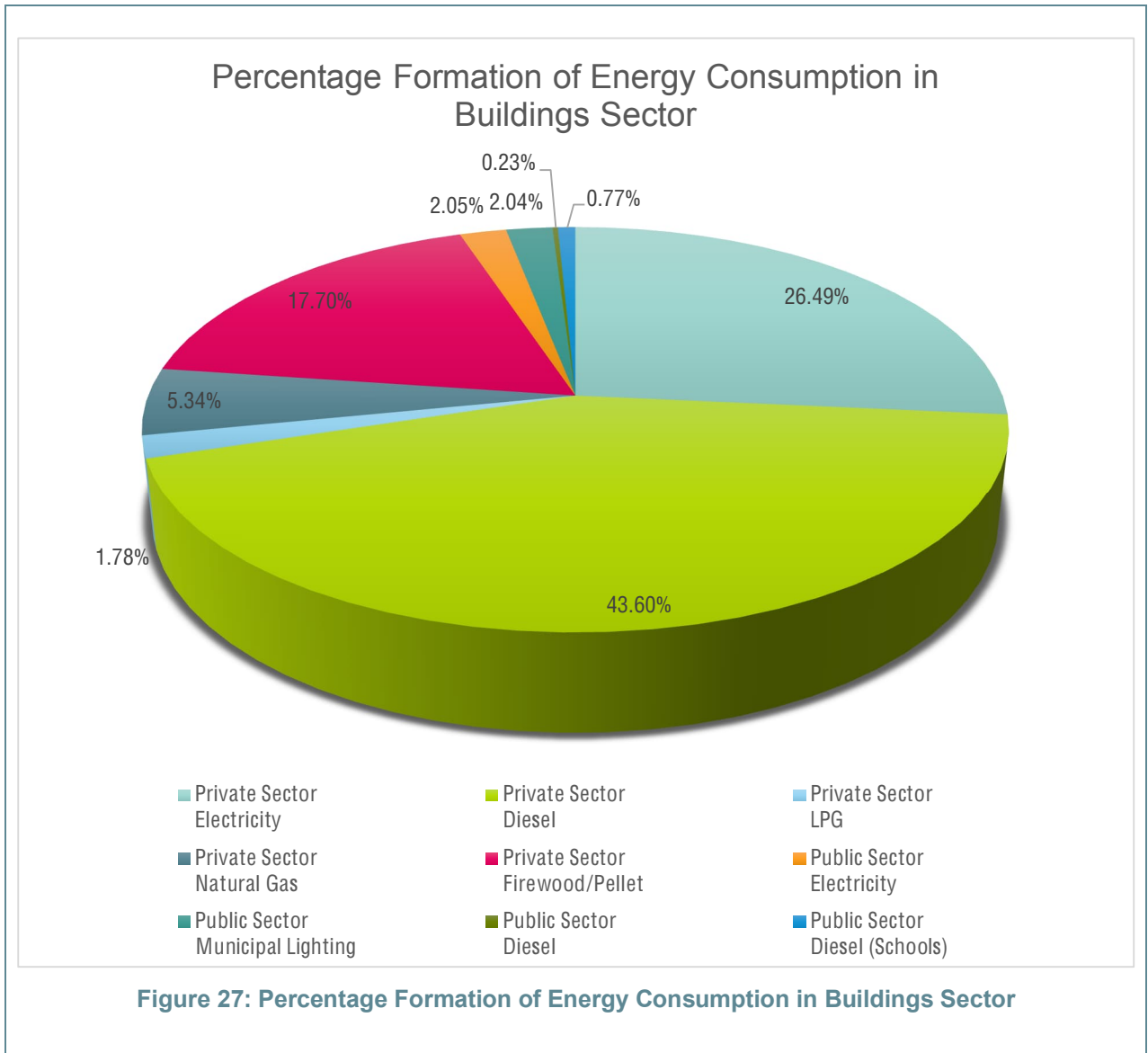
C_w : carbon content of woody biomass: 0.475 tons of carbon per dry ton of biomass [average value that covers most common tree species, both hardwood and softwood]



44/12: conversion factor of mass C to mass CO₂

The above equation is part of an algorithm that was designed and developed by TERRA NOVA E.P.E. and the Agricultural University of Athens as part of the LIFE ClimaTree project (LIFE14 CCM/GR/000635) and subsequently applied and further improved within the framework of the SHui project (Horizon 2020 – 773903). This equation was extracted from the Greece Municipal Emission Reduction Plans Guide.

A-1.6: Graphics and charts



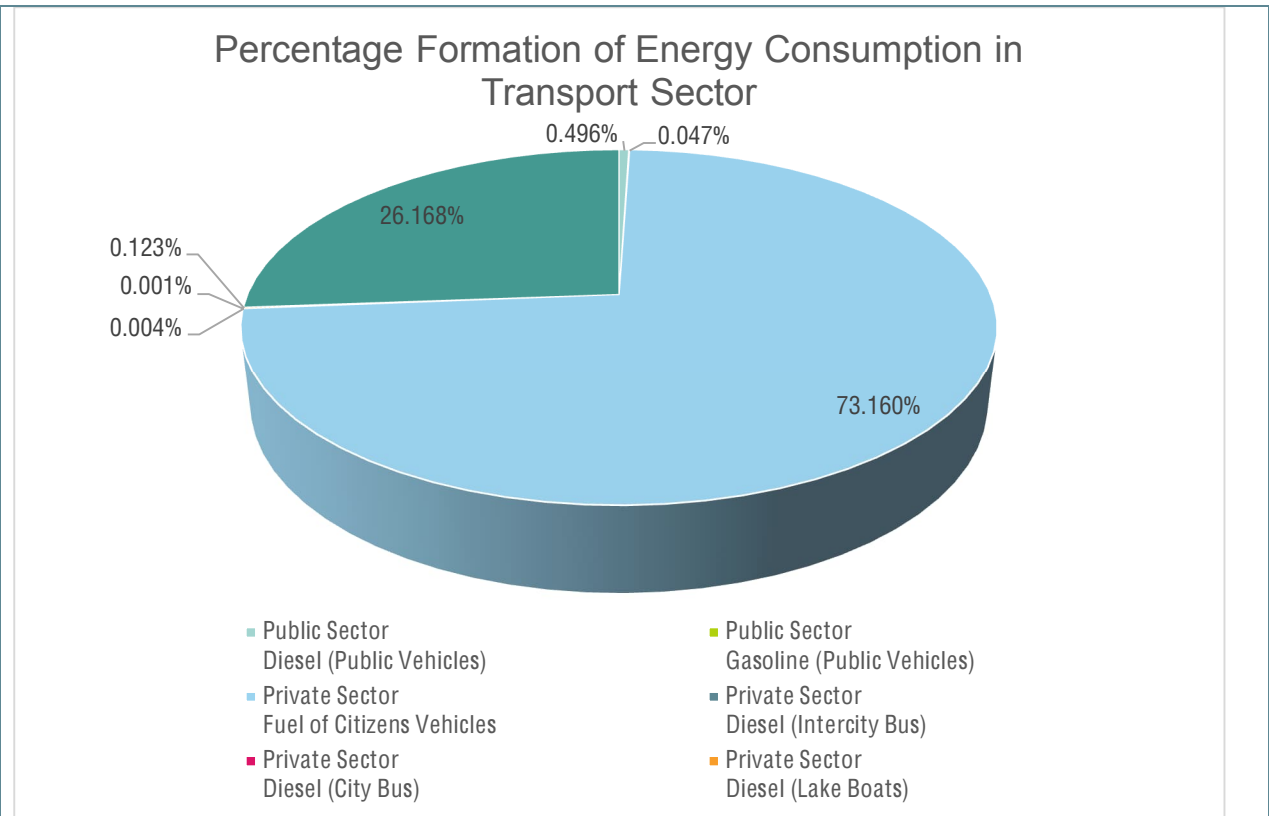


Figure 28: Percentage Formation of Energy Consumption in Transport Sector

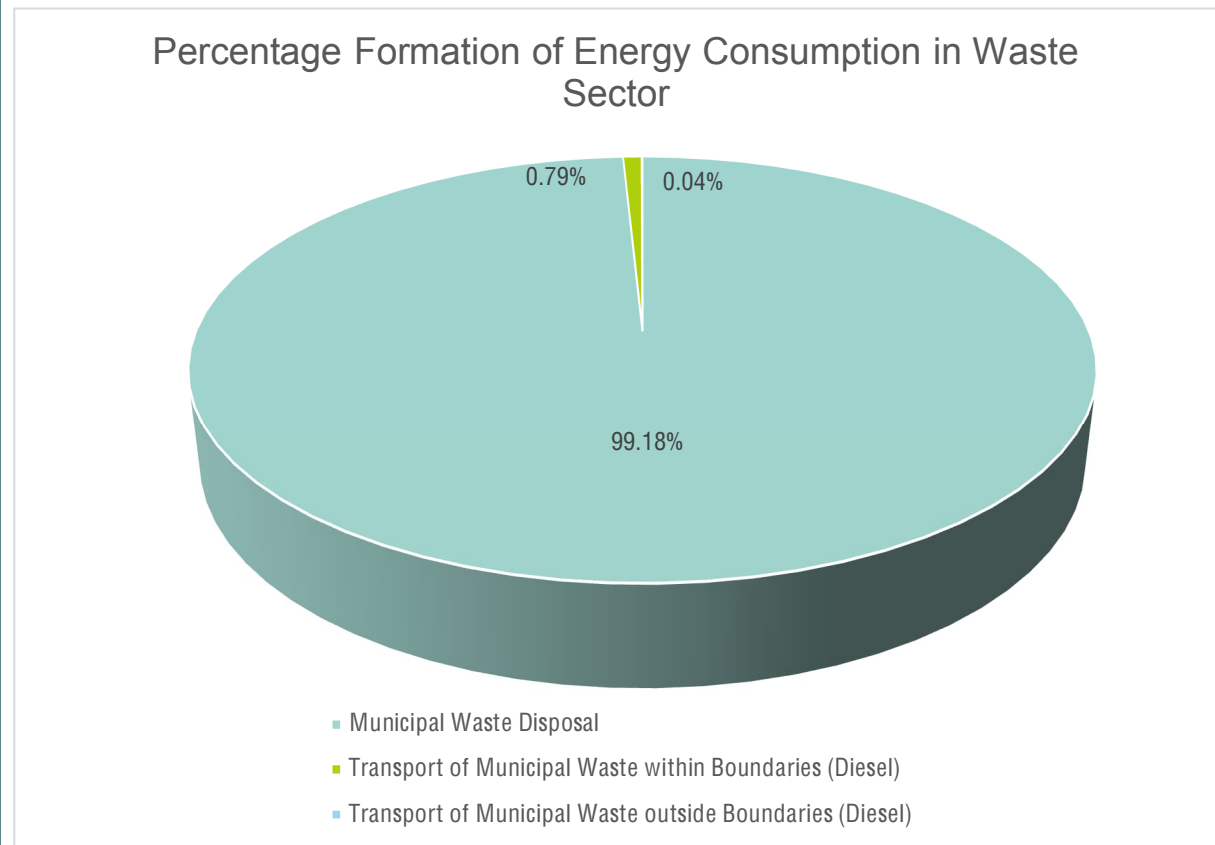


Figure 29: Percentage Formation of Energy Consumption in the Waste Sector

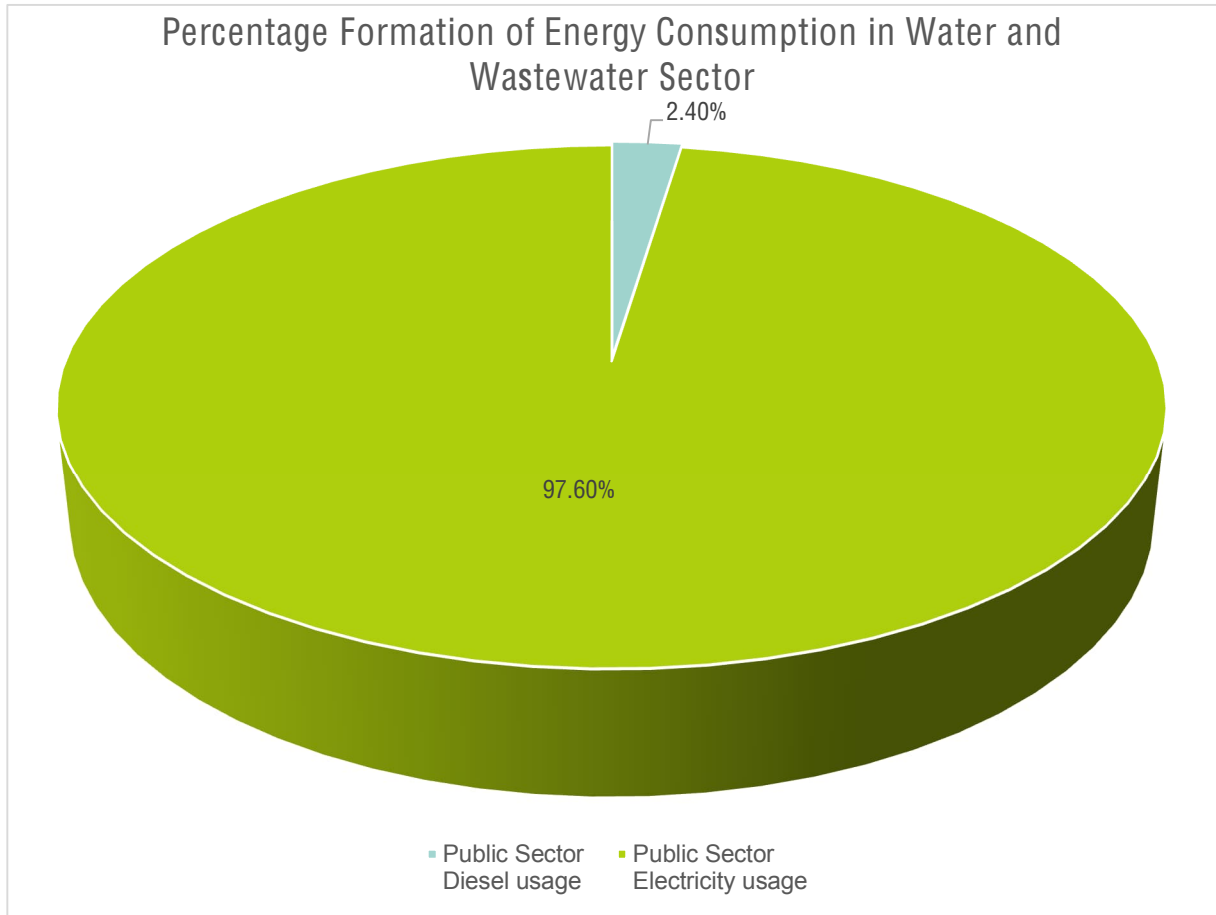


Figure 30: Percentage Formation of Energy Consumption in Water and Wastewater Sector

Percentage Formation of Energy Consumption in IPPU Sector

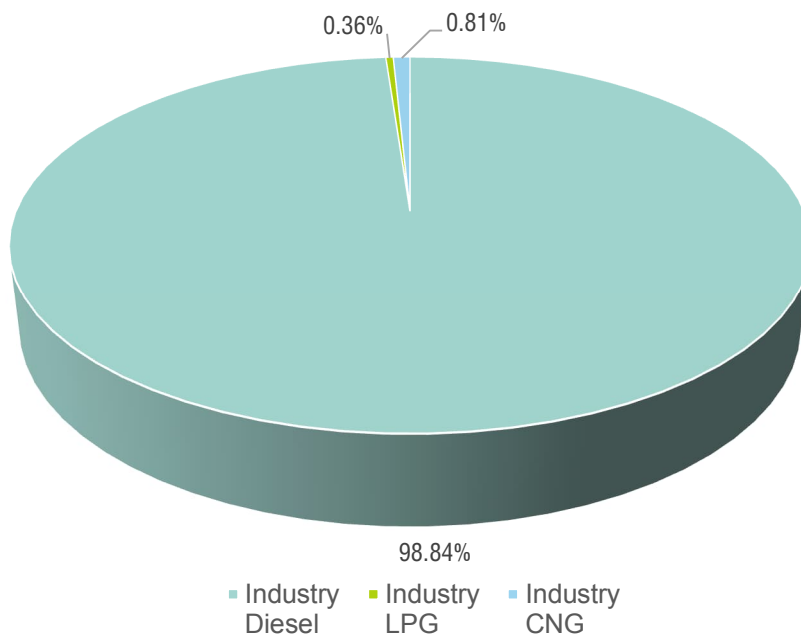


Figure 31: Percentage Formation of Energy Consumption in IPPU Sector

Percentage Formation of Energy Consumption in AFOLU Sector

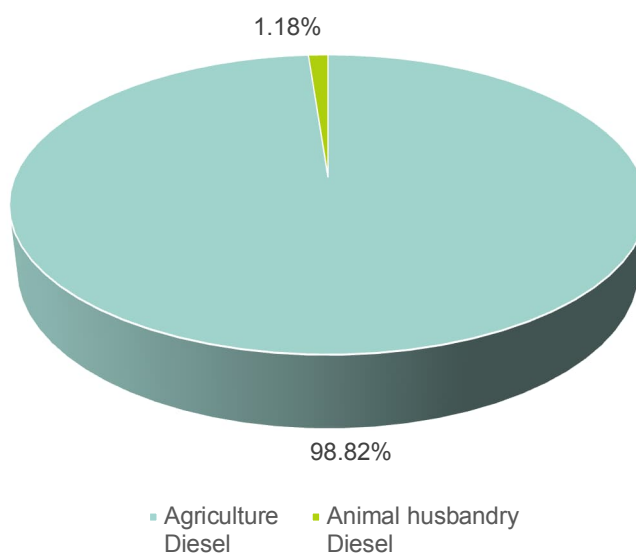


Figure 32: Percentage Formation of Energy Consumption in AFOLU Sector

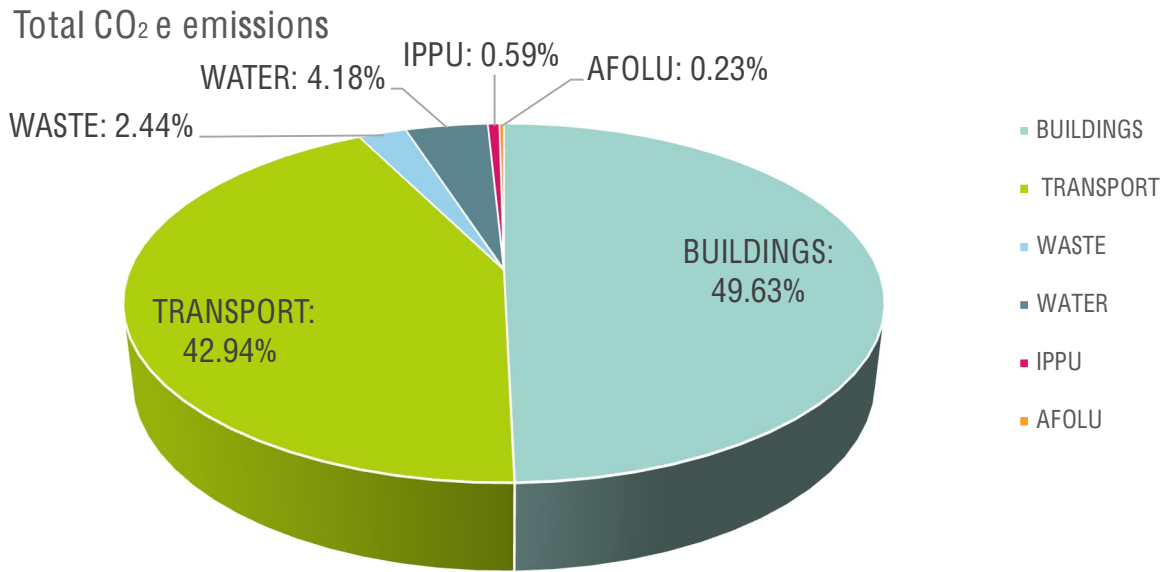


Figure 33: Total CO₂ Emissions

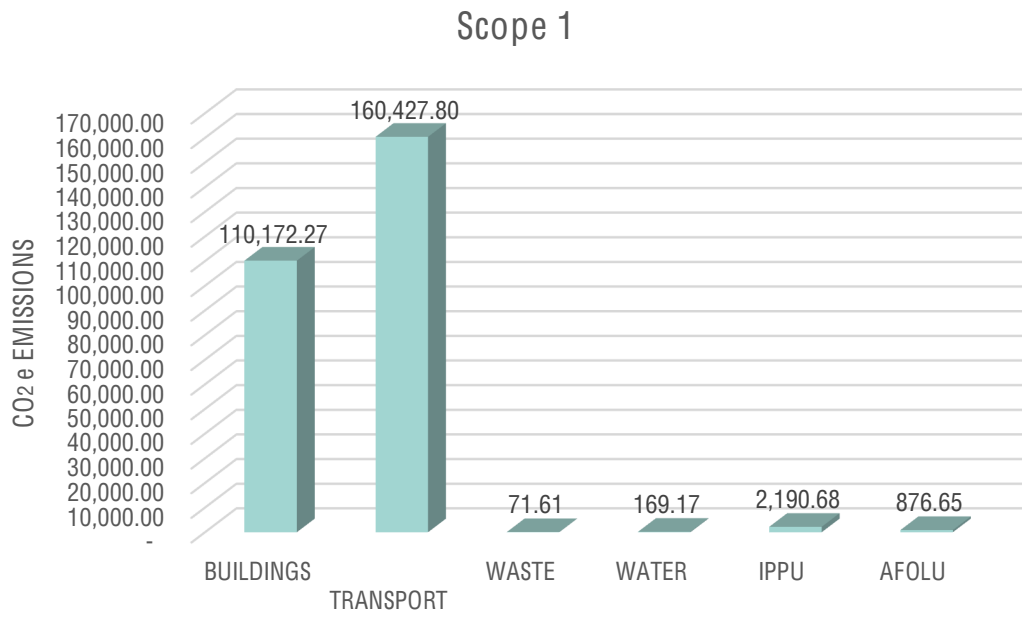


Figure 34: Scope 1 CO₂ e Emissions

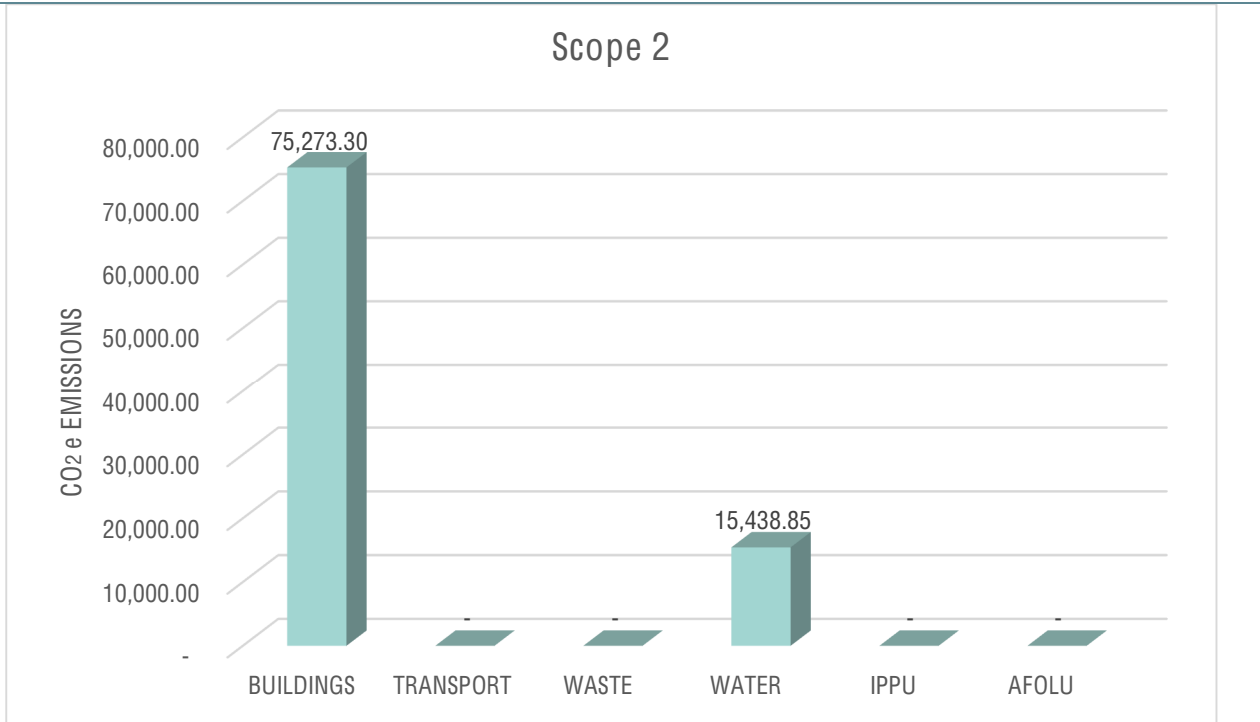


Figure 35: Scope 2 CO₂ e Emissions

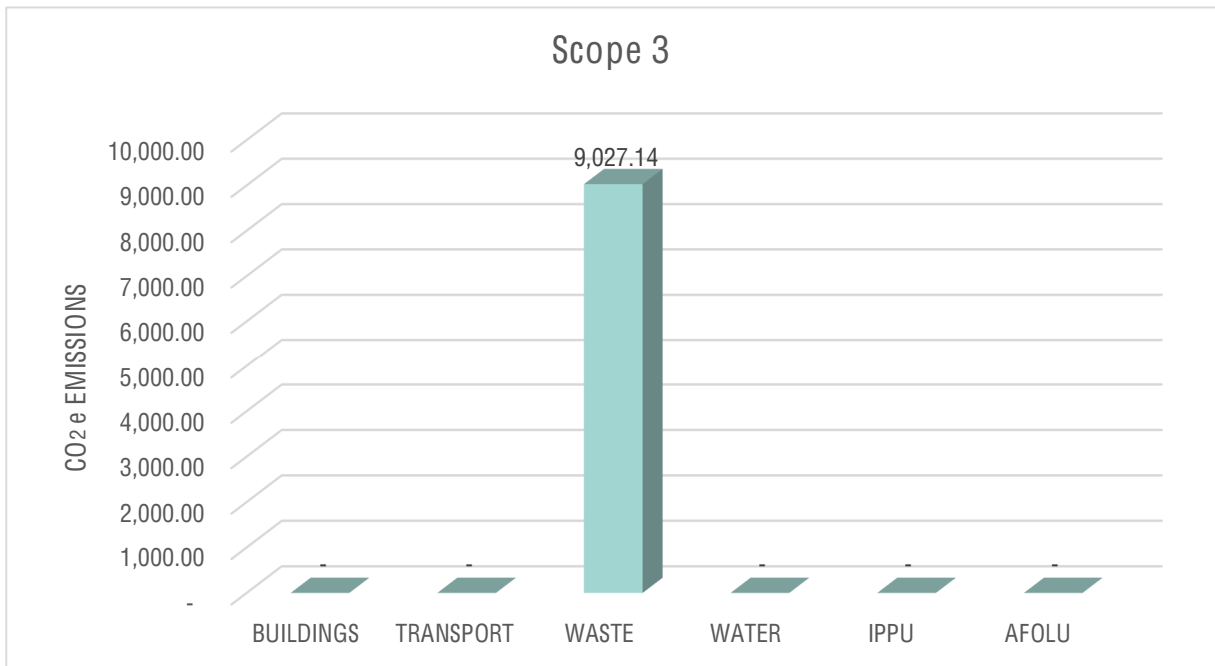
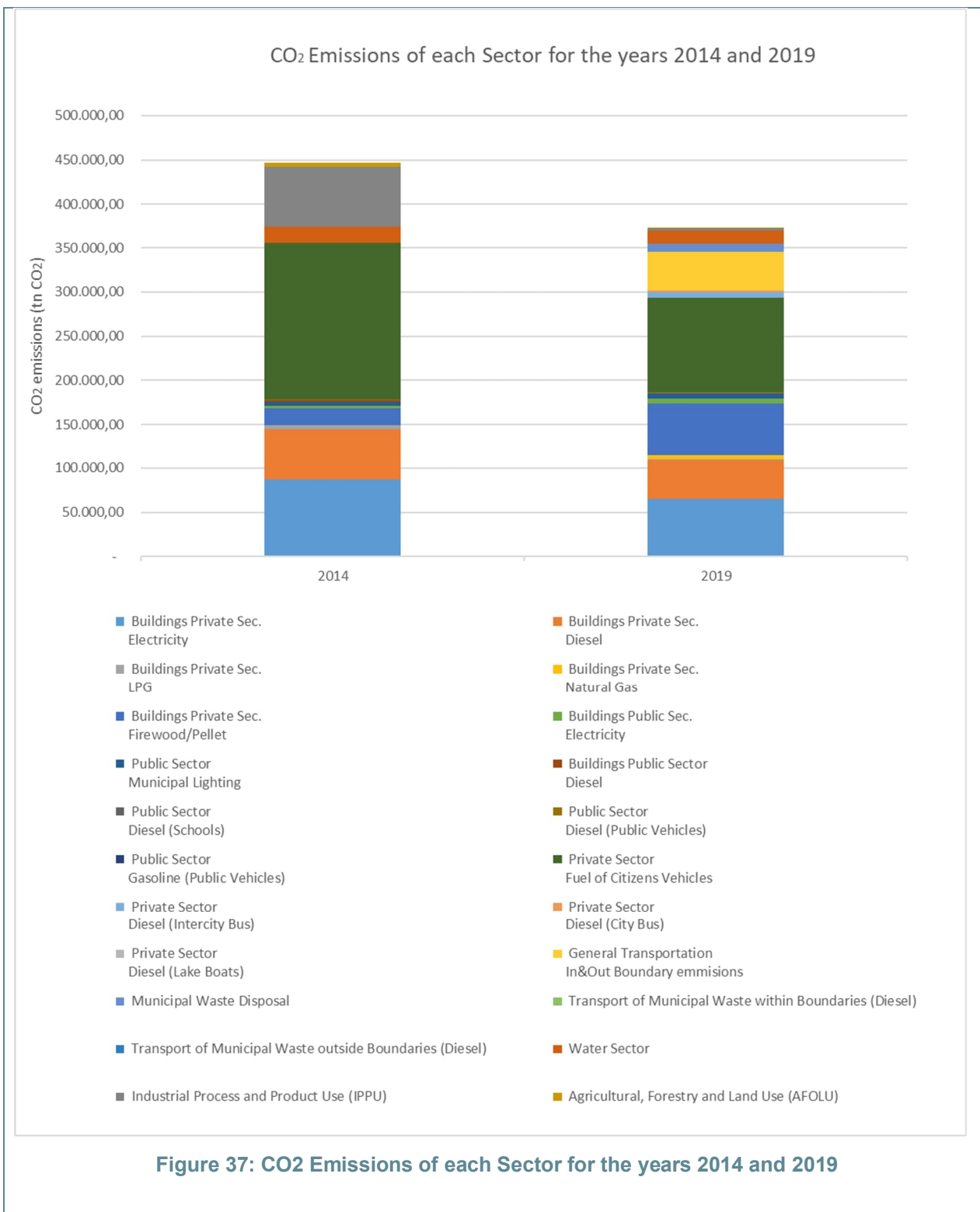


Figure 36: Scope 3 CO₂ e Emissions



A-1.6: Description and assessment of GHG baseline inventory

For the calculation of emissions in each sector, data was sourced from the Municipal Authority or the Hellenic Statistical Authority (ELSTAT). The equations used for this purpose were derived from the Municipal Emission Reduction Plans Guide, which has been posted on the website of the Ministry of



Environment, Energy, and Climate Change of Greece. The methodology designed for quantifying greenhouse gas emissions and developing Municipal Emission Reduction Plans was based on the following standards:

- ISO 14064-1:2018 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
- Greenhouse Gas Protocol, WRI: Global Protocol for Community-Scale Greenhouse Gas Inventories, GPC: An Accounting and Reporting Standard for Cities Version 1.1.
- Guidelines from the Intergovernmental Panel on Climate Change (IPCC) for national greenhouse gas inventories.

Buildings Sector

Based on Table A-1.1, it is observed that the highest energy consumption in the building sector is attributed to household oil heating (177,809.05 MWh). This is followed by electricity consumption (108,045 MWh) and the use of firewood/pellets (72,163.28 MWh) in households. Conversely, energy consumption for municipal buildings is significantly lower in comparison to private ones. For instance, oil consumption for municipal buildings totals 956.82 MWh, schools consume 3,127.37 MWh, while electricity consumption is 8,358.03 MWh. This notable difference arises from the fact that private buildings outnumber municipal ones, resulting in higher energy consumption.

From the above data, it is evident that the highest energy consumption arises from the combustion of oil for heating, as well as the use of electricity for heating and lighting. This is quite logical since the Municipality of Ioannina is situated at a high altitude, and during the winter, temperatures drop below 0 degrees Celsius. Consequently, more energy is required for heating.

All of the above information is consolidated in Figure 27, which illustrates the percentage of energy consumption by subcategory within the building sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

Transport Sector

Based on Table A-1.1, it can be observed that the highest energy consumption is attributed to the fuel consumption by the residents' vehicles in the Municipality of Ioannina (410,218.364 MWh). This is followed by fuel consumption by vehicles for the transportation of In & Out Boundary emissions (146,728.32 MWh). Energy consumption for all other subcategories (Public Vehicles, City Bus, etc.) is comparatively much lower than the aforementioned.

From the above data, it is evident that the highest energy consumption is attributed to the mobility of vehicles used by the residents of the Municipality of Ioannina. This implies that there is a significantly larger number of these vehicles compared to other sectors, resulting in a higher fuel consumption for their operation.

All of the above information is consolidated in Figure 28, which illustrates the percentage of energy consumption by subcategory within the transport sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

Waste

Based on Table A-1.1, the highest energy consumption occurs during the process of solid waste decomposition at the Landfill (33,495 MWh). It's important to note that this process doesn't require energy consumption from external sources; it's a natural process. Energy consumption from the



combustion of motor diesel for waste transport within the municipality amounted to 265.83 MWh, while outside the municipal boundaries, it was 12.65 MWh.

All of the above information is consolidated in Figure 29, which illustrates the percentage of energy consumption by subcategory within the waste sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

Water

Based on Table A-1.1, the highest energy consumption is attributed to the use of electricity (25,575.75 MWh). Following this is the consumption of energy from the use of heating oil (628 MWh). This is primarily because electricity consumption includes energy for pumping drinking water.

All of the above information is consolidated in Figure 30, which illustrates the percentage of energy consumption by subcategory within the water sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

IPPU

According to Table A-1.1, the highest energy consumption is attributed to the use of CNG in the production process (1,688.20 MWh). Following this are the energy consumption from Diesel (501.50 MWh) and LPG (0.98 MWh).

All of the above information is consolidated in Figure 31, which illustrates the percentage of energy consumption by subcategory within the IPPU sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

AFOLU

According to Table A-1.1, it is evident that energy consumption from Diesel in Agriculture is 3,264.54 MWh, while in Animal Husbandry, it is 39.10 MWh. The difference arises from the fact that the Municipality of Ioannina has more cultivable agricultural land, which requires energy for production processes, compared to its livestock units.

All of the above information is consolidated in Figure 31, which illustrates the percentage of energy consumption by subcategory within the AFOLU sector. This visualization makes the differences in energy consumption for each subcategory readily apparent.

EMISSIONS AND SCOPE

The Figure 33 presented above illustrates the contribution of each sector to the total equivalent of CO₂ emissions. The analysis reveals that the buildings' sector accounts for the highest emissions. The sector of transportations follows closely. The water sector has a relatively smaller impact, while the Agricultural, Forestry and Land Use (AFOLU) sector has the lowest contribution. Additionally, the waste sector presents a noteworthy contribution, whereas the Industrial Process and Product Use sector (IPPU) demonstrates a comparatively smaller impact.

According to the CO₂ equivalent emissions diagram for SCOPE 1 (Figure 34), it can be observed that the majority of emissions arise from fuel consumption for transportation. Emissions due to fuel usage for heating municipal buildings follow, while the greenhouse emissions from waste disposal present the smallest impact. The emissions that stem from fuel consumption in the agricultural, industrial and water sectors are remarkably smaller, in comparison to the transportation and buildings sectors.



Through the SCOPE 2 diagram (Figure 35), which illustrates the emission of CO₂ equivalent resulting from electricity consumption by households, municipal buildings, and municipal lighting, it becomes clear that households are responsible for emitting the highest quantity of greenhouse gases. This observation is reasonable considering that households necessitate electricity for various purposes such as heating, cooling, cooking, among others, unlike municipal buildings.

As for the SCOPE 3 diagram (Figure 36), which pertains to CO₂ equivalent emissions from the transportation and disposal of waste outside the Municipality's boundaries, the emissions from waste disposal at the Elliniko landfill are much higher than the emissions from the waste transportation to this one.

From all the above, it is evident that the majority of CO₂ equivalent tons emitted into the atmosphere originate from fuel and electricity consumption of buildings sector. The second highest emission factor is transportation. These findings serve as a guiding principle for the creation of the Action Plan, as it is necessary to identify ways to reduce emissions. Proposed measures may include the procurement of electric vehicles and charging infrastructure, the utilisation of heat pumps and solar energy for building heating, as well as the use of renewable energy sources for electricity generation.

In Figure 37, we can distinguish the main differences in CO₂ emissions between the years 2014 and 2019. Initially, it is evident that there is reduction in the total emissions, with a note that emission data from the WASTE sector for the year 2014 is not available. Particularly remarkable is the reduction in emissions in the Buildings sector, specifically in the subsector of Heating via Diesel. Additionally, the decrease in emissions by private buildings, particularly in the subsectors of electricity consumption and heating from oil consumption, is also worth to point out. Finally, the decrease in emissions in the Transportation sector, especially in emissions from fuel consumption in private vehicles, is also evident.

3.2 Module A-2 Current Policies and Strategies Assessment

Module A-2 “Current Policies and Strategies” should list relevant policies, strategies, initiatives or regulation from local, regional and national level, relevant to the city’s climate neutrality transition.

A-2.1: List of relevant policies, strategies & regulations					
Type	Level	Name & Title	Description	Relevance	Need for action
Strategy	EU	European Green Deal	<p>European Green Deal is a strategy that aims to transform the EU into a modern resource-efficient and competitive economy by 2050.</p> <p>This Strategy aims to boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution.</p>	<p>This strategy sets binding targets for the EU to achieve net-zero greenhouse gas emissions by 2050, which gives the initiatives to Ioannina city</p>	-
Strategy	EU	Biodiversity Strategy for 2030; Bringing nature back into our lives	<p>This Strategy aims at putting Europe’s biodiversity in the path of recovery by 2030 for the benefit of people, the climate and the planet.</p>	<p>The Strategy plan is to put in place effective restoration measures to restore degraded ecosystems through concrete commitments and actions. More specifically, those with the most potential to capture and store carbon to prevent and reduce the impact of natural disasters.</p>	-



Law	National	National Climate Law	Transition to climate neutrality and adaptation to climate change / Measures and policies are being put in place to ensure the country's gradual transition to climate neutrality by the year 2050	The measures and policies concern the penetration of RES, the reduction of greenhouse gas emissions from various sectors, such as buildings and transport, with the ultimate goal of climate neutrality	-
Framework	National	Special Framework for Spatial Planning and Sustainable Development for renewable energy sources (RES) and its strategic environmental impact study	The aims of this Special Framework are : a. The formulation of spatial planning policies for renewable energy projects, categorized by activity type and spatial category. b. The establishment of rules and criteria for spatial planning that will enable the creation of sustainable Renewable Energy (RE) installations, while ensuring their harmonious integration into the natural and human-made environment. c. The establishment of an effective mechanism for the spatial planning of RE installations, in order to achieve alignment with the objectives of national and European policies.	The correlation between them lies in the fact that with the help of RES the consumption of fossil fuels is reduced, thus leading to a decrease in greenhouse gas emissions.	-
Action Plan	National	National Energy and Climate Plan (NECP)	The plan outlines the country's goals for reducing greenhouse gas emissions, increasing the sharing of renewable energy sources in the energy mix, and improving energy efficiency	NECPs include specific targets for reducing GHG emissions, often aligned with EU-wide emission reduction goals	-

Action Plan	National	Action Plan for Addressing Energy Poverty	The plan addressing the phenomenon of energy poverty due to the escalating intensification, driven by the ongoing economic recession and the resulting impacts on citizens, has been deemed urgent.	Promoting measures for the energy upgrade of residential buildings of affected households aims to combat energy poverty and will also contribute to the national target set for the energy upgrade of 12%-15% of the total number of homes in the country	-
Strategy	National	Long-Term Strategy for 2050	The Long-Term Strategy for the year 2050 represents a roadmap for the Greek Government concerning Climate and Energy matters, within the framework of the country's participation in the collective European goal of achieving a successful and sustainable transition to a climate-neutral economy by 2050, at the European Union level.	It includes scenarios for reducing greenhouse gas emissions	-
Action Plan	National	National Waste Management Plan	The new national plan, within the framework of the ambitious environmental policy pursued by the country, sets a significant target for reducing the sanitary landfilling of Municipal Solid Waste (MSW), which is on the lowest level of waste management in the waste hierarchy. The goal is to achieve a rate of less than 10% of sanitary landfilling of MSW by the year 2030,	By reducing the Municipal Solid Waste (MSW) that ends up in landfills, greenhouse gas emissions will also be reduced	-

			bringing this specific target five years earlier than the European directives, which envisage a maximum landfilling rate of 10% by the year 2035		
Action Plan	National	National Action Plan on Circular Economy	It focuses on sectors with increased resource use and high potential for circularity, such as, among others, electronics, batteries, vehicles, packaging, plastics, textiles, construction, food, water, and nutrients. It includes 71 actions that will enable the country's economy to become sustainable while remaining competitive.	The correlation is that this action includes in its aims the sustainable consumption, e.g. promoting green public contracts, repair services, reusability	-
Action Plan	National	Green Public Procurement Action Plan	Target of this action is to protect the environment	Aim of the action is to save and upgrade energy for public buildings.	-
Action Plan	National	Digital Transformation Bible 2020 - 2025	The Digital Transformation Bible is a record of the necessary interventions in the technological infrastructure of the state, in the education and training of the population for the acquisition of digital skills as well as in the way our country utilizes digital technology in all sectors of economy and public administrator. https://digitalstrategy.gov.gr/en/	Its main role is to describe the vision, philosophy and goals of the national strategy for the digital transformation of the country	-
Action Plan	Regional	Epirus Regional Waste Management Plan 2020-2030	A roadmap to Local Waste Management Plan	It includes commitments for reducing the quantity of MSW ending up in sanitary landfills	-
Action Plan	Regional	Regional plan for adaptation to climate change	The aim of the plan is to identify and prioritize the necessary measures and	The plan mentions projects and	-



			actions to adapt the Region of Epirus to the upcoming climate changes	actions that make use of new IT and communication technologies to deal with climate change	
Action Plan	Regional	Regional Spatial Planning and Sustainable Development Plan	It aims, among other things, at the protection, exploitation and sustainable management of the natural and man-made resources of the Region, at the integration of the protection of the natural environment and the landscape in all individual policies.	The plan clearly states the intention to strengthen the best international practices for increasing energy efficiency as well as reducing energy requirements	-
Action Plan	Regional	Operational Plan of the Region of Epirus 2021-2027	The goal of Epirus for the Operational program 2021-2027 is the implementation of development measures and policies, which will be driving forces, the deepening and the rapprochement through European economic and social cohesion and integration.	The Regional Operational Plan includes proposals and actions at Municipal level to increase energy efficiency and digitize Municipal services	-
Action Plan	Local	Sustainable Urban Development Strategy (SUD) of Municipality of Ioannina (2014-2020)	Integrated plan of actions/interventions to improve the quality of life of the residents of the Municipality of Ioannina	The actions aim at promoting improving the urban environment for the benefit of residents and tourists and ultimately reducing environmental impacts	-



Action Plan	Local	Operational Plan for Municipality of Ioannina	The goal of Operational Plan program of Ioannina City is the implementation of development measures and policies for the Municipality of Ioannina	The Operational Plan of the City includes proposals and actions at Municipal level to increase energy efficiency and digitize Municipal services	-
Action Plan	Local	Sustainable Energy Action Plan (SEAP) for Municipality of Ioannina	By signing the Covenant of Mayors for Climate and Energy in December 2016, the Municipality of Ioannina participates, at a pan-European level, in the efforts of Local Government to address the issue of climate change through the implementation of "Sustainable Local Energy Policies."	It includes commitments for reducing CO2 emissions by -20% by 2020 and by -40% by 2030 through more efficient energy use and the utilization of Renewable Energy Sources (RES)	-
Action Plan	Local	Sustainable Urban Mobility Plan of Ioannina Municipality (SUMP)	Signed in 2017 it sets targets for sustainable mobility and transport actions until 2039	It includes many actions specifically on mobility that will help achieving climate neutrality until 2030	-
Action Plan	Local	Smart City Action Plan for Municipality of Ioannina	Signed in 2018 it sets targets on the city's needs for getting digitized	It includes actions on making the City of Ioannina smarter-digitized	-
Action Plan	Local	Local Solid Waste Management Plan of the	The Local Plan emphasizes actions that promote waste prevention and reduction through the reinforcement of	It includes commitments for reducing the quantity of	-

		Municipality of Ioannina 2020-2030	Waste Management Centers and awareness-raising initiatives, aiming to increase separate collection	MSW ending up in sanitary landfills to 10% of their total weight by 2030	
Strategy	Local	Covenant of Mayors/Covenant of Mayors for Climate and Energy	Voluntary commitment of the Municipality to achieve the European goals for climate and energy	The Covenant of Mayors was launched in 2008 with the aim of helping municipalities achieve the European 20-20-20 targets by 2020, including reducing CO2 by at least 20%, while since 2016 it refers to the target of reducing greenhouse gases by 40% by 2030	-
Strategy	Local	Integrated Digital Transformation and Smart City Strategy for the Municipality of Ioannina	This strategy will be the basis for the integration of digital applications and solutions with the aim not only of transforming the Municipality into a modern and technologically advanced living and activity environment, but also of creating a sophisticated technological background, both related to projects and infrastructures as well as human mentality and thinking	The strategy as a tool for maturing projects and digital transformation initiatives of the Municipality should to be fully aligned with the priorities set by the Ministry of Digital Governance's Strategic Plan and the national and European programs for	-

				the digital transition, so that the transformation of the Municipality is in harmony with the priorities in question and to facilitate access to financial instruments	
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A-2.2: Description & assessment of policies

Building Sector

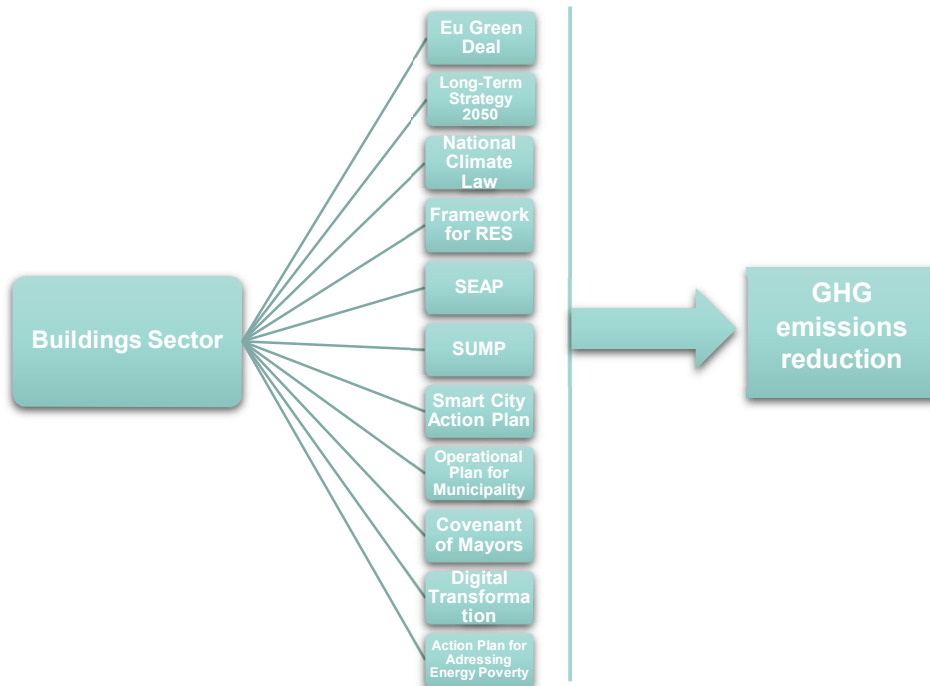


Figure 38: Buildings Sector existing policy

European Level

- 1) European Green Deal

National Level

- 1) National Climate Law
- 2) Long-Term Strategy

- 3) Special Framework for Spatial Planning and Sustainable Development for renewable energy sources (RES) and its strategic environmental impact study

Local Level

- 1) Sustainable Energy Action Plan (SEAP) for Municipality of Ioannina
- 2) Sustainable Urban Mobility Plan of Ioannina Municipality (SUMP)
- 3) Smart City Action Plan for Municipality of Ioannina
- 4) Operational Plan for Municipality of Ioannina
- 5) Covenant of Mayors/Covenant of Mayors for Climate and Energy
- 6) Integrated Digital Transformation and Smart City Strategy for the Municipality of Ioannina
- 7) Action Plan for Addressing Energy Poverty

In the actions currently underway, it is evident that greenhouse gas (GHG) emissions in the transport sector will see a reduction of 6.138,76 tons of CO2 equivalent. This figure may appear relatively modest when compared to the total emissions of this sector. However, the Action Plan encompasses a series of proposed and initiated measures designed to curtail emissions by 158.363,51 tons of CO2 equivalent. These initiatives encompass ongoing actions as well as those in the planning or funding-seeking stages.

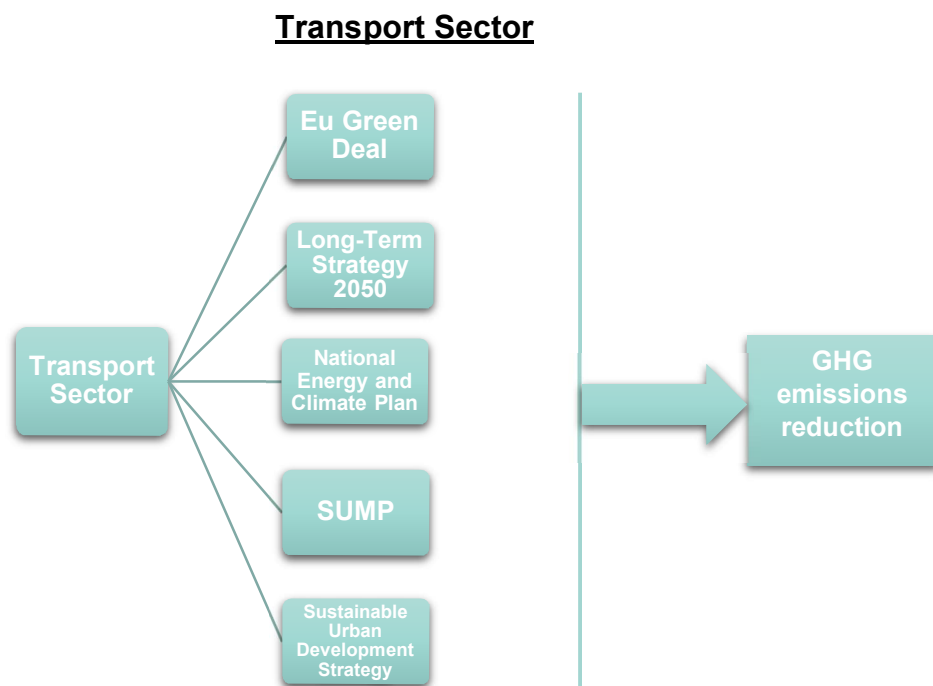


Figure 39: Transport Sector existing policy

European Level

- 1) European Green Deal

National Level

- 1) National Energy and Climate Plan

2) Long-Term Strategy 2050

Local Level

- 1) Sustainable Urban Mobility Plan of Ioannina Municipality (SUMP)
- 2) Sustainable Urban Development Strategy of Municipality of Ioannina 2014-2020

In the actions currently underway, it is evident that greenhouse gas (GHG) emissions in the transport sector will see a reduction of 1.473,28 tons of CO₂ equivalent. This figure may appear relatively modest when compared to the total emissions of this sector. However, the Action Plan encompasses a series of proposed and initiated measures designed to curtail emissions by 136.999,28 tons of CO₂ equivalent. These initiatives encompass ongoing actions as well as those in the planning or funding-seeking stages.

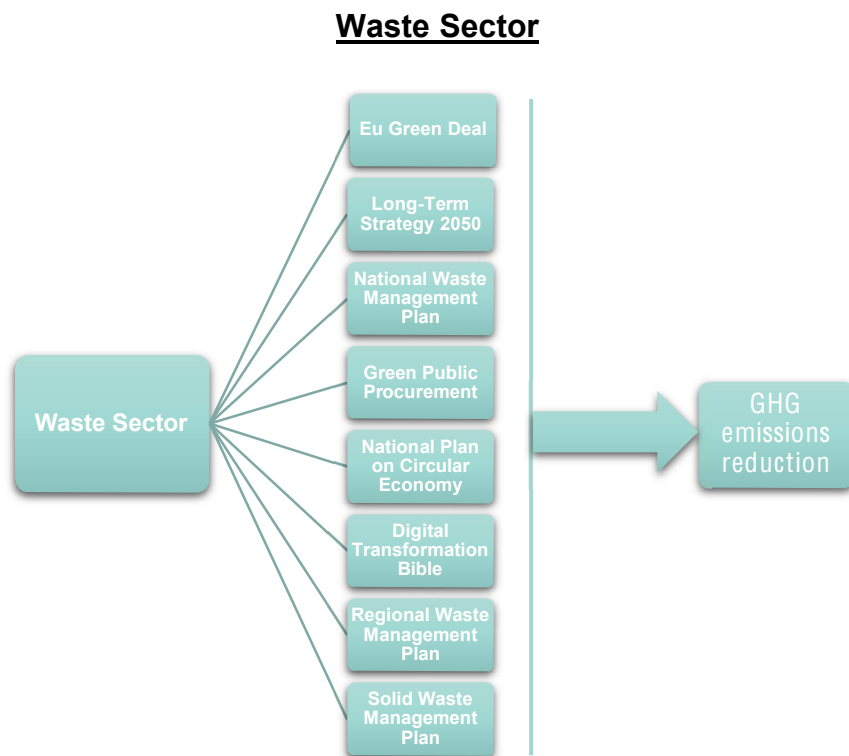


Figure 40: Waste Sector existing policy

European Level

- 1) European Green Deal

National Level

- 1) National Waste Management Plan
- 2) National Action Plan on Circular Economy

- 3) Green Public Procurement Action Plan
- 4) Digital Transformation Bible 2020 – 2025
- 5) Long-Term Strategy 2050

Regional Level

- 1) Epirus Regional Waste Management Plan 2020-2030

Local Level

- 1) Local Solid Waste Management Plan of the Municipality of Ioannina 2020-2030

In the actions currently underway, it is evident that greenhouse gas (GHG) emissions in the transport sector will see a reduction of 1.545,46 tons of CO2 equivalent. This figure may appear relatively modest when compared to the total emissions of this sector. However, the Action Plan encompasses a series of proposed and initiated measures designed to curtail emissions by 7.769,99 tons of CO2 equivalent. These initiatives encompass ongoing actions as well as those in the planning or funding-seeking stages.

Water Sector



Figure 41: Waste Sector existing policy

European Level

- 1) European Green Deal

National Level

- 1) Long-Term Strategy 2050

In the actions currently underway, it is evident that greenhouse gas (GHG) emissions in the water sector will see a reduction of 7.323,93 tons of CO₂ equivalent. This figure may appear relatively modest when compared to the total emissions of this sector. However, the Action Plan encompasses a series of proposed and initiated measures designed to curtail emissions by 13.328,66 tons of CO₂ equivalent. These initiatives encompass ongoing actions as well as those in the planning or funding-seeking stages.

Industry Process and Product Use (IPPU) Sector



Figure 42: IPPU Sector existing policy

European Level

- 1) European Green Deal

National Level

- 1) Long-Term Strategy 2050

While there are currently no ongoing initiatives to reduce GHG emissions in the IPPU sector, the proposed actions outlined in the Action Plan are expected to result in a reduction of 1,870.76 tons of CO₂ equivalent in existing emissions.

Agricultural, Forestry and Land Use (AFOLU) Sector

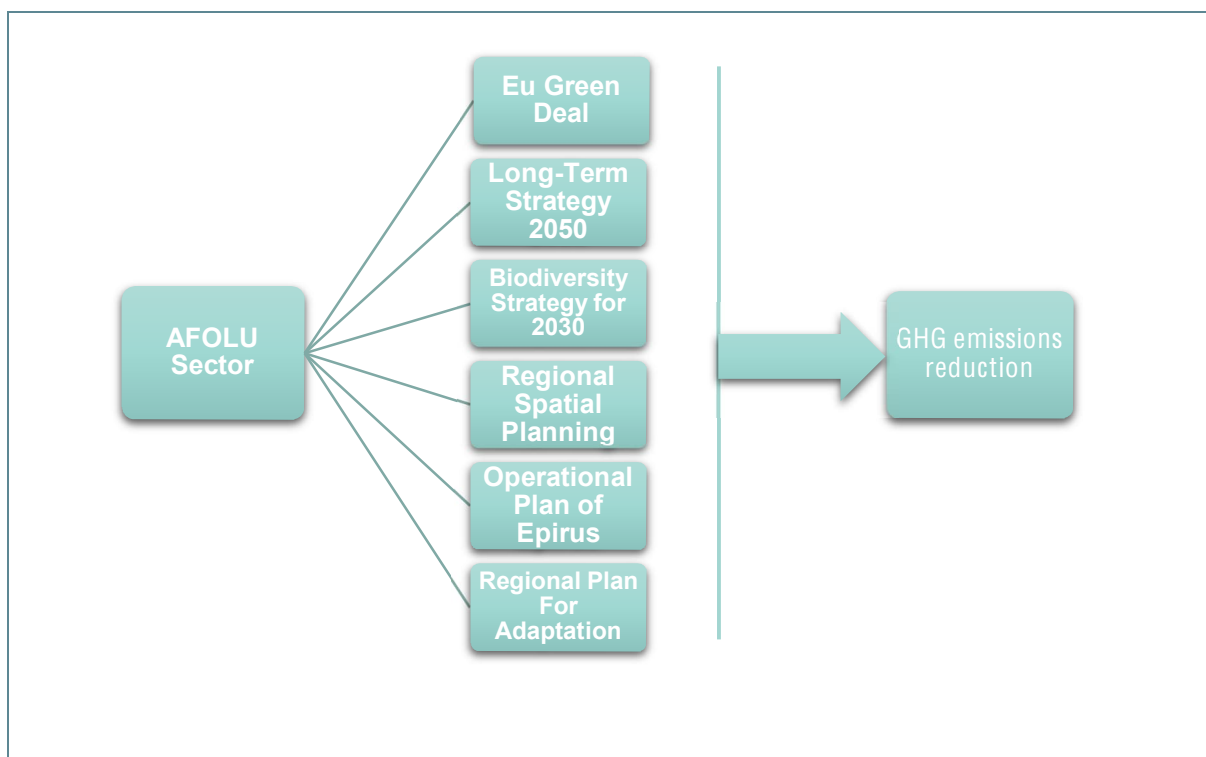


Figure 43: AFOLU Sector existing policy

European Level

- 1) European Green Deal
- 2) Biodiversity Strategy for 2030; Bringing nature back into our lives

National Level

- 1) Long-Term Strategy 2050

Regional Level

- 1) Regional plan for adaptation to climate change
- 2) Regional Spatial Planning and Sustainable Development Plan
- 3) Operational Plan of the Region of Epirus 2021-2027

While there are currently no ongoing initiatives to reduce GHG emissions in the AFOLU sector, the proposed actions outlined in the Action Plan are expected to result in a reduction of 748,63 tons of CO2 equivalent in existing emissions.

A-2.3: Emissions gap										
	Baseline emissions (percentage)		Residual emissions / offsetting ¹		Baseline emissions reduction target ²		Emissions reductions in existing strategies ³		Emissions gap (to be addressed by action plan) ⁴	
	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)	(absolute)	(%)
Buildings	174.774,87	49,63%	16.411,36	4,66%	158.363,51	44,97%	6.138,76	2,33%	152.224,75	42,64%
Transport	151.196,65	42,94%	14.197,36	4,03%	136.999,28	38,90%	1.473,28	2,02%	135.526,00	36,88%

Waste	8.575,20	2,44%	805,21	0,23%	7.769,99	2,21%	1.545,46	0,12%	6.224,53	2,09%
Water	14.709,92	4,18%	1.381,26	0,39%	13.328,66	3,78%	7.323,93	0,21%	6.004,73	3,57%
Industrial Process and Product Use (IPPU)	2.064,63	0,59%	193,87	0,06%	1.870,76	0,53%	0,00		1.870,76	0,53%
Agricultural, Forestry and Land Use (AFOLU)	826,21	0,23%	77,58	0,02%	748,63	0,21%	0,00		748,63	0,21%
Total	352.147,47	100,00%	33.066,65	9,39%	319.080,82	90,61%	16.481,43	4,68%	302.599,39	85,93%

¹ Residual emissions consist of those emissions which can't be reduced through climate action and are being offset. Residual emission may amount to a maximum of 20 % as stated by the Mission Info Kit.

² Baseline reduction target = Baseline emissions – residual emissions.

³ Emission reductions planned for in existing action planning and strategies should be quantified per sector.

⁴ Emissions gap = Baseline emission reduction target – Emissions reduction in existing strategies.

The baseline emissions values in Table A-2.3 diverge from those in Table A-1.4, which details GHG emissions by source sectors. This discrepancy arises due to the inclusion of tree absorptions within the Municipality of Ioannina, thereby showcasing reduced sector-specific emissions in Table A-2.3. The methodology for computing these absorptions and achieving an overall emissions reduction is elucidated in Table A-1.5.

3.3 Module A-3 Systemic Barriers and Opportunities to 2030 Climate Neutrality

Module A-3 “Systemic Barriers to 2030 Climate Neutrality” should document the results of the stakeholder, systems and ecosystem mapping and identification of systemic barriers and opportunities.

A-3.1: Systems & stakeholder mapping				
System description	Stakeholders involved	Network	Influence	Interest
Public Buildings	Municipality of Ioannina Primary and Secondary Education Directorate Urban Planning of Ioannina	Local Authorities Regional Authorities	The Municipality of Ioannina is responsible for the Public Buildings. The Primary and Secondary Education Directorate is responsible for the schools of Municipality of Ioannina Urban Planning is responsible for all the buildings of Ioannina	One of the main goals of the Municipality of Ioannina is to reduce the GHG emissions of the Public Buildings. Primary and Secondary Education Directorate aims to minimize the ecological footprint of schools and demonstrate a commitment to



				addressclimate change.
Private Buildings	Householders Municipality of Ioannina Urban Planning	Local Association	Householders are the residents of Municipality of Ioannina who own buildings or appartements in the Municipality and are responsible to upgrade them energetic.	The residences of Municipality of Ioannina are interested in upgrading energetically their own households, in order to save energy and money
Public Spaces	Municipality of Ioannina Urban Planning Dpt of Ioannina	Local Authorities Regional Authorities	Municipality of Ioannina is responsible for the Public Spaces	One of the main goals of the Municipality of Ioannina is to reduce the GHG emissions from the Public spaces by regenerate them using sustainable materials
(Urban) Forest areas	Municipality of Ioannina Urban Planning Dpt of Ioannina Forest Office of Ioannina	Local Authorities Regional Authorities NGOs	Municipality of Ioannina is responsible for the (Urban) Forest Areas in collaboration with the Forest Office of Ioannina	One of the main goals is to enhance the number of areas with mild interventions while protecting them
Lake Pamvotida	Municipality of Ioannina Urban Planning Dpt of Ioannina Epirus Region NGOs Agricultural cooperatives Ministry of Agriculture Natural Environment &	Local communities Agricultural cooperatives NGOs Management Unit of the Protected Areas of Epirus	Management Unit of the Protected Areas of Epirus is responsible for Lake Pamvotida	The preservation of the natural ecosystem, the restoration and maintenance of the ecological balance of Pamvotida, with the parallel development of activities that harmonize with the natural environment and adopt the principle of sustainability (ecological



	Climate Change Agency- Management Unit of the Protected Areas of Epirus			footprint), are among the objectives and at the same time a challenge for the Management Unit.
Mining Zones	Municipality of Ioannina Epirus Region Natural Environment & Climate Change Agency- Management Unit of the Protected Areas of Epirus	University of Ioannina Researchers NGOs	The grant of the right to research on public land is made and proven by a decision of the Coordinator of the relevant Decentralized Administration (Epirus Region), while the grant of the right to exploit these lands is by a notarized lease deed	The Municipality of Ioannina is to naturally restore the abandoned mining zones in order to minimize the ecological footprint of those areas
Road network	Regional Authority of Epirus Municipality of Ioannina	Local Authorities	Both Authorities have the responsibility for road network (planning and operation)	Since it is the Local Authorities responsibility to provide a reliable road network that will facilitate the purpose of reducing GHG emissions their interest is significant
Mobility and Transportations	Urban Bus Service of Ioannina Intercity Bus Service of Ioannina Municipality of Ioannina Citizens	Local Associations Private Sector Citizens Municipal Companies	Bus owners and Bus company can play a significant role by replacing their diesel buses with electric. Citizens of Ioannina play a crucial role to incite transportation so is significant to replace their conventional vehicles with electric. Furthermore, a	Bus owners are interested in replacing their vehicles with electric ones in order to reduce GHG emissions in transportation. Additionally, citizens in Ioannina have expressed a keen interest in transitioning from gasoline and diesel vehicles to electric ones.



			crucial aspect of transportation is promoting the integration of bicycles as a mode of citizen transportation and encouraging increased walking and the use of public transportation.	Moreover, there is a growing interest among residents in adopting walking and cycling as preferred modes of transportation.
Water Supply and Sewage network	Municipal Company for Water Supply and Sewage of Ioannina (DEYAI)	Municipal Company	The Municipal Company for Water Supply and Sewerage of Ioannina is managing the water supply and the sewage of Ioannina	In order to reduce energy consumption, and water supplies, it is important to participate in the implementation of Action Plan.
Public Lighting	Municipality of Ioannina	Local Authorities	The Municipality of Ioannina is planning the replacement of the old light bulbs with led ones	In order to reduce the energy consumed by Public Lighting, the Municipality of Ioannina is to be involved in the implementation of the Action Plan.
Renewable Energy	Hellenic Ministry of Environment and Energy Region of Epirus Municipality of Ioannina Photovoltaic Companies of Ioannina	National Authority Local Authority	The Hellenic Ministry of Environment and Energy together with local authorities are responsible to permit the installation of photovoltaic systems. Photovoltaic Companies upon the approval of local authorities are responsible for the installation of photovoltaic systems.	National and local authorities enhance the installation of renewable energy systems, as they reduce the carbon footprint at the environment



<p>Funds</p>	<p>Hellenic Ministry of Environment and Energy (YPEN)</p> <p>Region of Epirus</p> <p>Just Development Transition Plan (JDTP)</p> <p>Funds - European Central Bank, European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), World Bank</p> <p>Hellenic Association of Banks</p>	<p>National Authorities</p> <p>Regional Authorities</p> <p>National Organisation</p> <p>International Bank associations</p> <p>Hellenic Bank Associations</p>	<p>YPEN, Regional Authorities and the funding organisations and mechanisms can lever funds to facilitate and support investments in renewable energy installations, energy upgrading of buildings and vehicles</p>	<p>The interest of these organisations to fund investments in Ioannina towards the implementation of this action plan is expected to be significant and crucial.</p>
<p>Municipal Waste and waste collection network</p>	<p>Municipality of Ioannina</p> <p>Hellenic Recovery Recycling Corporation (HERRCO)</p> <p>Hellenic Recycling Agency (HRA/EOAN)</p> <p>P.K. Recycling North West</p> <p>Epirus Aeiforiki Compulsory Solid Waste Management Association of Epirus</p>	<p>Local Authority</p> <p>Local Companies</p> <p>Private Sector</p> <p>Citizens</p> <p>Regional Companies</p> <p>Regional Associations</p>	<p>All these stakeholders are responsible for waste management and their impact to Environment. They also responsible for recycling and awareness about recycling behavior</p>	<p>All the stakeholders are aware about the GHG emissions coming from waste management and collection. So they have declared their interest in changing their processes and behaviour about this crucial matter.</p>



	Citizens			
Administrative Structure	<p>Municipality of Ioannina</p> <p>Decentralized Administration of Epirus - Western Macedonia</p>	<p>Local Authorities</p> <p>Regional Authorities</p> <p>National Authorities</p>	<p>Both stakeholders are responsible for the Existing Administrative Structure</p>	<p>Both stakeholders are interested in changing any obstacles may exist in order to succeed the Action Plan.</p>
Circular Economy	<p>Local Businesses</p> <p>Local Industries</p> <p>Municipality of Ioannina</p> <p>Association of Ioannina Silversmiths "Gianiotiki Tehni"</p> <p>Traditional Crafts Center of Ioannina (KEPAVI)</p>	<p>Local businesses owners</p> <p>Local Industries owners</p> <p>Local Authorities</p> <p>Local craftsman and craftswoman</p>	<p>All these stakeholders are responsible for the Circular Economy of the Ioannina City</p>	<p>The main interest of these stakeholder is the economy of Ioannina City still growing and flourish, in order this to happen the adaptation to circular economy actions of this plan is mandatory for them.</p>
Education and upskilling	<p>Ministry of Education</p> <p>University of Ioannina</p> <p>Regional Directorate of Primary and Secondary Education</p> <p>School Committees of Primary and Secondary Education</p> <p>Greek Public Employment Service (DYPA)</p>	<p>Regional Authority</p> <p>Local Association Public Employment organisation</p>	<p>The Ministry of Education has the potential to furnish educational resources and directives for the creation of relevant school curricula addressing green energy and environmental topics. These curricula could then be executed through the Primary and Secondary Education Directorate.</p> <p>School committees can facilitate the</p>	<p>The primary focus of these stakeholders revolves around delivering contemporary educational services to residents, enabling them to acquire new skills or enhance their existing ones.</p>



			<p>organization of awareness and educational initiatives with active student participation.</p> <p>As a modern university, the University of Ioannina offers a wide array of educational programs and seminars on Environmental Protection and Climate Neutrality. Leveraging its expertise, the university is well-equipped to actively engage in designing comprehensive educational initiatives for the Ioannina community. These programs can center around climate neutrality, climate change adaptation, energy conservation methods, and advanced technologies.</p>	
Municipal and Municipal Company Officials	<p>Municipality of Ioannina</p> <p>Municipal Company for Water Supply and Sewage of Ioannina (DEYAI)</p>	<p>Local Authorities</p> <p>Municipal Employees</p> <p>Municipal Company for Water Supply and Sewage of</p>	<p>Municipal officials bear the primary responsibility for organizing, planning, and executing climate neutrality initiatives. Their role is pivotal not</p>	<p>Municipal officials are interested in climate neutrality initiatives because they align with their responsibilities, benefit the community,</p>



		Ioannina (DEYAI) Employees	only in the coordination of these actions but also in their direct impact, as many of these initiatives target municipal employees themselves	ensure regulatory compliance, and contribute to economic savings and a cleaner environment.
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A-3.2: Description of systemic barriers – textual elements

Several systems detailed in Table A-3.1 face barriers concerning their alignment with climate neutrality policies and initiatives.

Public Buildings, Private Buildings

The building sector, in general, stands as one of the leading contributors to GHG emissions. However, in the Municipality of Ioannina, both public and private buildings face several barriers when it comes to initiatives aimed at reducing GHG emissions.

- **Energy Inefficiency:** The majority of buildings constructed before 2000 lack modern insulation, cooling and heating system technologies (most of them basis to diesel consumption for heating), leading to significant energy losses and a pressing need for extensive retrofitting.
- **Budget Constraints:** Limited funds for retrofitting and upgrading public and private buildings to be more energy-efficient.
- **Lack of Sustainable Construction Practices:** The private sector resist adopting sustainable building practices due to perceived high costs and a lack of incentives.

(Urban) Forest areas, Lake Pamvotida, Mining Zones

The area of Ioannina exhibits diverse natural and anthropogenic landscapes, including peri-urban forests, Lake Pamvotida, mining zones, and quarries, due to its unique geomorphology and topology. Consequently, multiple interdisciplinary entities, both formal and informal (private/public, citizen-led initiatives, organizations, associations), are involved, potentially causing delays in various processes such as licensing and interventions. Nonetheless, the strategic plan aims to address this by promoting action transparency, raising citizen awareness, and fostering commitments between the Municipality of Ioannina and various governmental and non-governmental bodies.

Mobility and Transportations

The replacement of the current vehicles with electric ones, is a process that has been partially adapted at a national and local level. This happens because:

- Electric vehicles are very expensive
- There is no infrastructure facilities for vehicle charging
- There is no parking spaces for vehicle charging

Furthermore, some other barriers, that the Municipality of Ioannina confronts, are:

- **Inefficient Public Transportation:** An inefficient public transportation system can discourage the use of sustainable transportation modes.



- Lack of Cycling Infrastructure: Inadequate cycling infrastructure can hinder the adoption of cycling as a low-emission transportation option.

Water Supply and Sewage network

The primary barriers within the Water Supply and Sewage network include:

- Energy-Intensive Water and Wastewater Treatment: The energy-intensive processes involved in water and wastewater treatment significantly contribute to greenhouse gas emissions.
- Water Leakages in the Internal and External Networks: Ioannina City's water network experiences substantial water leakages, estimated at nearly 60%. This wasted water not only hampers the city's needs but also contributes to greenhouse gas emissions, primarily due to the energy-intensive nature of water supply and treatment.

Renewable Energy

- Regulatory and Administrative Challenges: Cumbersome permitting processes, bureaucratic red tape, and unclear regulations can hinder the efficient installation of renewable energy systems. Ambiguous or outdated regulations may lead to delays and uncertainty for investors and project developers.
- Lack of Incentives: Inadequate financial incentives, subsidies, or tax breaks for renewable energy projects can deter potential investors. The absence of attractive financial support mechanisms may slow down the adoption of renewable energy technologies.
- Limited Access to Financing: Difficulty in accessing affordable financing options can be a significant barrier. High interest rates, lack of specialized lending products, and uncertainty about returns on investment can discourage individuals and businesses from pursuing renewable energy projects.
- Grid Connection Challenges: Connecting renewable energy systems to the grid can be complicated due to technical constraints or outdated infrastructure. Limited grid capacity can restrict the integration of variable renewable sources like solar and wind energy.

Funds

The primary obstacle hindering the Municipality of Ioannina from achieving GHG emission reduction and climate neutrality is the insufficient availability of funds. As outlined in Section 4.2 of Module B-2, numerous actions have been thoroughly examined and are awaiting financial support for implementation. The key barriers arising from funding limitations include:

- Insufficient internal capital and revenue resources for investing in sustainability projects.
- Reliance on external sources of funding.
- Limited financial support from the private sector.

Municipal Waste and waste collection network

Municipal Waste and waste collection network barriers for climate neutrality are the below:



- **Municipal Waste:** There is no detailed record on the amount of each type of recyclable materials
- **Biowaste:** Absence of a strategy for the placement of brown bins and of a general strategy for bio-waste on a regional and national level
- **Other types of waste:** Collective Systems for Alternative Management of several types of waste have not been established
- **Food waste:** There is no organised action for the prevention of food waste and the redistribution of surplus food

Administrative Structure

The existing Administrative Structure in the Municipality of Ioannina is described in PD No. 36710/10334 (Government Gazette B' 2138/2011) "Approval of the Internal Service Organization (O.E.Y.) of the Municipality of Ioannina, Ioannina Prefecture" decision of the Secretary General of the Decentralized Administration of Epirus - Western Macedonia. There is also an Environment and Urban Planning Directorate which includes the Environment and Energy Department.

Administrative barriers:

- No environmental integration across all policy and governance areas
- Fragmentation
- Climate dimension not included in overall policy design
- Lack of horizontal and vertical climate governance at municipal level

Circular Economy

The development of the circular economy, is quite a challenge for the Region of Epirus, but also for the Municipality of Ioannina as the largest city of Epirus, keeping in mind that this very sector in addition to the positive impact on the environment, natural resources and climate change, is expected to have a positive impact on labour market, entrepreneurship and sustainable development. It must be noted that the rate of utilisation of the possibilities of the circular economy, both at regional and national level, is low.

- **Sector of Silversmiths**

There is a great opportunity in the silversmithing businesses to adopt the circular economy model, as it is a traditional profession of the city

- **Agrifood residues and by-products / Circular production models / Industrial symbiosis**

There is no organised activity in these sectors, but there are opportunities in investing in them

Municipal and Municipal Company Officials

A pivotal barrier to climate neutrality policies lies in the Municipality's capacity and the expertise of its staff, which are essential for effectively planning and executing present and future actions. Some reasons why this happens are:

- **Resource Constraints:** Limited financial and human resources within the Municipality can make it difficult to allocate the necessary funds and personnel for staff training and capacity building in the context of climate neutrality policies.



- **Lack of Specialized Knowledge:** Climate neutrality policies often require specialized knowledge in areas such as renewable energy, emissions reduction, and sustainable practices. Without this expertise, staff may struggle to plan and implement effective initiatives.
- **Resistance to Change:** Existing practices and organizational culture within the Municipality may resist changes needed to align with climate neutrality goals, making it challenging to adapt and implement new policies effectively.
- **Limited Training Opportunities:** Inadequate access to training and educational resources on climate-related topics can hinder staff development. Without access to relevant training, employees may lack the skills and knowledge needed to contribute effectively to climate initiatives.

Green Public Procurement

The Municipality of Ioannina has set a primary objective to integrate Green Public Procurement (GPP) into its procedures, yet several barriers stand in the way of achieving this goal. The key obstacles include:

- Complex Regulations
- Budget Constraints
- Capacity and Expertise of Municipal Officers
- Monitoring and Enforcement of Supplier Compliance with GPP Requirements

From Barriers to Opportunities:

Many of the previously mentioned barriers can actually be viewed as opportunities for the municipality. As further detailed in the text, a significant portion of the actions already implemented or proposed directly addresses these barriers. The municipality consistently seeks out new opportunities in its pursuit of achieving climate neutrality.

A-3.3: Description or visualisation of participatory model for the city climate neutrality – textual and visual elements

(Please fill out according to the Action Plan Guidance)

Achieving climate neutrality for the city of Ioannina will require the strategic use of various levers and approaches across multiple sectors and stakeholders. Main stakeholders individual actions and responsibilities analyzed below:

- **The Municipality of Ioannina :** can enact climate policies, develop a climate action plan, and set emission reduction targets. It can invest in renewable energy infrastructure, improve public transportation, and implement energy-efficient building codes.
- **Citizens and the Community:** residents can reduce energy consumption, adopt sustainable transportation options, recycle, and participate in community clean-up and tree-planting initiatives.
- **Businesses and Industries:** businesses can transition to renewable energy sources, implement energy-efficient practices, reduce waste, and invest in green technologies. Industries can adopt cleaner production methods and reduce emissions.



- **Academic and Research Institutions:**The University of Ioannina can conduct climate research, develop technology solutions, and educate students about sustainability. Research findings can be shared for local policies and initiatives.
- **Energy Providers:** energy companies can increase the sharing of renewable energy sources in their energy mix, support community solar projects, and offer incentives for energy efficiency improvements.
- **Transportation Providers:** public transportation agencies can invest in electric buses and promote walking-friendly infrastructure to reduce emissions from transportation.
- **Urban Planners and Architects:** professionals of this field can design energy-efficient buildings, prioritize green spaces, design bicycle paths and develop urban plans that encourage sustainable mobility.
- **Local Farmers and Agriculture:** farmers can adopt sustainable farming practices that sequester carbon in soils, reduce chemical inputs, and participate in local markets that promote local produce.
- **International Organizations:**partnerships with international organizations can bring in expertise, funding, and best practices to Ioannina's climate initiatives, helping align local efforts with global climate goals.

The above and other Stakeholders are currently in discussions regarding the primary participatory model or platform for achieving climate neutrality in the Municipality of Ioannina. It is anticipated that substantial progress on this front will be made during the first half of 2024.

4 Part B – Pathways towards Climate Neutrality by 2030

Part B represents the core of the Action Plan, shaped by local authorities, local businesses and stakeholders, comprising of the most essential elements: scenarios, strategic objectives, impacts, action portfolios and indicators for monitoring, evaluation and learning.

4.1 Module B-1 Climate Neutrality Scenarios and Impact Pathways

Module B-1 “Climate Neutrality Scenarios and Impact Pathways” should list impact pathways, early and late outcomes and direct and indirect impacts (co-benefits) according to and adapted from the NZC Theory of Change and the AP Guidance – clustered by fields of action.

B-1.1: Impact Pathways					
Fields of action	Systemic levers	Early changes (1-2 years)	Late outcomes (3-4 years)	Direct impacts (Emission reductions)	Indirect impacts (co-benefits)
Energy systems	Technology / Infrastructure	Reduced energy costs	Reduction of CO ₂ emissions and energy consumption	Reduced GHG emissions	Enhanced water management process/implementation Increased water quality
		RES energy production from photovoltaic systems	RES energy production from photovoltaic systems	Increased energy efficiency or rate of retrofit	-
				Reduced GHG emissions	-
				Increased access to clean, stable, affordable energy	-
Mobility & transport	Technology / Infrastructure		Reducing road traffic, delays, travel fatigue while increasing road capacity	Reduced GHG emissions	Improved air quality



			and functionality		
	Local development strategies	Reducing car travel share by 20%	-	Increased uptake of low-carbon technology vehicles for private, freight, public transport (EVs, e-bikes, hydrogen-fuelled etc.)	Reduced noise pollution
			-		Increased road safety
	Governance & Policy	Increasing walking share at 20%	Reducing air and noise pollution from ICE vehicles	Increased modal shift to public transit, walking, cycling	Enhanced physical & mental well-being
			Enhancing public health and social cohesion		Reduced harmful ecological footprint
			Enhancing physical/mental well-being	Decreased modal share of private vehicles	
Capacity and capacity development	-	Decreasing water pollution from diesel boats	Reduced GHG emissions	Improved air quality	
	-	Developing new landscapes and lake corridors			
Waste & circular economy	Technology / infrastructure	High quality recycled materials	Increased recycling rate of paper	Reduced GHG emissions	Increased deployment of material cycles & circular economy



				Reduced energy demand, needs, or consumption	Improved waste management and efficiency
	Early adoption of the separate collection of paper & cardboard	Increased recycling rate			Reduced harmful ecological footprint
					Decreased food waste
	Early adoption of the separate bio-waste collection and pilot development of a household composting network	Separate bio-waste collection and household composting for the majority of the bio-waste in the administrative area of the Municipality		Reduced methane (CH ₄) emissions	-
	Separate waste collection in a part of the municipal buildings	Separate waste collection in all municipal buildings		-	-
	Pilot management of specific types of waste	Proper management for the majority of specific types of waste		-	Jobs creation at local level
	Separate collection of municipal waste in Green Points and Recycling Corners	-		Reduced GHG emissions	Increased deployment of material cycles & circular economy
	Reuse of Materials	-		-	Increased deployment of material cycles & circular economy
	Pilot implementation of circular economy and	-		-	Increased deployment of material cycles & circular economy



		zero waste on Pamvotis Island			
		Sludge management from sewage treatment plant	-	-	-
	Social innovation	Utilisation and distribution of surplus food from supermarkets, cafes, restaurants	-	Reduced GHG emissions	Enhanced citizen & communities' participation & social capacities for participation/engagement
	Democracy / Participation	Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)	Households Economy	Reduced energy demand, needs, or consumption	Increased deployment of material cycles & circular economy
			Household participation in recycling		Improved waste management and efficiency
			Increased recycling rate		Increased awareness of social issues
	Governance and policy	Adoption of Green Public Procurement	Lower environmental impact	-	Reduced harmful ecological footprint
			Municipality employees Participation	-	Increased awareness of social issues
	Business models	Adoption of the circular economy in the sector of silver jewellery designers and makers	GHG emissions reduction	-	Increased economic thriving (quality of jobs, sustainable supply chains etc.)
				-	Increased local entrepreneurship & local businesses/ventures
		Industrial symbiosis	-	-	Jobs creation at local level
		Reducing waste collection travel kms/time and emissions	Reducing air and noise pollution from ICE waste collection vehicles	Reduced GHG emissions	Reduced noise pollution



			Building new business models and realizing cost savings (for waste collection services),	Reduced energy demand, needs, or consumption	Improved air quality
			Enhancing public health and social cohesion		Decreased future maintenance & capital costs
			Building a new narrative for waste collection		Increased technological readiness & rate of adoption
	Learning and capabilities	Support (inform, empower) private sector businesses to adopt circular production models	-	-	Increased deployment of material cycles & circular economy
Green infrastructure & nature based solutions	Technology / infrastructure	The proposed maintenance works consist of construction works of a new path, clearing of vegetation, cutting and removal of dry, badly shaped, gnarled trees, planting of new broad-leaved trees and shrubs, treatment of existing vegetation, installation of new seating	The purpose of the study is the execution of fire protection works, cultivation and improvement of the recreation infrastructure in the forest at "Psili Goritsa" location.	Reduced GHG emissions	Increased urban forestry, plantation & improved plant health
					Improved nature restoration



		areas (benches) and wooden pavillions, placement of waste bins, maintenance of water tank pumping station and fire hydrants.			
		Production of Renewable Energy by photovoltaic stations	-	Increased access to clean, stable, affordable energy Reduced GHG emissions	Reduced harmful ecological footprint
	Learning & capabilities		- Redefining agricultural practices with the aim of increasing production in the future as well as adopting a more sustainable economic model. At the same time, the action seeks to cultivate culture in the productive sector but also to raise the awareness of the local population regarding the available productive resources of the region.	Enhanced stability of urban infrastructure	Sustainable & resilient food production & supply systems
					Increased production & consumption locally grown food
					Improved land-use management practices (linked to biodiversity)
		-	Schoolyards will be	Enhanced stability of	Increased awareness of social issues



			<p>upgraded by participatory processes with the involvement of children/youth in the decision making processes. Schools in all different municipal divisions</p>	urban infrastructure	
		-	<p>Upgraded and bioclimatic designed surrounding spaces in accordance to the interventions and energy upgrade of the buildings</p>	<p>Reduced energy demand, needs, or consumption</p> <p>Enhanced stability of urban infrastructure</p>	
	Governance & Policy	<p>Preparation of studies and implementation of individual projects in selected areas with the aim to be climate neutral.</p>	<p>The Offices will form a comprehensive plan for each pilot area, in alignment with the European Green Deal objectives. They will be staffed with experts in fields like environmental science, urban planning, civil engineering, or community outreach. The offices will also have the ability to effectively engage, educate, and</p>	Reduced GHG emissions	-



		<p>motivate diverse community groups.</p> <p>The Observatory will provide technical advice, share best practices and ensure a consistent approach across CNZs. They will track the performance of each CNZ and act as the main link between CNOs, the Municipality and external stakeholders</p>		
	-	<p>The creation of functional and recreational areas of supralocal importance where the interventions will contribute to the improvement of pedestrian mobility. The project incorporates bioclimatic design techniques and energy saving techniques, creating "green</p>	<p>Increased modal shift to public transit, walking, cycling</p>	-
			<p>Decreased modal share of private vehicles</p>	-



			infrastructures".		
		-	A Strategic action plan that creates a portfolio of all the institutionalized public and common spaces. This will showcase the ones that have not been expropriated and the set of actions that should be done so that the city plan will be completed as initially planned.	-	-
		-	The re-demarcation study of the lake will solve every land-use conflicts which will have an aggravating effect on the lake and protect the ecosystem.	Increased carbon sequestration	Increased non-invasive species & pollinators
		-	Restoration of old Mining Zones	Increased carbon sequestration	Improved nature restoration
	Social Innovation	-	Enhancement of the existing environment of the lake by improving water quality, 24-hour protection of the ecosystem, re-	-	Improved nature restoration
					Local economic activity & global connectivity



			forming recreational areas for the users (i.e. swimming water)		
		-	A database which will be accessible to researchers for further research. It will also showcase basic information for the local users	Increased preparedness to uncertainty of climate impacts	Enhanced ecological habitat connectivity
Built environment	Technology / infrastructure	Reduction of CO2 emissions and energy consumption	Reduced energy costs	Reduced energy poverty	Reduced harmful ecological footprint
				Reduced energy demand, needs, or consumption	Decreased future maintenance & capital costs
				Enhanced stability of urban infrastructure	
				Reduced GHG emissions	
	Reduced energy demand, needs, or consumption				
	Production of Renewable Energy by photovoltaic stations	Reduced energy costs	Increased access to clean, stable, affordable energy	Reduced harmful ecological footprint	
Learning & capabilities	-	Reduction of CO2 emissions and	Reduced GHG emissions	-	

			energy consumption		
	-		Reduced energy costs	-	-
	Resources efficiency		Biodiversity	-	-
	Social Resources efficiency		-	-	-

B-1.2: Description of impact pathways– textual and visual elements



Figure 44: Fields of actions of the Climate Action Plan of Ioannina

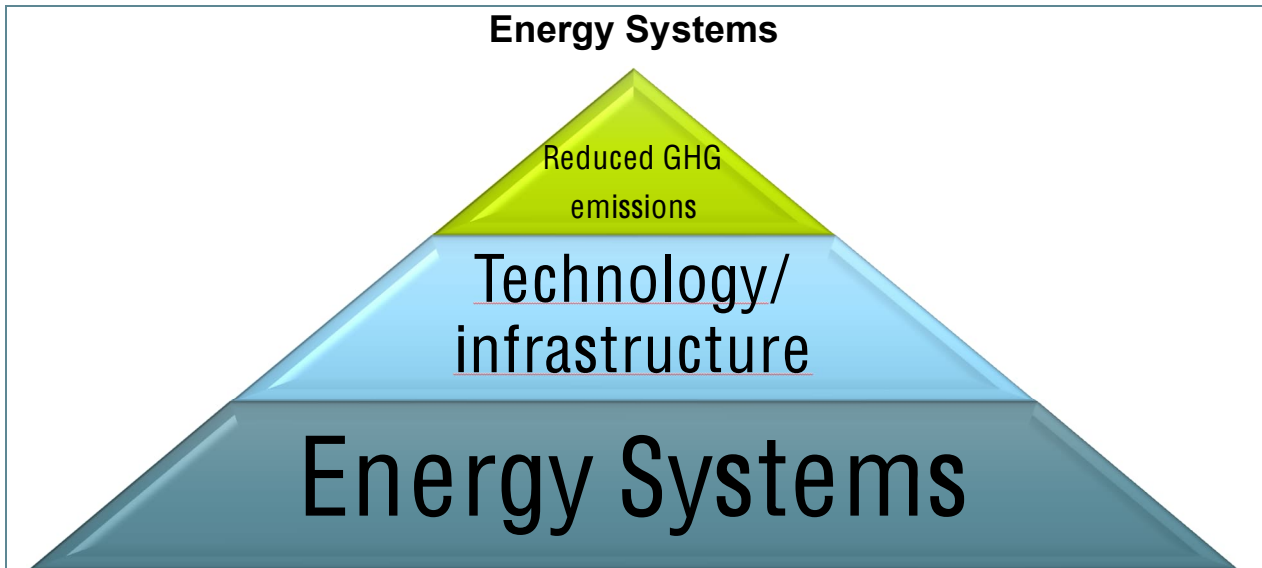
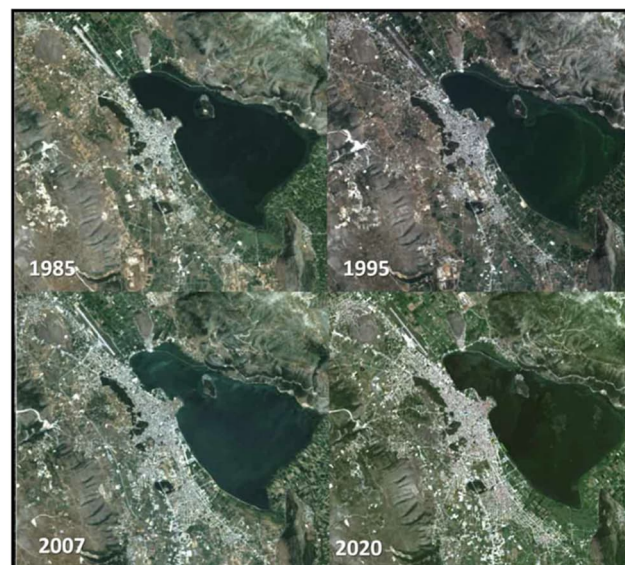


Figure 45: Energy Systems field of action

Ioannina – given its mountainous and lakeside profile – is a biodiversity hotspot that needs protection and conservation. The main urban complex of the city is constantly expanding in the suburbia which leads to land consumption, further energy consumption and a clear increase in transportation needs. This expansion has its origins in the model of suburban life which began with the generalized use of cars. This expansion is apparent in the metropolitan area of Ioannina, with low density suburbs and a clear inversion in the topology of the local landscape.



(Επιμέλεια χάρτη: Ν. Μάρκος)

Figure 46. Urban sprawl in the city of Ioannina (Map editing: N. Markos, source: <https://typos-i.gr/article/metrwntas-thn-polh-o-plh8ysmos-twn-iwanninwn-stis-apografes>)

Ioannina metropolitan area aims to invest in the compact city model on its way to climate neutrality as a key pillar of its urban development. The physical structure of the city (mountains and lake) along with the current infrastructure (i.e. airport) can literally set the boundaries of this development.

The city's strategic masterplan, drafted back in 2009 although never institutionally approved, had clear boundaries and was setting the preferable traffic circulation model (see below). This model demonstrates the limits of urban development through the alignment of all physical and anthropogenic infrastructure, where gray polygons define the proposed housing and commercial areas.



Figure 47. the proposed traffic circulation model in the metropolitan area (ΠΣΙ, 2009)

On its way to climate neutrality, Ioannina has set precise actions that are in line with the above compact city strategy towards a more efficient and sustainable use of both the city itself and the surrounding territory. Various actions in the fields of 'BUILT ENVIRONMENT' and 'MOBILITY & TRANSPORT' support the increase of the pedestrian catchment zones both in the CC and the city's neighborhoods and suburbs (i.e. Anatoli, Katsikas etc.), while others regulate urban planning, define new monumental nodes within the vicinity of the CC etc. Through this set of actions the compact city model can be identified as the basis of urban development in a way that can be adjusted to the Greek reality, with all identified bureaucratic strangleholds that is.

The Municipality of Ioannina, driven by its strategy to reduce GHG emissions, unnecessary energy consumption, and associated costs, has designed and initiated a specific set of actions with the aim of upgrading essential and energy-intensive infrastructures. Thus, within the field of actions of Energy Systems, it engages in actions that primarily focus on the systemic lever of Technology and Infrastructure. By harnessing new technologies, it intends to upgrade the water supply and sewage infrastructures of the city in this particular domain. These actions encompass the enhancement of water system monitoring and the smart and ecological management of sludge generated by the sewage treatment plant. Notably, this field of action also includes the creation and installation of new photovoltaic stations.

These specific actions are devised to bring about the following early changes and outcomes:

- Reduced energy costs
- Renewable energy production through photovoltaic systems
- Decreased CO2 emissions and energy consumption

These targeted actions are expected to generate the following immediate or indirect impacts:

- Reduced GHG emissions

- Increased energy efficiency or retrofit rate
- Improved access to clean, stable, and affordable energy
- Enhanced water management process and implementation
- Elevated water quality

Mobility & transport

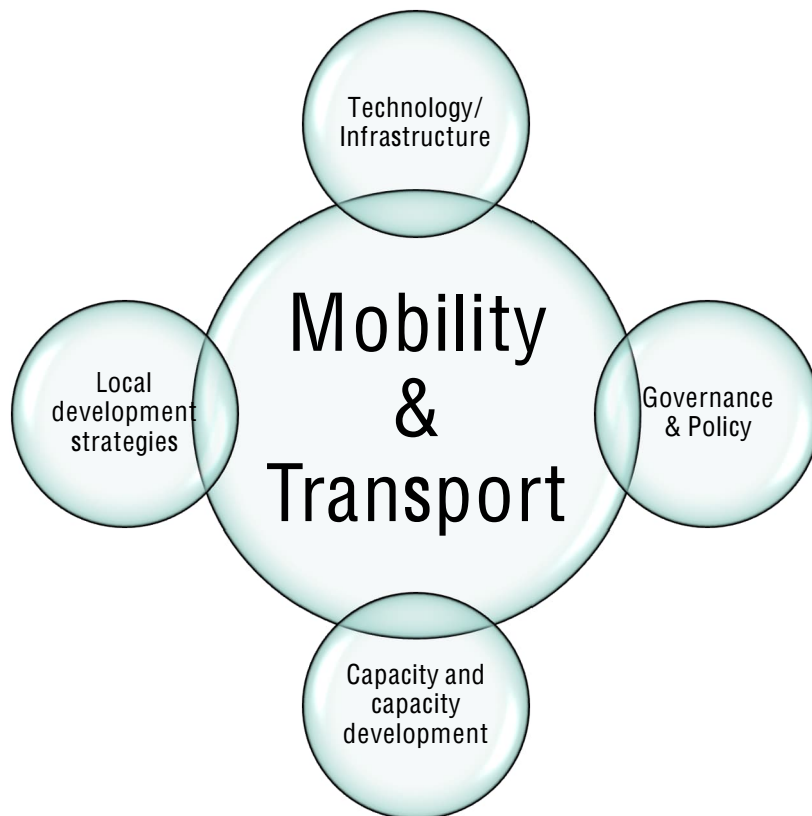


Figure 48: Mobility & transport field of action

Assessing the field of actions in Mobility & Transport, the Municipality of Ioannina aims to craft a strategy that influences the systemic levers of Technology/Infrastructure, Local Development Strategies, Governance & Policy, Capacity, and Capacity Development. Utilizing these systemic levers, it initiates actions that pertain to the overall vehicular mobility within the center of Ioannina city, facilitating pedestrian accessibility, boosting public transportation usage, upgrading the public transportation fleet to reduce emissions, harnessing the potential of the lakeside road and the surrounding area of Lake Pamvotida, and utilizing boats for citizen transportation.

These specific actions are designed to bring about the following early changes and outcomes:

- Reducing the share of car travel
- Increasing the share of walking
- Reducing road traffic delays and travel fatigue while enhancing road capacity and functionality



- Reducing air and noise pollution from internal combustion engine (ICE) vehicles
- Enhancing public health and social cohesion
- Decreasing water pollution from diesel boats
- Developing new landscapes and lake corridors

These targeted actions are expected to generate the following immediate or indirect impacts:

- Reduced greenhouse gas (GHG) emissions
- Increased adoption of low-carbon technology vehicles for private, freight, and public transport (electric vehicles, e-bikes, hydrogen-fueled, etc.)
- Elevated modal shift towards public transit, walking, and cycling
- Decreased modal share of private vehicles
- Improved air quality
- Reduced noise pollution
- Enhanced physical and mental well-being
- Decreased harmful ecological footprint

Waste & circular economy

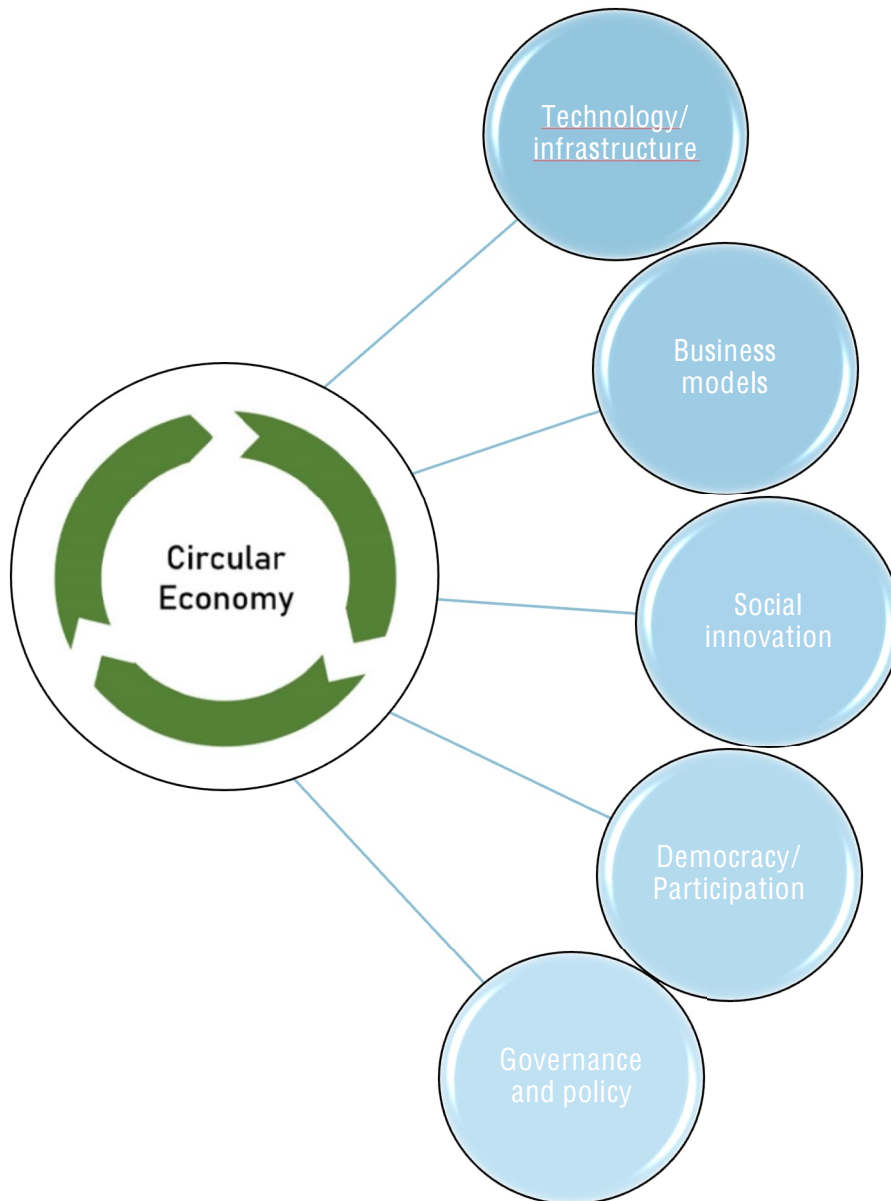


Figure 49: Waste & circular economy field of action

Assessing the field of actions in Waste & Circular Economy, the Municipality of Ioannina aims to devise a strategy that influences the systemic levers of Technology/Infrastructure, Social Innovation, Participation, Business Models, Governance & Policy, Learning and Capabilities. Through utilizing these systemic levers, it initiates actions that pertain to the overall enhancement of recycling among citizens and public service workers, improvement of collection and sorting infrastructure for recyclable materials, promotion of circular economy in key economic sectors of the local community such as silver jewellery designers and makers, citizen awareness on recycling and circular economy, integration of new national legislation on GHG emissions, as well as the utilization and recycling of bio-waste.

These specific actions are designed to bring about the following early changes and outcomes:

- High-quality recycled materials



- Increased paper recycling rate
- Increased overall recycling rate
- Early implementation of separate paper & cardboard collection
- Early implementation of separate bio-waste collection and pilot development of a household composting network
- Separate bio-waste collection and household composting for the majority of bio-waste within the Municipality's administrative area
- Separate waste collection in a portion of municipal buildings
- Separate waste collection in all municipal buildings
- Proper management for the majority of specific waste types
- Separate collection of municipal waste in Green Points and Recycling Corners
- Reuse of materials
- Pilot implementation of circular economy and zero waste on Pamvotis Island
- Utilization and distribution of surplus food from supermarkets, cafes, restaurants
- Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)
- Adoption of Green Public Procurement
- Adoption of circular economy in the sector of silver jewellery designers and makers
- Industrial symbiosis
- Reduction in waste collection travel distance/time and emissions
- Support (inform, empower) private sector businesses to adopt circular production models

These specific actions are expected to yield the following immediate or indirect impacts:

- Reduced greenhouse gas (GHG) emissions
- Increased implementation of material cycles & circular economy principles
- Decreased energy demand, requirements, or consumption
- Reduced detrimental ecological footprint
- Diminished food waste
- Lowered methane (CH₄) emissions
- Local job creation
- Enhanced citizen and community participation and social engagement capacities
- Improved waste management and efficiency
- Increased deployment of material cycles & circular economy principles
- Heightened awareness of social issues
- Improved economic prosperity (job quality, sustainable supply chains, etc.)
- Increased local entrepreneurship and local businesses/ventures
- Reduced noise pollution

Green infrastructure & nature based solutions

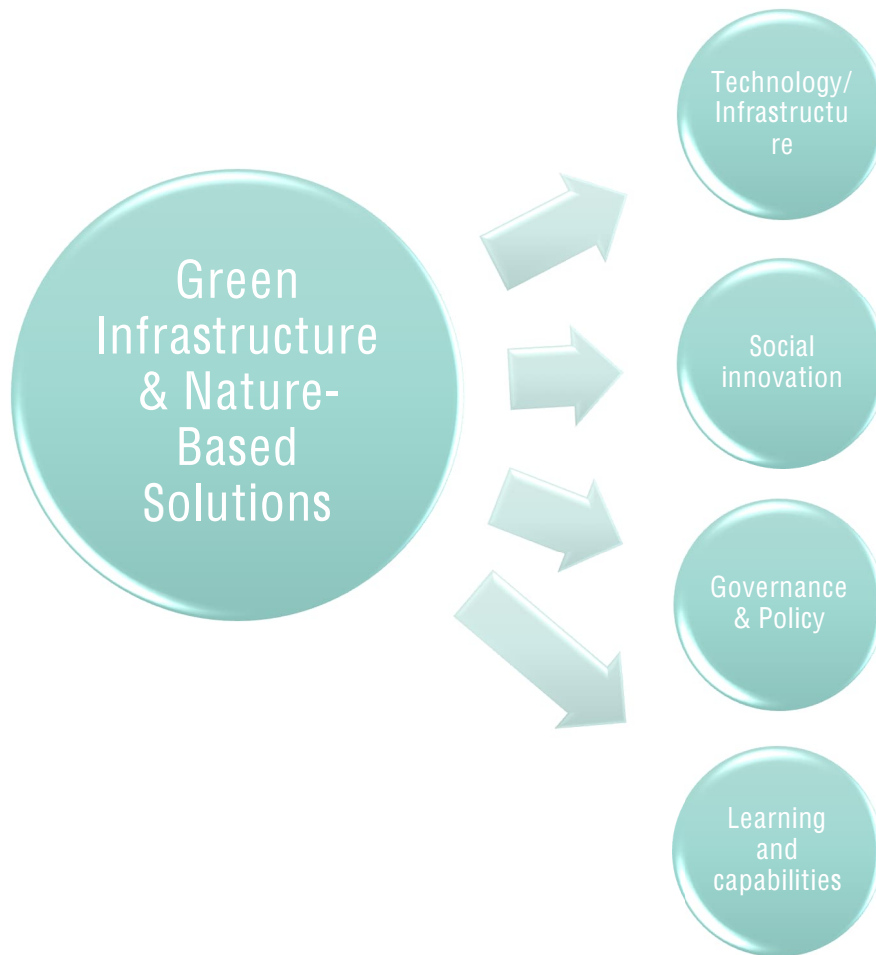


Figure 50: Green infrastructure & nature based solutions field of action

Evaluating the field of actions of Green Infrastructure & Nature-Based Solutions, the Municipality of Ioannina aims to craft a strategy that influences the Systemic Levers of Technology/Infrastructure, Social innovation, Governance & Policy, and Learning and capabilities. Within these Systemic Levers, it initiates actions that broadly concern reforestation and the focus on forest management in the area, electricity generation from RES, raising citizen awareness of the environment, integrating and implementing legislation for climate-neutral zones, creating enhanced climate-neutral zones, improving the qualitative characteristics of the lake regarding its waters, fauna, and flora, revitalizing and creating recreational areas, and redesigning former marble mining sites.

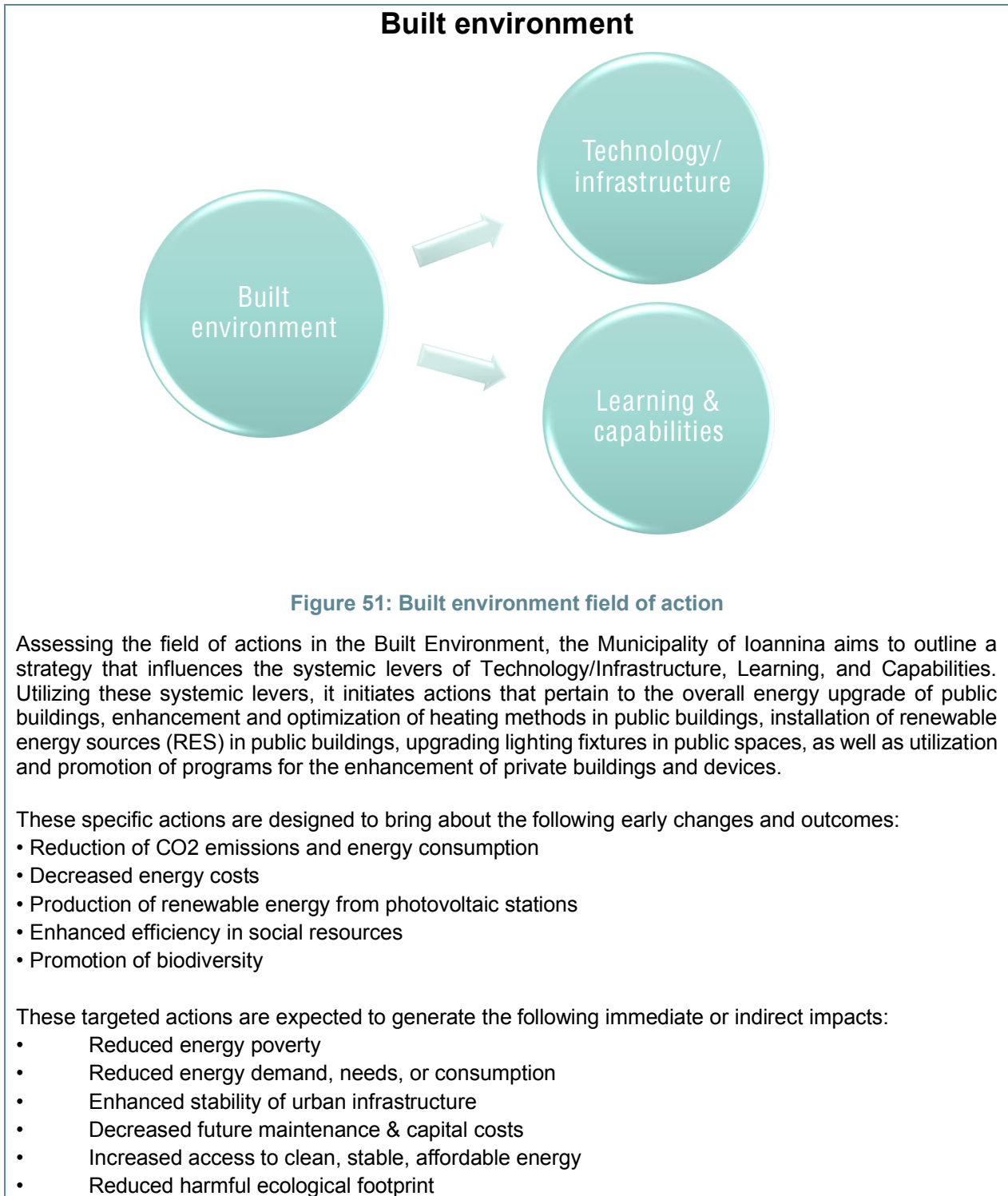
These specific actions are designed to yield the following early changes and outcomes:



- Maintenance works involving construction of new paths, vegetation clearance, tree cutting, planting of new trees and shrubs, installation of seating areas, waste bins, and more.
- Fire protection works and improvement of recreation infrastructure in the "Psili Goritsa" forest location.
- Renewable energy production through photovoltaic stations.
- Redefining agricultural practices for increased production and sustainability.
- Upgrading schoolyards through participatory processes involving children/youth.
- Bioclimatic designed spaces complementing building interventions.
- Preparation and implementation of projects for selected areas to achieve climate neutrality.
- Comprehensive plans for pilot areas, aligned with the European Green Deal objectives.
- Functional and recreational supralocal areas.
- Strategic action plan for institutionalized public and common spaces.
- Carbon sequestration increase.
- Restoration of old mining zones.
- Enhancement of the lake environment, improved water quality, ecosystem protection, and recreational area reformation.
- A research-accessible database showcasing basic information for local users.

These specific actions are expected to bring about the following direct or indirect impacts:

- Reduced GHG emissions.
- Improved nature restoration.
- Increased access to clean, stable, affordable energy.
- Reduced harmful ecological footprint.
- Enhanced stability of urban infrastructure.
- Sustainable and resilient food production and supply systems.
- Increased production and consumption of locally grown food.
- Improved land-use management practices.
- Increased awareness of social issues.
- Modal shift to public transit, walking, cycling.
- Decreased modal share of private vehicles.
- Increased non-invasive species and pollinators.
- Increased carbon sequestration.
- Boosted local economic activity and global connectivity.
- Enhanced ecological habitat connectivity.



4.2 Module B-2 Climate Neutrality Portfolio Design

Module B-2 “Climate Neutrality Portfolio Design” should contain a project description for each intervention planned, including interventions by local businesses and industry, according to the template B-2.1, including actions those interventions targeted at enhancing carbon sinks to address residual emissions. Narrative analysis and comments can be provided in B-2.2. A summary of how residual emissions are addressed, should be provided in B-2.3.

B-2.1: Description of action portfolios - textual or visual		
Fields of action	Portfolio description	
	List of actions	Descriptions
Energy systems	<p>Action ES_1: Supply and Installation of Internal monitoring system for water network of Ioannina City</p>	<p>The action includes 11.900 smart water meters for household consumption, to monitor the data at a daily basis remotely, for the internal water supply network of the city of Ioannina. Today the leakage percentage of water supply network is estimated on more than 60%.</p> <p>With the proposed action the leakage percentage will go down to 55% (estimated saving of 20%), where saving also will exist from remote monitoring, which can be estimated on 10% energy saving on Main infrastructure. Estimating a saving on Diesel consumption at 25%.</p> <p>This ongoing action, funded by the EU through NSRF 2014-2020 with 4.880.020 €, aims to reduce GHG emissions from waste & wastewater on the public sector, targeting a 10% reduction in electricity usage and a 25% reduction in diesel usage.</p> <p>The energy saved from this action is estimated at 157 MWh/year for diesel usage and 2,557.57 MWh/year for electricity usage. The estimated GHG emissions reduction for diesel usage is 42.29 tn of CO₂e/year, while for electricity usage, it is 1.543,88 tn of CO₂e/year.</p>
	<p>Action ES_2: Supply and Installation of external monitoring system for water network of Ioannina City</p>	<p>The action includes 50 Monitoring stations for external water network of Ioannina City, and upgrade of existing hardware on boreholes.</p> <p>Today the leakage percentage of water supply network is estimated on more than 60%.</p> <p>The proposed action will help saving at least 15% of water, and generally energy saving of 25%.</p> <p>This ongoing action, funded by the EU RRF Greece 2.0 fund with 4.116.589 €, aims to reduce GHG emissions from waste and wastewater on the public sector, targeting a 25% reduction in electricity usage and a 15% reduction in diesel usage.</p>



		<p>The energy saved from this action is estimated at total 6.393,93 MWh/year for diesel and electricity usage. The estimated GHG emissions reduction for diesel and for electricity usage is 3.885,09 tn CO2e/year.</p>
	<p>Action ES_3: Upgrade of Existing Wastewater Network Infrastructure</p>	<p>The action includes full scale upgrade of existing wastewater network infrastructure. It is estimated that the action will help at least 15% energy saving. This ongoing action, funded by the EU RRF Greece 2.0 fund with 11.168.602,29 €, aims to reduce GHG emissions from waste and wastewater on the public sector, targeting a 12% reduction in electricity usage. The energy saved from this action is estimated at 3.836,25 MWh/year for electricity usage. The estimated GHG emissions reduction for diesel and for electricity usage is 1.852,66 tn CO2e/year.</p>
	<p>Action ES_4: Installation of RES on Water Sector – 1 PV station</p>	<p>The action includes the supply and installation of 1 PV stations 999,54kW, for net metering of electrical consumption of Water and WasteWater Sector (Municipal Enterprise for Water and WasteWater). This action is seeking funding for 1.000.000 € and aims to reduce GHG emissions from waste and wastewater on the public sector, targeting a 5,5% reduction in electricity usage. The generated renewable energy from this action is 1.418 MWh/year for electricity usage, while the estimated GHG emissions reduction for electricity usage 849,14 tn CO2e/year.</p>
	<p>Action ES_5: Installation of RES – 4 PV stations</p>	<p>The action includes the supply and installation of 4 PV stations 999,54kW each, which will be shared with Energy Community of Region of Epirus and Holy Metropolis. The PV stations will be privately funded. This action is seeking funding for 4.260.000 € and aims to reduce GHG emissions from buildings on the private and public sector, targeting a 14% reduction in electricity usage. The generated renewable energy from this action is 5.672,6 MWh / year for electricity usage, while the estimated GHG emissions reduction for electricity usage 3.110,02 tn CO2e/year.</p>
	<p>Action ES_6: Upgrade in the traffic light infrastructure of the Municipality of Ioannina</p>	<p>The action included the upgrade of the most traffic lights in the general metropolitan area of Ioannina city with newer ones LED type. This completed action, funded by the Region of Epirus with 830.000 €, aimed to reduce GHG emissions from buildings on the public sector, targeting a 2% reduction in electricity usage.</p>



		<p>The energy saved from this action is estimated at 104 MWh/year for electricity usage. The estimated GHG emissions reduction for electricity usage is 100,29 tn of CO2e/year.</p>
	<p>Action ES_7: ICT Actions - Digital services and equipment e-governance in the Municipality of Ioannina</p>	<p>The actions include:</p> <ul style="list-style-type: none"> - Development and operation of a process management system - Web-based applications – moving to the cloud - Business Intelligence system development and operation - Electronic Service System for Citizen and Business Transactions - Complete human occupancy control system in closed spaces - Electronic Virtual Tour & Tour System in the field of culture – tourism - System for Monitoring Environmental Conditions and Informing Citizens - Integrated Intelligent Access Control System to Municipal Infrastructure Using Mobile Devices - Health store management system - Development of vehicle fleet management services - Early warning system for civil protection (floods, fires) <p>This ongoing action, funded by the Greek Public Funding program Antonis Tritsis with 1.300.000 € aims to reduce GHG emissions from both public and private sector buildings, targeting a 2% reduction in electricity usage for public sector buildings and a 3% reduction for private sector buildings. The estimated GHG emissions reduction for electricity usage is 2.056,71 tn of CO2e/year.</p>
	<p>Action ES_8: ICT Actions - Investments in infrastructure and SSC systems for a sustainable & green urban future</p>	<p>The actions include:</p> <ul style="list-style-type: none"> - Smart crossing System - Traffic Safety Systems and System for Intelligent Collection of Traffic Statistics - Smart bus stops - System with Optical sensors for monitoring safety of critical infrastructure traffic, prevention of illegal and anti-social parking using Artificial Intelligence - Smart solar tree - Coordination and Crisis Management System, for Early Detection and Management of Forest Fires - Digital City Guide with multi-channel functionality (Mobile-Web-Infokiosks) - Smart City management center



		<p>LoraWAN & Public Wifi Wireless Network Extension</p> <ul style="list-style-type: none"> - Cyber Security Systems - City's Digital Twin <p>This ongoing action, funded by the RRF Greece 2.0 with 3.069.000 €, aims to reduce GHG emissions from both public and private sector buildings, targeting a 2% reduction in electricity usage for public sector buildings and a 3% reduction for private sector buildings.</p> <p>The estimated GHG emissions reduction for electricity usage is 2.056,71 tn of CO2e/year.</p>
	<p>Action ES_9: Public-private partnership for the upgrade of energy efficiency of road and urban lighting system and infrastructure with LED systems</p>	<p>This action includes the proposed upgrade of energy efficiency of road and urban lighting system and infrastructure with LED systems for the General Municipal Lighting. The action will be handled as a Public-Private partnership with 75% funded by private participation.</p> <p>This ongoing action, funded by the European Local Energy Assistance with 20.000.000 €, aims to reduce GHG emissions from buildings on the public sector, targeting a 65% reduction in electricity usage.</p> <p>The energy saved from this action is estimated at 3.715,25 MWh/year for electricity usage. The estimated GHG emissions reduction for electricity usage is 3.279,09 tn of CO2e/year.</p>
	<p>Action ES_10: Transition Team Support – Action/Investment Plan Monitoring</p>	<p>This action included the financing of the Transition team in order to keep monitoring and continue supporting the Ioannina city for new actions / investment plans</p>
<p>Mobility & transport</p>	<p>Action MT_1: Walking and cycling: a push towards a real sustainable modal shift</p>	<p>The action aims to increase active mobility infrastructure and boost walking and cycling as commuting modes. Increase of pedestrian streets in the CC and the neighborhoods, increase of the city's sidewalks in major roads, cycle lanes and traffic calmed streets shall be at the core of the city's new image. Reducing car travel by 20% will be achieved through investing in new active mobility infrastructure and policies, tightening car policies and freedoms etc.</p> <p>This action includes various projects, targeting both common regeneration infrastructure and soft/ hard policy measures. The key aim is to create a car-free downtown and vivid neighborhoods that limit car-presence and pollution. Cyclist- and pedestrian-friendly streets and complementary infrastructure and</p>



		<p>policies promoting active mobility will act as the drivers in changing mobility habits.</p> <p>This ongoing action, funded by the EU through NSRF with 82.638.827,77 €, is seeking additional funding for 81.103.500 €. The action aims to reduce GHG emissions from transport on the private sector, targeting a 15% reduction on the usage of citizens' fuel, and emissions from general transport in & out of boundaries targeting a 15% reduction on the usage of citizens' fuel.</p> <p>The energy saved from this action is estimated at 83.542 MWh/year for fuel usage. The estimated GHG emissions reduction for fuel usage is 22.628,85 tn of CO2e/year.</p>
	<p>Action MT_2: Greening the bus fleet and strengthening the public transport role</p>	<p>The action includes the upgrade of the current bus fleet with cleaner (electric, hydrogen etc) vehicles and the upgrade of the overall service level of the public transport. On-demand transportation services, new bus circulation plans, mini-bus services for the CC. KTEL of Ioannina (sole public transport operator) is the key stakeholder to apply the needed changes in accordance to the city's needs.</p> <p>This action includes sub-projects- as thoroughly examined and approved through Ioannina's Sustainable Urban Mobility Plan (SUMP) - such as the re-routing of bus lines with three (3) core axis and eight (8) routes serving the dense CC and the surrounding urban areas. It also includes the fleet replacement with a local scheme for buses and EV chargers for fast charging in the city.</p> <p>A landmark project that is also adopted is the development of a new Cable car service linking disconnected areas.</p> <p>This ongoing action, funded by the Green Fund with 120.000 €, is seeking additional funding for 79.950.000 €. The action aims to reduce GHG emissions from transport on the private sector targeting a 10% reduction on the usage of citizens' fuel, emissions from general transport in & out of boundaries targeting a 10% reduction on the usage of citizens' fuel, emissions from transport on the private sector by City bus targeting a 70% reduction on the usage of diesel, emissions from transport on the private sector by Intercity bus targeting a 75% reduction on the usage of diesel, emissions from transport on the public sector targeting a 10% reduction on the usage of gasoline and emissions from transport on the public sector targeting a 10% reduction on the usage of diesel.</p>



		<p>The energy saved from this action is estimated at 55.717 MWh/year for fuel usage, while the estimated GHG emissions reduction for fuel usage is 21.487,23 tn of CO2e/year.</p>
	<p>Action MT_3: Low to zero emission zones: Thorough and JUST transition for pilot zones</p>	<p>This action sets out the key steps to gradually apply a LEZ/ ZEZ scheme in three pilot zones in the city. The city center, the island and the university campus take the lead and by 2025 present replicable results to the rest of the city. By 2028 and 2030 more and more areas apply restrictions related to GHG emissions and car-circulation. Emphasis is given on policies to ensure a just transition, while also develop a medium-term plan to ban diesel vehicles and all ICE vehicles in the city. The suggested UVAR schemes are in accordance with the overall SUMP strategy for a car-free downtown and green- University Campus, while also focuses on altering the norms in the high and middle-density districts of the city.</p> <p>This action is seeking funding for 200.000 € and aims to reduce GHG emissions from transport on the private sector targeting a 5% reduction on the usage of citizens' fuel, emissions from general transport in & out of boundaries targeting a 15% reduction on the usage of citizens' fuel, emissions from transport on the private sector by City bus targeting a 70% reduction on the usage of diesel, emissions from transport on the public sector targeting a 10% reduction on the usage of gasoline and emissions from transport on the public sector targeting a 10% reduction on the usage of diesel.</p> <p>The energy saved from this action is estimated at 63.336 MWh/year for fuel usage. The estimated GHG emissions reduction for fuel usage is 17.463,55 tn of CO2e/year.</p>
	<p>Action MT_4: Less cars- cleaner cars</p>	<p>This action is at the core of urban mobility strategy and aims to assist the overall urban redevelopment by limiting car presence and boosting e-mobility with a comprehensive and extended EV chargers' network. The action takes into account the 'avoid-shift-improve' approach and deploys a new policy paradigm for the city. This network goes along with incentivizing private car users to minimize the use of conventional cars/ motorcycles and/ or replace their vehicles with cleaner ones that fully or partially run on electricity, such as battery electric vehicles or plug-in hybrid electric vehicles.</p> <p>Moreover the action deals with the replacement of city-owned fossil fuel vehicles fleet with green</p>



		<p>vehicles and other policies and practices that limit internal combustion engine vehicles' circulation in the city.</p> <p>This ongoing action, funded by the NSRF with 6.349.892 €, is seeking additional funding for 136.620.00 €. The action aims to reduce GHG emissions from transport on the private sector targeting a 5% reduction on the usage of citizens' fuel, emissions from general transport in and out of the city's boundaries targeting a 15% reduction on the usage of citizens' fuel, emissions from transport on the private sector by City bus targeting a 70% reduction on the usage of diesel, emissions from transport on the public sector targeting a 15% reduction on the usage of gasoline and emissions from transport on the public sector targeting a 15% reduction on the usage of diesel.</p> <p>The estimated GHG emissions reduction for fuel usage is 22857,26 tn of CO2e/year.</p>
	<p>Action MT_5: Cleaning and strengthening waterborne transportation</p>	<p>This action aims to increase the role of waterborne transportation by adding services and ease the replacement of diesel boats serving currently the connection between the city and the island. Lake Pamvotis can become an extra transportation corridor for connecting different areas of the city and the overall Ioannina conurbation with currently limited access to public transit through clean, electric and fast taxi-boats.</p> <p>This action is seeking funding for 9.420.000 €. The action aims to reduce GHG emissions from transport on the private sector targeting a 2% reduction on the usage of citizens' fuel, emissions from general transport in & out of boundaries targeting a 2% reduction on the usage of citizens' fuel and emissions from transport on the private sector by lake boats targeting a 100% reduction on the usage of diesel.</p> <p>The energy saved from this action is estimated at 83.681 MWh/year for fuel usage. The estimated GHG emissions reduction for fuel usage is 3.202,93 tn of CO2e/year.</p>
	<p>Action MT_6: Greening logistics. A new era in goods transportation</p>	<p>This action aims to reduce urban freight emissions through regulatory schemes that promote clear timetables, encourage clean vehicles, promote cargo bikes and infrastructure that allow for this transition. Smaller, cleaner and quieter vehicles shall deliver goods in the conurbation of Ioannina with the support of UCCs and loading/unloading platforms. Replacing ICE van and lorries entering the city will directly have</p>



		<p>an impact on local health and pollution, while also for vehicles serving the overall logistics chain which will allow for lowering emissions beyond our borders. This action is seeking funding for 131.420.000 €. The action aims to reduce GHG emissions from transport on the private sector targeting a 10% reduction on the usage of citizens' fuel and emissions from general transport in & out of boundaries targeting a 10% reduction on the usage of citizens' fuel. The energy saved from this action is estimated at 83.681 MWh/year for fuel usage. The estimated GHG emissions reduction for fuel usage is 15085,90 tn of CO2e/year.</p>
	<p>Action MT_7: Using Sustainable Transportation on waste collection</p>	<p>This action aims to build on the existing waste strategy and rearrange waste collection with cleaner and smaller vehicles.</p> <p>The action includes projects such as smart waste collection system, supply of new waste collection vehicles (EVs) etc.</p> <p>Needed changes include;</p> <ul style="list-style-type: none"> - Structural changes for - National scale supported by local actions - Administrative changes for – both national and Local scale <p>This ongoing action, funded by the NSRF with 630.000 €, is seeking additional funding for 50.000 €. The action aims to reduce GHG emissions from the transport of waste in and out of the city boundaries, targeting in both cases a 30% reduction on the usage of citizens' fuel. The energy saved from this action is estimated at 111 MWh/year for fuel usage. The estimated GHG emissions reduction for fuel usage is 22,17 tn of CO2e/year.</p>
Waste & circular economy	<p>Action WCE_1 : Separate collection of paper & cardboard</p>	<p>Planning, maturation and development of a separate paper collection network. This action is seeking funding for 516.832 € and aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 3,4% reduction in waste disposal. The estimated GHG emissions reduction from waste disposal is 306,81 tn CO2e.</p>
	<p>Action WCE_2: Brown bins (food and garden waste) and</p>	<p>Planning and maturation of a separate bio-waste collection network Sorting at the source by households and major producers</p>

	<p>separate bio-waste collection</p>	<p>Development of the separate bio-waste collection network with 2.186 brown bins and 2 trucks at the 1st stage and utilisation of financial tools to cover all equipment needs at the 2nd stage Capacity: 5.127 tn of household bio-waste. This ongoing action, is funded by the Transportation Infrastructure, Environment, and Sustainable Development 2014-2020 with 1.229.617,31 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 26,6% reduction in waste disposal. The estimated GHG emissions reduction from waste disposal is 2.400,31 tn CO₂e.</p>
	<p>Action WCE_3 : Development of a household composting network</p>	<p>Supply of 950 household composters with capacity of 300 lt (190 tn of household bio-waste) and 20 composters in schools Mechanism to monitor and control the operation of household composters and the implementation of a guidance system for participating households and schools. This action is seeking funding for 1.229.617,31 € and aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 1% reduction in waste disposal. The estimated GHG emissions reduction from waste disposal is 90,24 tn CO₂e.</p>
	<p>Action WCE_4 : Organization of separate waste collection in municipal buildings</p>	<p>Separate collection of paper, plastic, glass, metal and other waste streams in sports facilities, playgrounds, nurseries and other municipal assembly facilities Supply of 100 recycling bin-arrays for paper, plastic, glass, metal. This action is seeking funding for 300.000 € and aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 0,17% reduction in waste disposal. The estimated GHG emissions reduction from waste disposal is 15,34 tn CO₂e.</p>
	<p>Action WCE_5 : a) Strengthening of the present waste collection network, b) create a network for separate collection, c) organisation of the collection waste management, of specific types of waste</p>	<p>Types of waste: - clothing and footwear - textiles - bulky waste - carpets - mattresses - furniture and wood - edible oils and fats - lubricating oils - glass - electrical and electronic devices and equipment (WEEE) and solar panels</p>



		<ul style="list-style-type: none"> - batteries and accumulators - excavation, construction and demolition waste (ECDW) - tires - end-of-life vehicles - pharmaceuticals intended for household use - Small quantities of hazardous waste (insect repellents and pesticides, wood cleaners/preservatives/polishes, adhesives/resins, inks, paints, varnishes, solvents, cleaning products and disinfectants) - greenhouse plastics - irrigation pipes - electric scooters and electric bicycles - toys - books <p>Strengthening of the cooperation of the existing Collective Systems for Alternative Management of waste</p> <p>Contract with a corresponding Collective System for Alternative Management if this will exist in the future or alternatively with legally licensed recyclers</p> <p>Creation of a suitable infrastructure for collection at the Recycling Corners, Green Points, Center for Creative Reuse of Materials or other available spaces.</p> <p>This action is seeking funding for 150.000 € and aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 7,5% reduction in waste disposal, emissions from transporting of municipal waste within the city's boundaries, aiming a 15% reduction in diesel usage and emissions from transporting municipal waste outside city's boundaries, targeting a 20% reduction in diesel usage. The estimated GHG emissions reduction is 688,20 tn CO₂e.</p>
	<p style="text-align: center;">Action WCE_6 : Construction of Green Points</p>	<p>Construction of 1 Green Point for separate collection of bulky waste (furniture, electrical appliances, carpets, etc.) with capacity of 7.695,6 t/year.</p> <p>This ongoing action is funded by the Transportation Infrastructure, Environment, and Sustainable Development 2014-2020 with 967.200,60 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 17% reduction in waste disposal, emissions from transporting of municipal waste within the city's boundaries, aiming a 15% reduction in diesel usage and emissions from transporting municipal waste outside city's boundaries, targeting a 20% reduction</p>



		<p>in diesel usage. The estimated GHG emissions reduction is 1.545,46 tn CO₂e.</p>
	<p>Action WCE_7 : Supply of Mobile Green Points</p>	<p>Supply of a mobile green point to serve remote settlements of the Municipality. Through this, the separate collection is strengthened as well as the information and awareness of citizens in more inaccessible areas.</p> <p>This ongoing action is funded by the Transportation Infrastructure, Environment, and Sustainable Development 2014-2020 with 987.200 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 3% reduction in waste disposal, emissions from transporting of municipal waste within the city's boundaries, aiming a 15% reduction in diesel usage and emissions from transporting municipal waste outside city's boundaries, targeting a 20% reduction in diesel usage. The estimated GHG emissions reduction is 282,14 tn CO₂e.</p>
	<p>Action WCE_8 : Construction of Recycling Corners</p>	<p>Construction of 11 Recycling Corners for the separate collection of materials such as: paper, metal, plastic, glass, mixed packaging, edible fats and oils, waste electrical and electronic equipment (WEEE) of small size and others.</p> <p>This ongoing action is funded by the Antonis Tritsis programme with 1.326.800 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 3% reduction in waste disposal, emissions from transporting of municipal waste within the city's boundaries, aiming a 10% reduction in diesel usage and emissions from transporting municipal waste outside city's boundaries, targeting a 10% reduction in diesel usage. The estimated GHG emissions reduction is 278,21 tn CO₂e.</p>
	<p>Action WCE_9 : Establishment of a Center for Creative Reuse of Materials</p>	<p>One organized space within a building infrastructure, which is properly configured, so that citizens can deposit, repair and reuse used items, such as electrical and electronic equipment, toys, furniture, bicycles, books, textiles, appliances, carpets, etc. An area with a repair cafe will be included. Either an existing building can be used with the necessary modifications/configurations or a new one can be built, as it can also be chosen to install it in the area of the Municipality's Green Point.</p> <p>This action is funding for 1.326.800 €. The action aims to reduce GHG emissions from the Municipal Waste</p>

		of the public sector, targeting a 0,1% reduction in waste disposal. The estimated GHG emissions reduction is 9,02 tn CO2e.
	<p>Action WCE_10 : Digital transformation: applying digital tools to waste collection and management</p>	<p>Integrated monitoring application and monitoring of fullness of garbage bins Application for the collection and management of environmental data through sensors Intelligent Garbage Truck Monitoring System Optimization of transport routes to reduce journeys and improve the waste collection service. This action is seeking funding for 2.610.820 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 11% reduction in waste disposal, emissions from transporting of municipal waste within the city's boundaries, aiming a 15% reduction in diesel usage and emissions from transporting municipal waste outside city's boundaries, targeting a 10% reduction in diesel usage. The estimated GHG emissions reduction is 496,31 tn CO2e.</p>
	<p>Action WCE_11 : Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)</p>	<p>Awareness campaigns on waste prevention, reuse, repair and proper recycling, information on recycling points and other informative campaigns. This action is seeking funding for 368.280 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 5,5% reduction in waste disposal. The estimated GHG emissions reduction is 496,31 tn CO2e.</p>
	<p>Action WCE_12 : Green Public Procurement</p>	<p>Procurement of goods, services and projects with lower environmental impact throughout their life cycle in line with EU Policies & Legislation and the National, Action Plan on Green Public Procurement, training of the employees of the Municipality on the integration of environmental criteria in procurements. This action is seeking funding for 10.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 1,5% reduction in waste disposal. The estimated GHG emissions reduction is 135,36 tn CO2e.</p>
	<p>Action WCE_13 : Adoption of the circular economy in the sector of silver jewellery designers and makers</p>	<p>Training of the Silversmiths on adopting circular economy in their sector. This action is seeking funding for 50.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 0,05% reduction in waste disposal. The estimated GHG emissions reduction is 4,51 tn CO2e.</p>

	<p>Action WCE_14 : Pilot implementation of circular economy and zero waste on Pamvotis Island</p>	<p>Engagement of households and businesses in the island in order to sort their waste into recyclables (for all the waste streams), organic waste and non-recyclables. Door-to-door separate waste collection. Diverted all residual waste away from landfill. Incentives for inhabitants, visitors and businesses to reduce waste and to sort waste properly. This action is seeking funding for 400.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 0,3% reduction in waste disposal. The estimated GHG emissions reduction is 27,07 tn CO2e.</p>
	<p>Action WCE_15 : Utilisation and distribution of surplus food from supermarkets, cafes, restaurants</p>	<p>The actions refers to implementing a local food waste reduction program and/or creating an organisation of food distribution and leftover food notification sytem. This action is seeking funding for 100.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 0,15% reduction in waste disposal. The estimated GHG emissions reduction is 13,54 tn CO2e.</p>
	<p>Action WCE_16 : Support (inform, empower) private sector businesses to adopt circular production models</p>	<p>The actions involve supporting private entrepreneurship in adopting circular design, refurbishment, and remanufacturing practices. This action is seeking funding for 150.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 0,1% reduction in waste disposal. The estimated GHG emissions reduction is 9,02 tn CO2e.</p>
	<p>Action WCE_17 : Industrial symbiosis</p>	<p>Development of a electronic platform in order to strengthen the utilisation of residues and by-products from industries and the agricultural, livestock and fishing sector in the wider area (e.g. cheese factories, poultry farms, olive mills, food industries) for animal feed, energy production, compost, raw materials and others. This action is seeking funding for 300.000 €. The action aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 4,5% reduction in waste disposal. The estimated GHG emissions reduction is 406,07 tn CO2e.</p>
<p>Green infrastructure & nature based solutions</p>	<p>Action GI_A_1 : Alternative use of forest areas as recreational areas</p>	<p>The action involves designating specific areas within the forest for recreational purposes, while adhering to the protection guidelines of each respective area. This is exemplified by the case study of the urban forest of Goritsa, specifically in the Zevgaria location.</p>



<p>Theme A – Forest & Rural Areas</p>		<p>The program has already been funded with the amount of 100.000 €. The action aims to reduce GHG emissions from transport on the private sector targeting a 0,5% reduction on the usage of citizens' fuel, emissions from transport on the private sector by City bus targeting a 1% reduction on the usage of diesel, emissions from transport on the public sector targeting a 5% reduction on the usage of gasoline and emissions from transport on the public sector targeting a 5% reduction on the usage of diesel and emissions from general transport in and out of the city's boundaries targeting a 2% reduction on fuel usage. The estimated GHG emissions reduction for fuel usage is 1.473,28 tn of CO2e.</p>
	<p>Action GI_A_2: Education and awareness (training programs)</p>	<p>This action includes:</p> <ul style="list-style-type: none"> • Training programs for farmers in sustainable agricultural practices - organic farming, agroforestry, permaculture. • Information/awareness workshops for the visitors and local communities <p>This action is seeking funding for 1.000.000 € and aims to reduce GHG emissions from the Municipal Waste of the public sector, targeting a 5% reduction in waste disposal, emissions from agriculture, aiming a 10% reduction in diesel usage and emissions from animal husbandry, targeting a 10% reduction in diesel usage. The estimated GHG emissions reduction is 538,85 tn CO2e.</p>
<p>Green infrastructure & nature based solutions Theme B – Urban Areas</p>	<p>Action GI_B_1 : Creation of 5 Climate Neutral Zones</p>	<p>The primary goal of this action is to separate the city of Ioannina into five (5) distinct zones based on specific characteristics.</p> <p>This action will be implemented in two (2) phases and will include the LEZ action. The first phase will be implemented in the following areas:</p> <ul style="list-style-type: none"> - Castle - From Kaloutsianis Mosque to Sapundzakis Square (Ka' February street and some perpendiculars to it) - From Alsos to Ioannina Nursing Home <p>The second phase of the action is under consideration and planning.</p> <p>The action is seeking €1,000,000 in funding and aims to reduce GHG emissions through various measures, including a 5% reduction in electricity, diesel, LPG, natural gas, and firewood/pellet usage in private sector buildings, a 5% reduction in diesel and gasoline usage in public sector transport, a 5% reduction in fuel usage for citizens in private sector</p>



		<p>transport, a 5% reduction in diesel usage for city buses in private sector transport, and a 5% reduction in fuel usage for general transport in both private and public sectors within and outside city's boundaries, as well as a 5% reduction in waste disposal from municipal waste in the public sector. The estimated GHG emissions reduction is 16.404,14 tn CO₂e.</p>
	<p>Action GI_B_2: Creation of Climate Neutral Offices and Climate Neutral Observatory</p>	<p>Creation of 5 CNOs – one for each selected pilot area. Each office will be responsible for the publicity, information and awareness for actions and energy behavior, the promotion of RES and the implementation of interventions.</p> <p>Creation of 1 Climate Neutral Observatory in the Municipality that will centralize, coordinate and monitor the effects of the actions.</p> <p>The program is actively seeking funding to support its objectives, which include reducing GHG emissions through a series of measures:</p> <ul style="list-style-type: none"> • 2% reduction in electricity, diesel, LPG, natural gas, and firewood/pellet usage in private sector buildings • 5% reduction in diesel and gasoline usage in public sector transport • 2% reduction in fuel usage for citizens in private sector transport • 2% reduction in diesel usage for city buses in private sector transport • 2% reduction in fuel usage for general transport in both private and public sectors within and outside city boundaries • 1% reduction in waste disposal from municipal waste in the public sector • 5% reduction in diesel usage in the private sector for agriculture, animal husbandry, and industry; and a 5% reduction in LPG and CNG usage in the private sector industry <p>The estimated GHG emissions reduction is 6.829,71tn CO₂e.</p>
	<p>Action GI_B_3 : Creation of climate-neutral green spaces</p>	<p>Re-design of large urban green areas within the city of Ioannina based on bioclimatic axes. This will be implemented in areas such as Pysinella Park, Katsari Park.</p> <p>This ongoing project, funded by the Municipality of Ioannina, aims to reduce GHG emissions by targeting a 2% reduction in fuel usage for private sector transport by citizens, a 2% reduction in diesel usage for the private sector's transportation by City bus, and a 2% reduction in fuel usage for general transport in</p>



		both the private and public sectors within and outside city's boundaries. The estimated GHG emissions reduction is 3.059,64 tn CO2e.
	Action GI_B_4 : Ensuring Shared and Community spaces through programs and funding.	Strategic action plan for securing public and common spaces such (ESEKK). This ongoing project, aims to reduce GHG emissions by targeting a 2% reduction in fuel usage for private sector transport by citizens, a 2% reduction in diesel usage for the private sector's transportation by City bus, and a 2% reduction in fuel usage for general transport in both the private and public sectors within and outside city's boundaries. The generated renewable energy remains to be studied, while the estimated GHG emissions reduction is 3.059,64 tn CO2e.
	Action GI_B_5 : Renovation-redesign and enhancement of specific mid-sized green areas	Renovation-redesign and enhancement of specific green areas of local importance in urban areas such as Kardamitsi, Bizani, Ioannina, Anatoli - Maglaraika area, K. Perivleptou, Pyrrou square)
	Action GI_B_6 : Reuse of small public spaces and upgrade them into pocket parks	Upgrading of small unused or misused public spaces into pocket parks.
	Action GI_B_7: Enhancement and upgrading of Schoolyards	Aesthetic interventions in schoolyards using bioclimatic materials, reinforcement of plantings, etc. The programme is seeking funding for 3.000.000 €.
Green infrastructure & nature based solutions Theme C – Areas of Special Interest	Action GI_C_1 : Bioclimatic design and enhancement of the surrounding area	Study and implementation of the bioclimatic design and enhancement of the surrounding area of the University of Ioannina and University General Hospital of Ioannina The programme is seeking funding for 10.000.000 €.
	Action GI_C_2 : Re-demarcation of Pamvotida lake	Re-demarcation of Lake Pamvotida including its periodically flooded areas based on orthophoto maps of the 1960s in the ongoing Special Environmental Study of the Lake. The programme is seeking funding for 2.500.000 €.
	Action GI_C_3 : Pamvotida lake restoration	Study and implementation that includes permanent biomonitoring of the population situation and their protection, bottom cleaning, etc.).
	Action GI_C_4 :	Creation of a database, monitoring with telescopic means using orthophoto maps or using a drone on a monthly basis

	Monitoring the flood situation of lake Pamvotida	
	Action GI_C_5 : Addressing rainwater accumulation to protect Pamvotida lake	Technical works for addressing rainwater accumulation to protect Lake Pamvotida. This ongoing programme is already funded for 4.000.000 €.
	Action GI_C_6 : Study and implementation of restoration of mining zones (e.g. quarries)	Studies of restoration of mining zones that facilitate alternative uses of the areas, plantation etc. The abandoned mining zones are the following: -A2-IO1 / location Agia Paraskevi (16.500 m2) -A2-IO2/ location Social Housing area (87.000 m2) -A2-AN1 / location Bafra stadium (5.000 m2) - A2 - AN2 / location Hersolivado (4.000 m2) - A2 - AN3/ location Vrisoka (58.000 m2) -A2-B11/ location Kastalata (46.000 m2) - G3-16 / (80.000 m2) The program is seeking funding for 1.940.000 €.
	Action GI_C_7 : Management and systematization of the upgrading process of the newest monuments	This action, specific to the Municipality of Ioannina, focuses on the planning, coordination, and organized execution of upgrades and improvements to recently constructed or contemporary monuments of historical or cultural significance within the municipality's jurisdiction. Its primary goal is to enhance and preserve the value and relevance of these modern landmarks while also contributing to GHG emissions reduction and decreased energy consumption. This action is currently in the research phase. Its objectives include prioritizing energy-saving potential in monuments, implementing efficient technologies while preserving aesthetics, promoting energy savings among staff and visitors, ensuring ongoing efficiency, seeking funding and collaborations, documenting progress, and continuous adaptation for efficiency. The program requires €15,000,000 in funding and is set to start upon securing the necessary funds, with an estimated completion date of 2028.
Green infrastructure & nature based solutions Theme D – Urban Design	Action GI_D_1 : Urban Greenways: City-Lake Transverse Connections	The irregular and dense city fabric of Ioannina prevents perceptual, visual and physical connection to the lake. Two exemplary urban axes-greenways are proposed: a. The cultural axis connecting significant city landmarks (former Pedagogical Academy, Kaloutsiani Mosque, lakeside Traditional Crafts Center etc). b. The functional axis connecting Albania, Zagori provinces, the airport and the bus terminal to the center, and the lakeside Katsari Park. The program is seeking funding for 10.000.000 €.



	<p>Action GI_D_2 : Vertical Connections : Public Stairs - Public Elevators</p>	<p>Ioannina has a relatively sharp topography that creates accessibility and connectivity issues. A series of vertical connections are proposed in the form of public stairs and/or public elevators that enhance accessibility and act as urban landmarks and viewing points. Three elevators are initially proposed: in the northern part of the Castle (Aslan Mosque), in the eastern part of the Castle (Iç Kale) and in Litharitsia Park (former bastion). The program is seeking funding for 15.000.000 €.</p>
	<p>Action GI_D_3 : Green Necklace</p>	<p>The peri-urban hilly wooded areas west of Ioannina constitute its major green area. These pine woods include pathways currently lacking in design, comfort, and safety. Reforestation, the enrichment of flora and fauna and the building of pathways for hiking, mountain running, and biking are envisioned. Public transport, (electric) bicycle and pedestrian connections to the inhabited areas will be provided. Similar plans will be applied on the historic Island grove. The program is seeking funding for 10.000.000 €</p>
	<p>Action GI_D_4 : Lakeside Promenade</p>	<p>The surroundings of Lake Pamvotida consists of urban, rural, and protected natural areas, including tourist spots and sports facilities, only partly accessible on foot and bike. A continuous lakeside promenade is proposed which will include areas for education, rest and contemplation. These areas, including the historic Island settlement, will be interconnected via the proposed lake public transport system. Part of the lakeside route will be the perimeter route of the Castle. The program is seeking funding for 15.000.000 €</p>
	<p>Action GI_D_5 : Thematic areas</p>	<p>Trade routes: The city of Ioannina is one of the last large cities in Greece, that maintains active workshops of local craft tradition within their centre. The action includes a pedestrian network that will connect the areas of the centre with the workshops. aaReligious routes: The action includes the restoration of the city hall building, the reconstruction of the municipal market, and its connection to the municipal conservatory and the neighbouring square. Also, the redevelopment of the Metropolitan Cathedral's surrounding area and the reconstruction of Agia Marina street and Kyrgiou street. The program is seeking funding for 30.000.000 €.</p>



<p>Green infrastructure & nature based solutions Theme E – Absorption</p>	<p>Action GI_E_1 : New plantings</p>	<p>This action outlines the initiative to introduce new tree planting in the broader Ioannina area. It is proposed that approximately 300,000 trees will be planted by 2030, with a primary focus on enhancing greenhouse gas emissions absorption. The estimated GHG emissions absorption is 10.000 tn CO2e/year.</p>
<p>Built environment</p>	<p>Action BE_1 : Energy efficiency interventions in educational facilities of the Municipality of Ioannina</p>	<p>Energy upgrade of Municipal buildings is expected to reduce energy demand, CO2 emissions and reduce energy costs. The program is seeking funding for 5.000.000 € and aims to reduce GHG emissions from the public building sector, targeting a 0,25% reduction in electricity usage and a 10% reduction in diesel usage. The saved energy from this action is estimated at 56.86 MWh/year, while the estimated GHG emissions reduction from fuel usage is 15.3 tn CO2e/year.</p>
	<p>Action BE_2 : Replacement of lighting fixtures and installation of a control system in buildings of the Municipality of Ioannina</p>	<p>This action aims to install LED lights and implement smart lighting management systems in public buildings to significantly reduce electricity consumption. The program is seeking funding for 2.000.000 € and aims to reduce GHG emissions from the public building sector, targeting a 34% reduction in electricity usage and a 20% reduction in diesel usage. It also aims on reducing emissions from public school buildings by 20% in diesel usage. The saved energy from this action is estimated at 2.907,87 MWh/year, while the estimated GHG emissions reduction from electricity usage is 1.755,13 tn CO2e/year.</p>
	<p>Action BE_3 : Energy efficiency interventions in buildings and infrastructure of the Municipality of Ioannina</p>	<p>This action aims to improve energy efficiency of Municipal buildings, with the expected outcome of reducing energy demand, CO2 emissions, and energy costs. The program is seeking funding for 5.000.000 € and aims to reduce GHG emissions from the public building sector, targeting a 20% reduction in diesel usage and emissions from public school buildings by 20% in diesel usage. The saved energy from this action is estimated at 10,79 MWh/year, while the estimated GHG emissions reduction from electricity usage is 2,67 tn CO2e/year.</p>
	<p>Action BE_4 : Interventions for the energy upgrade of the Municipality's buildings</p>	<p>This action aims to intervene in municipal buildings in various ways to improve energy efficiency. Energy upgrading of municipal buildings is expected to reduce energy demand, CO2 emissions, and lower energy costs.</p>



		<p>The program is seeking funding for 12.477.000 € and aims to reduce GHG emissions from the public building sector, targeting a 17% reduction in electricity usage and a 20% reduction in diesel usage. It also aims on reducing emissions from public school buildings by 20% in diesel usage. The saved energy from this action is estimated at 1.000 MWh/year, while the estimated GHG emissions reduction from electricity usage is 1.000 tn CO₂e/year.</p>
	<p>Action BE_5 : Installation of RES in existing municipal infrastructure</p>	<p>The introduction of a large number of PV systems and thermal solar systems to existing buildings will lead to reduced emissions.</p> <p>The program is seeking funding for 3.538.000 € and aims to reduce GHG emissions from the public building sector, targeting a 27% reduction in electricity usage and a 35% reduction in municipal lighting usage. It also aims on reducing emissions from private buildings by 2% in electricity usage. The generated renewable energy from this action is estimated at 6.920,4 MWh/year, while the estimated GHG emissions reduction is 5.128 tn CO₂e/year.</p>
	<p>Action BE_6 : Organizing events and issuing guides, brochures and other forms in order to inform the citizens and visitors of the Municipality about the benefits and advantages of RES</p>	<p>The awareness of citizens for RES will help them to learn about actions for CO₂ emissions mitigation.</p> <p>The program is seeking €30,000 in funding to support its mission of reducing GHG emissions. It aims to achieve this through various initiatives, including a 5% reduction in electricity, diesel, LPG, natural gas, and firewood/pellet usage in private sector buildings, a 2% reduction in diesel and gasoline usage in public sector transportation, a 2% reduction in fuel usage for citizens' vehicles in the private sector, a 2% reduction in diesel usage for city buses in the private sector, a 2% reduction in emissions from general transportation within and outside boundaries, a 1% reduction in municipal waste disposal, and a 5% reduction in diesel, LPG, CNG, and animal husbandry emissions within the agriculture and industry sectors.</p> <p>The generated renewable energy from this action is estimated at 61,73 MWh/year, while the estimated GHG emissions reduction is 4,57 tn CO₂e/year.</p>
	<p>Action BE_7 : Saving energy and increasing energy efficiency with energy upgrading of existing buildings</p>	<p>Energy upgrade of Municipal buildings is expected to reduce energy demand, CO₂ emissions and reduce energy costs.</p> <p>The program is seeking funding for 5.000.000 € and aims to reduce GHG emissions from the public building sector, targeting a 27% reduction in electricity usage. It also aims on reducing emissions from the</p>



		<p>public school buildings by 25% in diesel usage. The saved energy from this action is estimated at 1.250 MWh/year, while the estimated GHG emissions reduction is 752 tn CO₂e/year.</p>
	<p>Action BE_8 : Home Energy Saving Program</p>	<p>Energy upgrade of residences will reduce energy demand, CO₂ emissions and effectively reduce energy costs for the citizens. The program, funded with 30.000.000 € from the Recovery and Resilience Fund, aims to reduce GHG emissions in the private sector by targeting a 10% reduction in electricity usage, a 15% reduction in diesel usage, a 10% reduction in LPG usage, a 10% reduction in natural gas usage, and a 25% reduction in firewood/pellet usage in buildings. The saved energy from this action is estimated at 6.652,36 MWh/year. The estimated total GHG emissions reduction is 778,48 tn of CO₂e/year for diesel, 28,45 tn of CO₂e/year for LPG, 72,27 tn of CO₂e/year for natural gas, and 1.076,08 tn of CO₂e/year for electricity.</p>
	<p>Action BE_9 : Recycle-Change Water Heater</p>	<p>The change of water heater will also contribute to energy upgrade of residences and it is also expected to reduce energy demand, CO₂ emissions and effectively reduce energy costs for the citizens. The program, funded with 1.000.000 € from the Recovery and Resilience Fund, aims to reduce GHG emissions in the private sector by targeting a 5% reduction in electricity usage, a 10% reduction in diesel usage, a 5% reduction in LPG usage, a 5% reduction in natural gas usage and a 25% reduction in firewood/pellet usage in buildings. The estimated substituted energy is 3.763,5 MWh/year, while the estimated GHG emissions reduction in electricity usage is 2.271,58 tn CO₂e/year.</p>
	<p>Action BE_10 : Energy Upgrade of the Municipality's Building Stock through ESCOs</p>	<p>The integration of energy-efficient upgrades and renewable energy sources in the Municipality's building stock serves as a systemic lever. By prioritizing energy efficiency and sustainability, this action not only directly reduces energy consumption and emissions but also sets a precedent for sustainable urban development. The program, seeking 100.000.000 € in funding, is dedicated to reducing GHG emissions. It targets a 15% reduction in electricity, diesel, LPG, and firewood/pellet usage in private sector buildings, a 10% reduction in natural gas usage in private sector</p>



		<p>buildings, a 5% reduction in fuel usage for citizens' vehicles in private sector transport, a 5% reduction in diesel usage for Intercity bus in private sector transport, a 2% reduction in diesel usage for city bus, and a 6% reduction in emissions from general transportation within and outside city's boundaries. The generated renewable energy is estimated at 13.500 MWh/year, the saved energy from this action is estimated at 100.000 MWh/year, while the estimated GHG emissions reduction is 40.000 tn CO₂e/year.</p>
	<p>Action BE_11 : Businesses Energy-Saving Program</p>	<p>Under the Businesses Energy-Saving Program, traders, professionals in services, and the tourism industry can secure subsidies of up to €250,000 for various energy efficiency upgrades. These upgrades include insulation, lighting, heating, cooling, ventilation, and renewable energy systems. Eligible expenditures encompass a range of energy-saving interventions, such as insulation, lighting upgrades, heating and cooling system improvements, ventilation enhancements, hot water systems, renewable energy installations, and automation systems.</p> <p>Funded by the Recovery and Resilience Fund, this program has a budget allocation of €12.5 million for the Commerce and Services sectors and another €12.5 million for the Tourism sector. Scheduled to commence at the end of 2023 and conclude by the end of 2027, the program is expected to have a substantial impact on emissions reduction:</p> <ul style="list-style-type: none"> • Private Sector Buildings: 15% reduction in electricity, LPG, natural gas, and firewood/pellet usage. • Private Sector Transportation (Citizens' Vehicles): 5% reduction in fuel consumption. • Private Sector Transportation (Intercity Bus): 5% reduction in diesel usage. • Private Sector Transportation (City Bus): 5% reduction in diesel usage. • General Transportation: 5% reduction in In&Out Boundary emissions. <p>The estimated GHG emissions reduction in electricity usage is 25.035,42 tn CO₂e / year.</p>
	<p>Action BE_12: Businesses Energy-Saving Program</p>	<p>This action pertains to technical interventions aimed at enhancing energy efficiency in private business buildings. It may encompass the installation of renewable energy systems for net metering or electricity generation, as well as the implementation of smart energy consumption measurement systems to reduce energy usage.</p>



		<p>Funded through the Recovery and Resilience Fund, this program allocates a budget of €30,000,000 specifically for monument buildings. Scheduled to commence by the end of 2023 and conclude by the end of 2027, this program is expected to yield the following reduction in GHG emissions:</p> <p>Private Sector Buildings: 5% reduction in electricity consumption.</p> <p>The estimated GHG emissions reduction in electricity usage is 3.260,69 tn CO₂e / year.</p>
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The Tables B-2.2 containing individual action outlines for each sector are referenced in Appendix I.

B-2.2: Individual action outlines		
(fill out one sheet per intervention/project)		
Action outline	Action name	
	Action type	
	Action description	
Reference to impact pathway	Field of action	
	Systemic lever	
	Outcome (according to module B-1.1)	
Implementation	Responsible bodies/person for implementation	
	Action scale & addressed entities	
	Involved stakeholders	
	Comments on implementation	
Impact & cost	Generated renewable energy (if applicable)	
	Removed/substituted energy, volume or fuel type	
	GHG emissions reduction estimate (total) per emission source sector	
	Total costs and costs by CO ₂ e unit	



B-2.3: Summary strategy for residual emissions

(Detail how residual emission will be offset, if applicable)

B-2.4: Actions per Effectiveness Summary

Grouping According to Effectiveness Impact	Field of Actions	Action Code	Action Name	GHG Reduction (tn CO2e)
1. Assessed and Preparing for Implementation or Ongoing 2. Certainly, already planned 3. Under Review and Consideration				
1	Build Environment	BE_8	Home Energy Saving Program	36.822,95
2	Build Environment	BE_10	Energy Upgrade of the Municipality's Building Stock through ESCOs	34.269,64
1	Build Environment	BE_11	Business Energy Saving Program	25.035,42
1	Mobility & Transport	MT_4	Less cars- cleaner cars	22.857,26
1	Build Environment	BE_9	Recycle-Change of Water Heater	22.712,46
1	Mobility & Transport	MT_1	Walking and cycling: a push towards a real sustainable modal shift	22.628,85
1	Mobility & Transport	MT_2	Greening the bus fleet and strengthening the public transport role	21.487,23
2	Mobility & Transport	MT_3	Low to zero emission City center	17.463,55
2	Green infrastructure & nature based solutions	GI_B_1	Creation of 5 Climate Neutral Zones	16.404,14
2	Mobility & Transport	MT_6	Greening logistics. A new era in goods transportation	15.085,90
2	Build Environment	BE_6	Organizing events and issuing guides, brochures and other forms in order to inform the citizens and visitors of the Municipality about the benefits and advantages of RES	14.983,30

2	Green infrastructure & nature based solutions	GI_E_1	New tree plantings	10.000,00
2	Green infrastructure & nature based solutions	GI_B_2	Creation of Climate Neutral Offices and Climate Neutral Observatory	6.829,71
2	Build Environment	BE_5	Installation of RES in existing municipal infrastructure	4.423,90
1	Energy Systems	ES_2	Supply and Installation of external monitoring system for water network of Ioannina City	3.885,09
1	Energy Systems	ES_9	Public-private partnership for the upgrade of energy efficiency of road and urban lighting system and infrastructure with LED systems	3.279,09
2	Green infrastructure & nature based solutions	GI_C_7	Management and systematization of the upgrading process of the newest monuments	3.260,69
1	Build Environment	BE_12	Renovate - Energy Saving on monument buildings	3.260,69
2	Mobility & Transport	MT_5	Cleaning and strengthening waterborne transportation	3.202,93
2	Energy Systems	ES_5	Installation of RES – 4 PV stations	3.110,02
1	Green infrastructure & nature based solutions	GI_B_3	Creation of climate-neutral green spaces	3.059,64
1	Green infrastructure & nature based solutions	GI_B_4	Ensuring Shared and Community spaces through programs and funding	3.059,64
1	Waste & Circular Economy	WCE_2	Brown bins (food and garden waste) and separate bio-waste collection	2.400,31
1	Energy Systems	ES_7	ICT Actions - Digital services and equipment e-governance in the Municipality of Ioannina	2.056,71
1	Energy Systems	ES_8	ICT Actions - Investments in infrastructure and	2.056,71

			SSC systems for a sustainable & green urban future	
2	Build Environment	BE_2	Replacement of lighting fixtures and installation of a control system in buildings of the Municipality of Ioannina	1.925,05
1	Energy Systems	ES_3	Upgrade of Existing Wastewater Network Infrastructure	1.852,66
1	Energy Systems	ES_1	Supply and Installation of Internal monitoring system for water network of Ioannina City	1.586,18
1	Waste & Circular Economy	WCE_6	Construction of Green Points	1.545,46
1	Green infrastructure & nature based solutions	GI_A_1	Alternative use of forest areas as recreational areas	1.473,28
2	Build Environment	BE_4	Interventions for the energy upgrade of the Municipality's buildings	1.072,55
2	Waste & Circular Economy	WCE_10	Digital transformation: applying digital tools to waste collection and management	1.003,69
2	Energy Systems	ES_4	Installation of RES on Water Sector – 1 PV stations	849,14
2	Waste & Circular Economy	WCE_5	a) Strengthening of the present waste collection network, b) create a network for separate collection, c) organisation of the collection waste management, of specific types of waste	688,20
2	Green infrastructure & nature based solutions	GI_A_2	Education and awareness (training programs)	538,85
2	Waste & Circular Economy	WCE_11	Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)	496,31
2	Build Environment	BE_7	Saving energy and increasing energy efficiency with energy upgrading of existing buildings	461,36
2	Waste & Circular Economy	WCE_17	Industrial symbiosis	406,07
2	Waste & Circular Economy	WCE_1	Separate collection of paper & cardboard	306,81



1	Waste & Circular Economy	WCE_7	Supply of Mobile Green Points	282,14
1	Waste & Circular Economy	WCE_8	Construction of Recycling Corners	278,21
2	Build Environment	BE_3	Energy efficiency interventions in buildings and infrastructure of the Municipality of Ioannina	220,06
2	Waste & Circular Economy	WCE_12	Green Public Procurement	135,36
1	Energy Systems	ES_6	Upgrade in the traffic light infrastructure of the Municipality of Ioannina	100,29
3	Waste & Circular Economy	WCE_3	Development of a household composting network	90,24
2	Build Environment	BE_1	Energy efficiency interventions in educational facilities of the Municipality of Ioannina	38,31
2	Waste & Circular Economy	WCE_14	Pilot implementation of circular economy and zero waste on Pamvotis Island	27,07
1	Mobility & Transport	MT_7	Using Sustainable Transportation on waste collection	22,17
2	Waste & Circular Economy	WCE_4	Organization of separate waste collection in municipal buildings	15,34
2	Waste & Circular Economy	WCE_15	Utilisation and distribution of surplus food from supermarkets, cafes, restaurants	13,54
2	Waste & Circular Economy	WCE_9	Establishment of a Center for Creative Reuse of Materials	9,02
2	Waste & Circular Economy	WCE_16	Support (inform, empower) private sector businesses to adopt circular production models	9,02
2	Waste & Circular Economy	WCE_13	Adoption of the circular economy in the sector of silver jewellery designers and makers	4,51
1	Energy Systems	ES_10	Transition Team Support – Action/Investment Plan Monitoring	-
3	Green infrastructure & nature based solutions	GI_B_5	Renovation-redesign and enhancement of specific mid-sized green areas	To be studied



3	Green infrastructure & nature based solutions	GI_B_6	Reuse of small public spaces and upgrade them into pocket parks	To be studied
3	Green infrastructure & nature based solutions	GI_B_7	Enhancement and upgrading of Schoolyards	To be studied
3	Green infrastructure & nature based solutions	GI_C_1	Bioclimatic design and enhancement of the surrounding area	To be studied
3	Green infrastructure & nature based solutions	GI_C_2	Re-demarcation of Pamvotida lake	To be studied
3	Green infrastructure & nature based solutions	GI_C_3	Pamvotida lake restoration	To be studied
3	Green infrastructure & nature based solutions	GI_C_4	Monitoring the flood situation of lake Pamvotida	To be studied
3	Green infrastructure & nature based solutions	GI_C_5	Addressing rainwater accumulation to protect Pamvotida lake	To be studied
3	Green infrastructure & nature based solutions	GI_C_6	Study and implementation of restoration of mining zones (e.g. quarries)	To be studied
3	Green infrastructure & nature based solutions	GI_D_1	Urban Greenways: City-Lake Transverse Connections	To be studied
3	Green infrastructure & nature	GI_D_2	Vertical Connections : Public Stairs - Public Elevators	To be studied



	based solutions			
3	Green infrastructure & nature based solutions	GI_D_3	Green Necklace	To be studied
3	Green infrastructure & nature based solutions	GI_D_4	Lakeside Promenade	To be studied
3	Green infrastructure & nature based solutions	GI_D_5	Thematic areas	To be studied

4.3 Module B-3 Indicators for Monitoring, Evaluation and Learning

Module B-3 “Indicators for Monitoring, Evaluation and Learning” should contain a selection of indicators taken from the Comprehensive Indicator Sets developed by NZC. The following should be provided: An overview table listing the indicators selected per outcome and impact including targets and evaluation points (B-3.1); and a metadata table for each indicator selected, as specified in the Comprehensive Indicator Sets (B-3.2).

B-3.1: Impact Pathways							
Outcomes/ impacts addressed	Action/ project	Indicator No. (unique identified)	Indicator name	Target values			
				2019	2025	2027	2030*
Building Sector: CO ₂ emissions from Private Sector Electricity usage	Action ES_5	BL_CO2_PR_EL	CO ₂ emissions from Private Sector Electricity usage (t. CO ₂ equivalent / year)	65.213,87	61.301,04	32.606,94	13.694,91
	Action GI_B_1						
	Action GI_B_2						
	Action GI_C_7						
	Action BE_5						
	Action BE_6						
	Action BE_8						
	Action BE_9						
	Action BE_10						
	Action BE_11						
	Action BE_12						
Building Sector: MWh/year from Private Sector Electricity usage	Action BE_6	BL_MWh_PR_EL	MWh/year from Private Sector Electricity usage (MWh / year)	108.045,00	108.045,00	97.629,14	97.629,14
	Action BE_8						
	Action BE_9						
	Action BE_10						
	Action BE_11						
	Action BE_12						
Building Sector: CO ₂ from Private Sector Diesel usage	Action GI_B_1	BL_CO2_PR_DS	CO ₂ emissions from Private Sector Diesel usage (t. CO ₂ equivalent / year)	44.006,28	44.006,28	24.203,45	14.522,07
	Action GI_B_2						
	Action BE_6						
	Action BE_8						



	Action BE_9						
	Action BE_10						
Building Sector: CO ₂ emissions from Private Sector LPG usage	Action GI_B_1	BL_CO2_PR_LPG	CO ₂ emissions from Private Sector LPG usage (t. CO ₂ equivalent / year)	1.698,37	1.698,37	1.358,70	985,05
	Action GI_B_2						
	Action BE_6						
	Action BE_8						
	Action BE_9						
	Action BE_10						
Building Sector: CO ₂ emissions from Private Sector Natural Gas usage	Action GI_B_1	BL_CO2_PR_NG	CO ₂ emissions from Private Sector Natural Gas usage (t. CO ₂ equivalent / year)	4.378,09	4.378,09	3.502,47	2.758,20
	Action GI_B_2						
	Action BE_6						
	Action BE_8						
	Action BE_9						
	Action BE_10						
Building Sector: CO ₂ emissions from Private Sector Firewood/Pellet usage	Action GI_B_1	BL_CO2_PR_FR/P L	CO ₂ emissions from Private Sector Firewood/Pellet usage (t. CO ₂ equivalent / year)	58.989,25	58.989,25	26.545,16	10.618,07
	Action GI_B_2						
	Action BE_6						
	Action BE_8						
	Action BE_9						
	Action BE_10						
Building Sector: CO ₂ emissions from Public Sector Electricity usage	Action ES_5	BL_CO2_PU_EL	CO ₂ emissions from Public Sector Electricity usage (t. CO ₂ equivalent / year)	5.014,68	3.008,81	2.507,34	37,61
	Action ES_6						
	Action ES_7						
	Action ES_8						
	Action BE_1						
	Action BE_2						
	Action BE_4						
	Action BE_5						
	Action ES_1						
	Action ES_2						
	Action ES_3						
	Action BE_7						



Building Sector: MWh/year from Public Sector Electricity usage	Action ES_6	BL_MWh_PU_EL	MWh from Public Sector Electricity usage (MWh/year)	8.358,03	8.254,03	8.197,17	1.836,38
	Action ES_7						
	Action ES_8						
	Action BE_1						
	Action BE_2						
	Action BE_4						
	Action BE_7						
	Action BE_10						
Building Sector: MWh/year from Municipality Lightning Electricity usage	Action BE_2	BL_MWh_ML_EL	MWh from Municipality Lightning Electricity usage (MWh/year)	8.308,22	5.400,35	5.400,35	1.685,10
	Action ES_9						
Building Sector: CO2 emissions from Municipality Lightning Electricity usage	Action ES_9	BL_CO2_ML_EL	CO2 emissions from Municipality Lightning Electricity usage (t. CO2 equivalent / year)	5.044,75	5.044,75	5.044,75	0,00
Building Sector: CO2 emissions from Public Sector Diesel usage	Action BE_1	BL_CO2_PU_DS	CO2 emissions from Public Sector Diesel usage (t. CO2 equivalent / year)	257,77	206,22	206,22	180,4
	Action BE_2						
	Action BE_3						
	Action BE_4						
	Action BE_5						
Building Sector: CO ₂ emissions from Public Schools Diesel usage	Action BE_2	BL_CO2_SCH_DS	CO2 emissions from Public Schools Diesel usage (t. CO2 equivalent / year)	842,51	674,01	674,01	126,38
	Action BE_3						
	Action BE_4						
	Action BE_5						
	Action BE_7						
Transport Sector: CO2 emissions from Public Sector Diesel usage	Action MT_2	TS_CO2_PU_DS	CO2 emissions from Public Sector Diesel usage (t. CO2 equivalent / year)	749,54	712,06	487,20	389,76
	Action MT_3						
	Action MT_4						
	Action GI_A_1						
	Action GI_B_1						



	Action GI_B_2 Action BE_6						
Transport Sector: CO2 emissions from Public Sector Gasoline usage	Action MT_2 Action MT_3 Action MT_4 Action GI_A_1 Action GI_B_1 Action GI_B_2 Action BE_6	TS_CO2_PU_GS	CO2 emissions from Public Sector Gasoline usage (t. CO2 equivalent / year)	65,53	62,25	42,59	34,08
Transport Sector: CO2 emissions from Private Sector Fuel of Citizens usage	Action MT_1 Action MT_2 Action MT_3 Action MT_4 Action MT_5 Action MT_6 Action GI_A_1 Action GI_B_1 Action GI_B_2 Action GI_B_3 Action GI_B_4 Action BE_6 Action BE_8 Action BE_10 Action BE_11	TS_CO2_PR_FU	CO2 emissions from Private Sector Fuel of Citizens usage (t. CO2 equivalent / year)	107.059,03	106.523,74	63.700,12	10.170,61
Transport Sector: CO2 emissions from Intercity Bus Diesel usage	Action MT_2 Action BE_8 Action BE_10 Action BE_11	TS_CO2_ICB_DS	CO2 emissions from Intercity Bus Diesel usage (t. CO2 equivalent / year)	6.445,07	6.445,07	5.800,56	644,51



Transport Sector: CO2 emissions from City Bus Diesel usage	Action MT_2	TS_CO2_CB_DS	CO2 emissions from City Bus Diesel usage (t. CO2 equivalent / year)	2.122,88	2.101,65	1.698,30	0,00
	Action MT_3						
	Action MT_4						
	Action GI_A_1						
	Action GI_B_1						
	Action GI_B_2						
	Action BE_6						
	Action BE_8						
	Action BE_10						
	Action BE_11						
Transport Sector: CO2 emissions from Lake Boats Diesel usage	Action MT_5	TS_CO2_LB_DS	CO2 emissions from Lake Boats Diesel usage (t. CO2 equivalent / year)	185,75	185,75	185,75	0,00
Transport Sector: CO2 emissions from General Transportation In & Out Boundary Fuel usage	Action MT_1	TS_CO2_IN/OUT_FUEL	CO2 emissions from General Transportation In & Out Boundary Fuel usage (t. CO2 equivalent / year)	43.800,00	42.924,00	22.338,00	0,00
	Action MT_2						
	Action MT_3						
	Action MT_4						
	Action MT_5						
	Action MT_6						
	Action GI_A_1						
	Action GI_B_1						
	Action GI_B_2						
	Action BE_6						
	Action BE_8						
	Action BE_10						
Action BE_11							
Waste: CO2 emissions from Municipal Waste Disposal	Action WCE_1	WS_CO2_RU_DIS	CO2 emissions from Municipal Waste Disposal	9.023,73	7.489,70	2.673,73	733,63
	Action WCE_2						
	Action WCE_3						
	Action WCE_4						
	Action WCE_5						



	Action WCE_6 Action WCE_7 Action WCE_8 Action WCE_9 Action WCE_10 Action WCE_11 Action WCE_12 Action WCE_13 Action WCE_14 Action WCE_15 Action WCE_16 Action WCE_17 Action GI_A_2 Action GI_B_2		(t. CO2 equivalent / year)				
Waste: CO2 emissions from Municipal Waste transportation within city Boundaries Diesel usage	Action MT_7 Action WCE_5 Action WCE_6 Action WCE_7 Action WCE_8 Action WCE_10 Action BE_6	WS_CO2_IN_DS	CO2 emissions from Municipal Waste Transportation within city Boundaries (t. CO2 equivalent / year)	71,61	60,87	32,22	0,00
Waste: CO2 emissions from Municipal Waste transportation outside city Boundaries Diesel usage	Action MT_7 Action WCE_5 Action WCE_6 Action WCE_7 Action WCE_8 Action WCE_10	WS_CO2_OUT_DS	CO2 emissions from Municipal Waste Transportation outside city Boundaries (t. CO2 equivalent / year)	3,41	2,73	1,36	0,00



Water: CO2 emissions from Public Sector Diesel usage	Action ES_1 Action ES_2	WT_CO2_PU_DS	CO2 emissions from Public Sector Diesel usage (t. CO2 equivalent / year)	169,17	101,50	101,50	101,50
Water: CO2 emissions from Public Sector Electricity usage	Action ES_1 Action ES_2 Action ES_3 Action ES_4	WT_CO2_PU_EL	CO2 emissions from Public Sector Electricity usage (t. CO2 equivalent / year)	15.438,85	8.182,59	7.333,45	7.333,45
Water: MWh/year emissions from Public Sector Electricity usage	Action ES_1 Action ES_2 Action ES_3	WT_MWh_PU_EL	MWh from Public Sector Electricity usage (MWh/year)	25.575,75	12.631,00	12.631,00	12.631,00
IPPU: CO2 emissions from Private Sector Diesel usage	Action GI_B_2 Action BE_6 Action BE_11	IP_CO2_PR_DS	CO2 emissions from Private Sector Diesel usage (t. CO2 equivalent / year)	501,50	501,50	451,35	401,20
IPPU: CO2 emissions from Private Sector LPG usage	Action GI_B_2 Action BE_6 Action BE_11	IP_CO2_PR_LPG	CO2 emissions from Private Sector LPG usage (t. CO2 equivalent / year)	0,98	0,98	0,88	0,78
IPPU: CO2 emissions from Private Sector CNG usage	Action GI_B_2 Action BE_6 Action BE_11	IP_CO2_PR_CNG	CO2 emissions from Private Sector CNG usage (t. CO2 equivalent / year)	1.688,20	1.688,20	1.519,38	1350,56
AFOLU (Animal Husbandry):	Action GI_A_2 Action GI_B_2	AH_CO2_PR_DS	CO2 emissions from Private	10,37	10,37	9,33	7,26



CO2 emissions from Private Sector Diesel usage	Action BE_6 Action BE_11		Sector Diesel usage (t. CO2 equivalent / year)				
AFOLU (Agriculture): CO2 emissions from Private Sector Diesel usage	Action GI_A_2 Action GI_B_2 Action BE_6 Action BE_11	AC_CO2_PR_DS	CO2 emissions from Private Sector Diesel usage (t. CO2 equivalent / year)	866,28	866,28	779,65	606,40
RES (For All Sectors) RES MWh/year production	Action ES_4 Action ES_5 Action BE_5 Action BE_6 Action BE_10	RES_TOT_PROD	MWh/year from RES (MWh/year)		-	7.090,60	27.572,73

*As indicated in the table above, the emissions values tracked by the indicators do not reach zero by 2030. This primarily arises from the presence of sector-specific Residual Emissions, as evident in Table A-2.3, which represent emissions that cannot be mitigated through climate action. These Residual Emissions account for 9.39% of the total emissions. Furthermore, it's worth noting that the Target Values of the indicators do not include considerations for emissions absorbed, as demonstrated in Table A-2.3. A comprehensive outline of the methodology for calculating absorptions is provided in Table A-1.5.

The **Tables B-3.2: Indicator Metadata** containing the Comprehensive Indicator Sets are referenced in Appendix II.

B-3.2: Indicator Metadata	
(for each indicator selected – take from Comprehensive Indicator Sets)	
Indicator Name	
Indicator Unit	
Definition	
Calculation	
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	[yes/no]
If yes, which emission source sectors does it impact?	Fields of action according to GHG inventory format – Module A-1
Does the indicator measure indirect impacts (i.e. co- benefits)?	[yes/no]
If yes, which co-benefit does it measure?	Co-Benefits
Can the indicator be used for monitoring impact pathways?	[yes/no]
If yes, which NZC impact pathway is it relevant for?	Impact Pathways according to - according to Module B-1
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	[yes/no]
Data requirements	
Expected data source	
Expected availability	
Suggested collection interval	
References	
Deliverables describing the indicator	
Other indicator systems using this indicator	

5 Part C – Enabling Climate Neutrality by 2030

Part C “Enabling Climate Neutrality by 2030” aims to outline any enabling interventions, i.e. with regard to organizational setting or collaborative governance models, or related to social innovations – designed to support and enable the climate action portfolios described in Module B-2 as well as aiming to achieve co-benefits outlined in the impact pathway (Module B-1).

5.1 Module C-1 Organisational and Governance Innovation Interventions

Module C-1 “Organisational and Governance Innovation Interventions” consists of a summary table, listing organizational and governance interventions and describing their impact (C-1.1) and a section for more detailed descriptions and comments (C-1.2).

C.1.1: Enabling organisational and governance interventions					
Intervention name	Description	Responsible entity/ dept./ person	Involved stakeholder	Enabling impact	Co-benefits
Creation of a special Climate Change Unit under the Mayor (special office/unit)	Supporting the municipality in designing programmes, plans and interventions by sector of action towards climate neutrality	Mayor of Municipality of Ioannina Municipality of Ioannina	Region of Epirus Municipality of Ioannina Mayor of Municipality of Ioannina Economists Engineers Architects Urban Planners Lawyers	- Submitting proposals for climate mainstreaming - Developing proposals and plans in the light of climate change and the municipality's commitment to climate neutrality - Assessment of proposals and projects in the light of climate change and the municipality's climate neutrality commitments (climate assessment)	- Improved air quality - Increased road safety - Enhanced physical & mental well-being - Reduced harmful ecological footprint - Improved waste management and efficiency - Jobs creation at local level - Increased urban forestry, plantation & improved plant health - Local economic activity & global connectivity - Enhanced citizen and communities



			Businesses Industry of Ioannina Citizens of Ioannina City		participation and social capacities for participation/engagement
Green Public Procurement	Procurement of goods, services and projects with lower environmental impact throughout their life cycle in line with EU Policies & Legislation and the National Action Plan on Green Public Procurement	Municipality of Ioannina / Project contracts: Directorate of Technical Services Procurement contracts: Directorate of Financial Services, Procurement & Material Management Department Materials and maintenance: Department of Cleaning, Recycling, Maintenance of	Region of Epirus Municipality of Ioannina Private companies Suppliers	<ul style="list-style-type: none"> - Supplying Green products and Services - Innovation and Research for environmentally friendly products - Optimization of production process - Using recycling materials - Green contracts between Municipality and Private Services/Suppliers 	<ul style="list-style-type: none"> - Improved air quality - Reduced harmful ecological footprint <ul style="list-style-type: none"> - Increased deployment of material cycles and circular economy - Increased local entrepreneurship & local businesses/ventures



		Projects & Greenery			
		Other services: Depending on the subject-type of service			
Energy Manager in every municipal building	This intervention establishes dedicated Energy Managers in municipal buildings, tasked with monitoring energy consumption, creating indicators, identifying efficiency opportunities, developing energy-saving action plans, designing maintenance strategies, and staying updated on new energy-saving methods, collectively contributing to effective energy management and	Municipality of Ioannina	Municipality of Ioannina Region of Epirus Employees in Municipal Buildings	<ul style="list-style-type: none"> - Upskilling the workers - Reducing energy consumption - Promoting sustainable practices - Long-Term sustainability 	<ul style="list-style-type: none"> - Jobs creation at local level - Decreased future maintenance & capital costs - Reduced harmful ecological footprint



	climate action.				
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C-1.2: Description of organisation and governance interventions – textual and visual elements

Creation of a special Climate Change Unit under the Mayor (special office/unit)

The Municipality of Ioannina, embarking on this transformative initiative, plans to create a dedicated Climate Change Unit under the auspices of the Mayor's Office. This specialized unit will be entrusted with the pivotal role of providing steadfast support in the conceptualization and execution of multifaceted climate action programs, meticulously designed plans, and sector-specific interventions, all directed towards the ambitious goal of steering the city towards climate neutrality.

The Mayor will be the chief executive officer of the Municipality, playing a central role in providing visionary leadership. In the context of climate action, the Mayor is responsible for setting the overall direction and strategy for addressing climate change and achieving climate neutrality. This includes defining clear objectives and priorities for the Climate Change Unit. He is also responsible for the development and implementation of policies related to climate action. This includes establishing the legal and regulatory framework necessary to support climate initiatives within the municipality. In conclusion the Mayor is a "Bridge" between the Municipality and the citizens. He encourages citizens participation in sustainability efforts and raise awareness about climate issues.

As the Mayor plays a leader role in the Climate Change Unit, the municipal administration is actively engaged in implementing climate policies and supporting the Climate Change Unit's initiatives. Professionals such as Economists, Engineers, Architects, Urban Planners, Lawyers, can provide expertise and technical support in developing and implementing climate programs and action plans. This unit can also affect the citizens of Ioannina City, provide them awareness and give them the opportunity to participate in climate initiatives.

The intervention enables climate neutrality as follows.

- Submitting Proposals for Climate Mainstreaming: This activity involves systematically identifying opportunities within the municipality's existing plans and policies where climate considerations can be seamlessly integrated, ensuring that climate action becomes an integral part of decision-making processes. By mainstreaming climate considerations into various municipal plans and policies, the municipality can proactively address climate challenges, such as reducing emissions, improving energy efficiency, and enhancing resilience. This integration enhances the overall effectiveness of climate initiatives.
- Developing Proposals and Plans in Light of Climate Change and the Municipality's Commitment to Climate Neutrality: This activity signifies a forward-looking approach, where proposals and plans are meticulously crafted with a clear understanding of how climate change impacts may affect the municipality's future. It aligns these plans with the municipality's steadfast commitment to climate neutrality. By infusing climate resilience into planning and proposal development, the municipality can anticipate and mitigate potential



climate-related risks. This ensures that future infrastructure and projects are climate-ready and do not compromise the journey towards climate neutrality.

- Assessment of Proposals and Projects in the Light of Climate Change and the Municipality's Climate Neutrality Commitments (Climate Assessment): This assessment process involves a rigorous evaluation of proposed projects and initiatives to gauge their compatibility with climate change mitigation and adaptation objectives, as well as the overarching goal of climate neutrality. Through systematic climate assessments, the municipality can prioritize projects that align with its climate neutrality commitments. This leads to a more efficient allocation of resources, ensuring that investments yield both immediate and long-term climate benefits.

In conclusion, this intervention helps achieve the indirect impacts (co-benefits) as follows:

1. Improved air quality by reducing emissions and promoting sustainable practices, the intervention contributes to improved air quality in Ioannina.
2. Enhanced road safety is a byproduct of sustainable urban planning and reduced traffic congestion, which can result from efficient public transportation and alternative mobility options.
3. Sustainable urban design, green spaces, and reduced pollution positively impact the physical and mental well-being of residents. Access to parks and nature can reduce stress, anxiety, and promote a healthier lifestyle.
4. The reduction of harmful ecological footprint through sustainable practices, waste reduction, and efficient resource use contributes to the preservation of ecosystems and biodiversity. This helps maintain the long-term health of the environment.
5. Efficient waste management reduces landfill waste and promotes recycling and composting. This not only conserves resources but also reduces the release of methane, a potent greenhouse gas, from landfills.
6. Initiatives aimed at sustainability and climate action, such as green building projects or renewable energy installations, often create local job opportunities. This bolsters the local economy and provides employment for residents.
7. Urban forestry and green initiatives improve the city's aesthetics, provide shade, and enhance the overall environment. They also contribute to carbon sequestration, mitigating the effects of climate change.
8. Sustainability initiatives can attract investments, boost tourism, and stimulate local economic activity. Moreover, participating in global sustainability networks and adhering to international standards enhances the municipality's global connectivity and reputation.
9. Citizen engagement is a cornerstone of successful sustainability efforts. Engaging communities in climate initiatives fosters a sense of ownership and empowerment. It equips residents with the knowledge and skills needed to actively participate in shaping their city's future.

Creation of a special Climate Change Unit under the Mayor (special office/unit)

The Green Public Procurement intervention signifies a comprehensive approach to the procurement process within the Municipality of Ioannina. It involves the acquisition of goods, services, and projects with a deliberate focus on reducing their environmental impact throughout their entire life cycle. This approach aligns closely with EU Policies & Legislation, ensuring compliance with regional



sustainability standards. This action extends beyond the initial purchase to consider environmental factors at every stage, including manufacturing, transportation, use, maintenance, and end-of-life disposal.

The responsibility for the "Green Public Procurement" intervention within the Municipality of Ioannina is distributed among several key entities. The Directorate of Technical Services manages project contracts, ensuring that sustainable practices are integrated into the design and execution of projects. Procurement contracts fall under the purview of the Directorate of Financial Services, specifically overseen by the Procurement & Material Management Department, which ensures that procurement aligns with sustainability goals and complies with relevant regulations. Materials and maintenance are managed by the Department of Cleaning, Recycling, Maintenance of Projects & Greenery, where a focus on sustainability extends to the upkeep and management of assets.

The Municipality of Ioannina plays a central role in implementing sustainable procurement practices in line with its commitment to environmental responsibility. Private companies and suppliers also form integral parts of this initiative. Private companies participate in bids and contracts, aligning their services and products with sustainability requirements. Suppliers are key partners in providing environmentally responsible goods and services, playing a crucial role in achieving the municipality's green procurement goals.

By emphasizing the supply of green products and services, it directly reduces the carbon footprint associated with procurement. These sustainable options encompass energy-efficient products, eco-friendly services, and other environmentally responsible solutions, all contributing to emissions reductions. Also, the focus on innovation and research for environmentally friendly products fosters the development of cutting-edge technologies and practices. This innovation ensures that the municipality remains at the forefront of sustainability, driving forward climate-neutral initiatives. Additionally, the optimization of production processes reduces resource consumption and waste generation, thereby curbing emissions. This efficiency not only reduces the environmental impact but also enhances cost-effectiveness. Furthermore, incorporating recycling materials into projects and operations aligns with circular economy principles. This minimizes the need for new resources and reduces greenhouse gas emissions associated with production and extraction. Lastly, establishing green contracts between the municipality and private service providers and suppliers ensures a commitment to sustainability throughout the procurement process. These contracts promote the adoption of environmentally responsible practices by partners and further contribute to the municipality's journey towards climate neutrality.

As a result, by emphasizing the supply of green products and services and the optimization of production processes, the intervention directly reduces emissions and environmental pollutants. This leads to improved air quality within the municipality, enhancing the health and well-being of its residents. Also, the strategic use of recycling materials and the promotion of circular economy principles minimize resource depletion and waste generation. This not only reduces the harmful ecological footprint but also conserves natural resources and ecosystems. Additionally, the intervention fosters local entrepreneurship and supports local businesses by promoting the adoption of sustainable practices. This can result in the growth of green ventures and businesses aligned with sustainability goals. By doing so, it stimulates economic activity at the local level, creating jobs and strengthening the community's economic resilience.

Energy Manager in every municipal building



Primary role of Energy Managers encompasses the vigilant monitoring of energy consumption patterns, allowing for data-driven insights into usage trends and inefficiencies. This data serves as the foundation for the creation of energy consumption indicators, providing clear metrics to assess performance and guide improvements. They actively identify opportunities for enhanced energy efficiency within municipal buildings and develop actionable energy-saving plans that outline specific measures and strategies for reducing consumption and carbon emissions. These plans extend to the design of maintenance strategies that incorporate energy-efficient practices, ensuring the sustained optimization of energy use. Furthermore, Energy Managers remain proactive in staying informed about emerging institutional frameworks and methods aimed at maximizing energy savings. This commitment to ongoing learning and adaptation ensures that the municipality remains at the forefront of energy-saving approaches and regulations.

As the responsible entity, Municipality of Ioannina ensures that Energy Managers have the tools and knowledge required to fulfill their roles effectively. Additionally, it establishes clear objectives and priorities for energy efficiency within municipal buildings, aligning these goals with broader sustainability and climate action targets.

Energy Managers are responsible for pass on their knowledge to the rest of the workers in the Municipal buildings and upskilling them. They contribute significantly to reduce energy consumption by actively monitoring consumption patterns, identify inefficiencies and implement energy-saving action plans. This leads to tangible reductions in energy use, resulting in fewer carbon emissions and a lower environmental impact. Also, the promotion sustainable practices within municipal buildings extends beyond immediate energy efficiency gains. It fosters a culture of sustainability that encompasses responsible resource use, waste reduction, and environmentally friendly practices. With dedicated Energy Managers the municipality ensures the continuity of energy management efforts. This commitment to sustained energy efficiency contributes to a lasting impact on reducing emissions and advancing climate neutrality.

In order to establish Energy Managers, job positions within the public sector are automatically created for them. This job creation not only supports livelihoods but also promotes economic resilience within the community. By actively monitoring and managing energy consumption, Energy Managers identify and rectify inefficiencies promptly. his proactive approach minimizes wear and tear on municipal infrastructure and equipment, reducing the need for costly repairs and replacements in the long run. Consequently, this translates into fiscal savings for the municipality, freeing up resources for other essential services and sustainability initiatives. Furthermore, Through the optimization of energy usage and the promotion of sustainable practices, carbon emissions are curtailed, resulting in a reduced environmental impact. This not only supports local biodiversity and ecosystems but also aligns with global climate goals.

5.2 Module C-2 Social and Other Innovation Interventions

Module C-2 “Social and Other Innovation Interventions” consists of a summary table, listing organizational and collaborative governance interventions and describing their impact (C-2.1) and a section for more detailed descriptions and comments (C-2.2).

C.2.1: Enabling social innovation interventions

Intervention name	Description	Responsible entity/	Involved stakeholder	Enabling impact	Co-benefits



		dept./ person			
Groups of Engineers per sector (neighborhood) of the city	<p>A plan is proposed to create 5 sectors - adjacent to the City and for each sector an Engineering Team is appointed responsible. The selection should take into account common characteristics of the area (urban design, natural and cultural environment).</p>	Municipality of Ioannina	<p>Technical Chamber of Greece - Department of Epirus.</p> <p>Cooperation between the Technical Chamber and University Departments will be further explored in the future</p>	<p>By focusing on sustainable urban development and innovative proposals, the action can lead to the implementation of energy-efficient technologies, reduced energy consumption, and sustainable transportation solutions, all of which contribute to lower GHG emissions. Also, the teams of engineers can identify and recommend energy-saving measures within neighborhoods, such as energy-efficient building designs, renewable energy integration, and efficient public transportation</p>	<p>Enhanced citizen & communities' participation & social capacities for participation/engagement</p> <p>Increased social justice</p> <p>Improved social cohesion, gender equality, equity</p> <p>improved functioning of democratic institutions</p> <p>Increased awareness of social issues</p> <p>Reduced harmful ecological footprint</p> <p>Increased ecological awareness</p>



				<p>n systems. These measures can lead to reduced energy demand in the long term.</p>	
<p>Incentives from the municipality for energy savings from businesses</p>	<p>Municipality will incentivize businesses for 10% energy reduction. It can start a campaign, offer certificates for success. That will be monitored with annual electricity bills.</p>	<p>Municipality of Ioannina</p>	<p>Municipality of Ioannina Citizens of Ioannina</p>	<p>One of the most direct impacts of this action is the reduction in greenhouse gas (GHG) emissions. By actively promoting and monitoring energy-saving practices among businesses, the Municipality contributes to mitigating climate change, which is essential for the long-term sustainability of the environment. By reducing energy consumption and potentially lowering energy costs for</p>	<p>Enhanced citizen & communities' participation & social capacities for participation/engagement</p> <p>Increased social justice</p> <p>Increased awareness of social issues</p> <p>Reduced harmful ecological footprint</p> <p>Reduced heat island effect</p> <p>Increased economic thriving (quality of jobs, sustainable supply chains etc.)</p> <p>Increased economic returns of natural capital</p> <p>Increased ecological awareness</p>



				businesses, this action can indirectly contribute to mitigating energy poverty within the community. Lower energy expenses can positively impact vulnerable populations.	
Seminars and workshops in different professional groups with the aim of informing on Energy Saving issues	Enhancement business energy efficiency through sector-specific workshops with expert speakers. Cover general and sector-specific actions and financing options for evaluation.	Municipality of Ioannina	Municipality of Ioannina Businesses	By educating professionals and businesses about energy-efficient practices and technologies, these initiatives raise awareness of the environmental impact of excessive energy consumption. Participants gain the knowledge to identify areas where energy-saving measures can be applied.	Enhanced citizen & communities' participation & social capacities for participation/engagement Increased social justice Increased awareness of social issues Reduced harmful ecological footprint Reduced heat island effect Increased economic thriving (quality of jobs, sustainable supply chains etc.) Increased economic returns of natural capital Increased ecological awareness
Actions to inform users of municipal buildings to	Promote energy-conscious	Municipality of Ioannina	Municipality of Ioannina	By educating municipal building users on	Enhanced physical & mental well-being



<p>improve behavior and optimal use of electromechanical equipment</p>	<p>behavior in municipal building users. It is recommended to inform about efficient heating, cooling, and device usage and the extension of energy-saving campaign to all residents.</p>		<p>workers in the municipality of Ioannina</p>	<p>efficient heating and cooling practices. It can lead to reduced energy demand as individuals and households become more mindful of their energy use, resulting in lower overall consumption. Furthermore, it can enhance the stability of the electrical grid and reduce the risk of power outages or blackouts during periods of high demand. Promoting energy-conscious behavior fosters a culture of resilience within the community. When residents and municipal building users are aware of the environmental and economic benefits of</p>	<p>Enhanced citizen & communities' participation & social capacities for participation/engagement</p> <p>Increased social justice</p> <p>improved functioning of democratic institutions</p> <p>Increased awareness of social issues</p> <p>Increased economic returns of natural capital</p> <p>Increased ecological awareness</p>
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				energy efficiency, they are better prepared to adapt to the uncertainties of climate impacts.	
Student Awareness Actions	<p>Promote awareness and education on energy-saving and sustainability, especially for students. It is recommended to organise groups for presentations and engage in contests, online activities, and games.</p>	Municipality of Ioannina	Municipality of Ioannina students of Ioannina	<p>When students learn about the environmental impact of energy consumption and adopt energy-efficient habits, it can result in reduced GHG emissions as they become future consumers and decision-makers. Teaching students energy-saving practices at a young age can instill habits that lead to reduced energy demand. When a community collectively reduces its energy consumption, resources</p>	<p>Enhanced physical & mental well-being</p> <p>Enhanced citizen & communities' participation & social capacities for participation/engagement</p> <p>Increased social justice</p> <p>improved functioning of democratic institutions</p> <p>Increased awareness of social issues</p> <p>Increased economic returns of natural capital</p> <p>Increased ecological awareness</p>



				<p>that would have been allocated to expanding energy infrastructure can be directed toward other critical urban infrastructure projects, enhancing overall stability. Encouraging students to engage in sustainability initiatives fosters a sense of community and collective action. Communities with engaged and informed residents are better prepared to respond to climate impacts and work together to mitigate them.</p>	
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C-2.2: Description of social innovation interventions – textual and visual elements

(Please provide here any further detail on listed interventions)

Groups of Engineers per sector (neighborhood) of the city

On the initiative of the Technical Chamber of Epirus and in cooperation with the Municipality, groups of Engineers will be appointed per sector (neighborhood) of the city with specific purposes and responsibilities. The broader aim is for this new institution, which will be an innovation at national level, to contribute to the maintenance of the sustainability of urban areas, their renewal and upgrading, through targeted initiatives, together with the residents. The success of the institution will contribute to the climate sustainability and

urban renewal of the city of Ioannina, combining the protection of the rich cultural heritage and the historic building stock of the city with innovative proposals.

A plan is proposed to create 5 sectors - adjacent to the City and for each sector an Engineering Team is appointed responsible. The selection should take into account common characteristics of the area (urban design, natural and cultural environment).

The broader aim is for this new institution, which will be an innovation at national level, to contribute to the maintenance of the sustainability of urban areas, their renewal and upgrading, through targeted initiatives, together with the residents.

The areas in which the first phase of the cooperation with TEI will be implemented are:

Castro

From Kaloutsianis Mosque to Sapountzaki Square (KA' February Street and some perpendiculars to it).

From Alsos to Ioannina Elderly Home

The responsibilities of these groups will be:

1. Inventory, codification and evaluation of proposals for technical and urban interventions, both past and present, to change the neighbourhood.
2. Collection and receipt of proposals from citizens and collective bodies at the neighbourhood level - evaluation and final submission of proposals to the Municipality.
3. Technical description and analysis of proposals and ideas of citizen groups in the municipality that are deemed by the team to be interesting and important for the change of the city
4. Elaboration of nature-based solutions (NBS) based on common spaces and free dances in the neighborhood - area of responsibility.
5. Staffing of a neighborhood office (proposed to operate at the City headquarters at specific hours - specific day of the week) to provide information and exchange of views and suggestions among stakeholders (citizens, institutions, associations, etc.).
6. Possibility of drawing up a master plan of development proposals within the neighbourhood in The possibility of developing a master plan for the development of projects in the neighbourhood in cooperation with the private sector and a roadmap of actions.
7. Possibility of conducting architectural idea competitions in collaboration with the private sector to select proposals and actions for neighborhood - sector change.
8. Continuous information and information of the TEI and exchange of views and proposals with the other groups.
9. Collaboration and coordination of all Sector - Neighborhood groups to submit final proposals to the City.
10. Educate the public about the pilot program and what benefits the City will receive from the successful completion of the program.



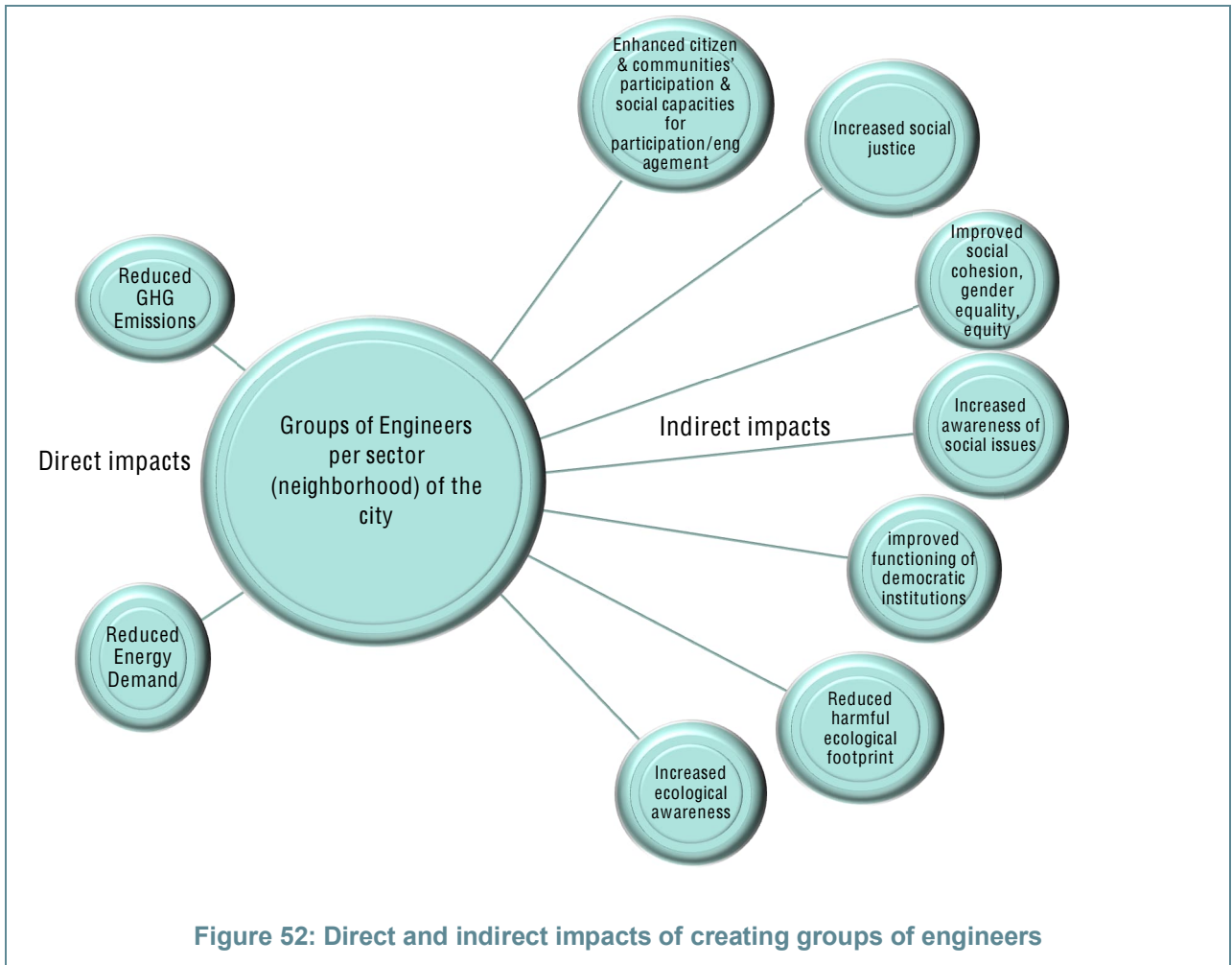
The initiative described, which involves the collaboration between the Technical Chamber of Epirus and the Municipality to appoint engineering teams per sector (neighborhood) of the city, holds great potential for



achieving a wide range of positive outcomes related to sustainability, reduced greenhouse gas (GHG) emissions, and enhanced community well-being. Here's how this action can contribute to various goals:

1. **Reduced GHG Emissions:** By focusing on sustainable urban development and innovative proposals, the action can lead to the implementation of energy-efficient technologies, reduced energy consumption, and sustainable transportation solutions, all of which contribute to lower GHG emissions.
2. **Reduced Energy Demand:** The teams of engineers can identify and recommend energy-saving measures within neighborhoods, such as energy-efficient building designs, renewable energy integration, and efficient public transportation systems. These measures can lead to reduced energy demand in the long term.
3. **Strengthened Citizen and Community Participation:** Involving residents in the decision-making process and soliciting their input through proposal collection and evaluation fosters active community participation. This engagement can result in increased support for sustainable practices and initiatives that reduce energy consumption.
4. **Increased Social Justice:** By ensuring equitable access to sustainable solutions and considering the common characteristics of each sector, the initiative promotes social justice. It strives to provide all residents with the benefits of sustainability, irrespective of their neighborhood or background.
5. **Improved Social Cohesion:** Collaborative efforts to renew and upgrade neighborhoods can enhance social cohesion by bringing residents together in common causes. Sustainable development projects can create shared community spaces and foster a sense of unity.
6. **Gender Equality and Equity:** The initiative can be designed to consider the needs and perspectives of all community members, including gender considerations. This promotes gender equality and ensures that equity concerns are addressed in the development process.
7. **Enhanced Functioning of Democratic Institutions:** The active involvement of residents in decision-making processes strengthens democratic institutions at the local level. It demonstrates a commitment to participatory governance and community-driven decision-making.
8. **Increased Awareness of Social Issues:** Engaging residents in discussions about urban renewal and sustainability naturally leads to increased awareness of broader social and environmental issues. This awareness can prompt residents to adopt more sustainable behaviors, including reduced energy consumption.
9. **Reduced Harmful Ecological Footprint:** The initiative's focus on nature-based solutions and sustainable development practices can lead to a reduced ecological footprint. Preserving green spaces and adopting sustainable urban planning can protect ecosystems and biodiversity.
10. **Increased Ecological Awareness:** Through the planning and implementation of nature-based solutions, residents in each sector of the city will become more environmentally aware. This heightened awareness can lead to greater ecological consciousness and environmentally responsible behaviors.

In summary, this innovative initiative has the potential to create a virtuous cycle of sustainability, community engagement, and reduced environmental impact. By addressing not only technical solutions but also social and participatory aspects, it can contribute significantly to achieving climate sustainability, reduced energy consumption, and a more inclusive and environmentally conscious community. The combined efforts of engineers, residents, and the Municipality can create a model for sustainable urban development that benefits both the environment and the people it serves.



Incentives from the municipality for energy savings from businesses

The Municipality recognizes the importance of encouraging local businesses to actively pursue energy-saving initiatives. As an initial objective, there's a plan to reduce the energy consumption of businesses operating within the municipality by 10%. To start this effort, the Municipality intends to launch a comprehensive campaign focused on energy conservation.

To entice businesses to actively engage in this energy-saving effort, a set of incentives will be introduced. For instance, companies that successfully meet the 10% energy reduction target will be awarded a special certificate by the Municipality. This certificate serves as a tangible recognition of their environmentally responsible practices.

The monitoring and supervision of this energy-saving initiative will be a crucial aspect of its success. To achieve this, the Municipality will request annual electricity consumption invoices from the relevant services of each business. These invoices will then undergo a rigorous examination to determine whether the set energy reduction goal has been met. This process ensures accountability and helps businesses stay on track with their energy-saving commitments, ultimately contributing to a more sustainable and environmentally friendly community.



The Municipality's initiative to encourage local businesses to actively pursue energy-saving measures carries several significant benefits and impacts, both immediate and long-term, which extend beyond just reducing energy consumption:

Reduction in GHG Emissions: One of the most direct impacts of this action is the reduction in greenhouse gas (GHG) emissions. By actively promoting and monitoring energy-saving practices among businesses, the Municipality contributes to mitigating climate change, which is essential for the long-term sustainability of the environment.

Energy Poverty Mitigation: By reducing energy consumption and potentially lowering energy costs for businesses, this action can indirectly contribute to mitigating energy poverty within the community. Lower energy expenses can positively impact vulnerable populations.

Enhanced Citizen and Community Participation: The initiative fosters citizen and community participation in environmental sustainability efforts. Businesses, citizens, and local organizations can collaborate, creating a sense of shared responsibility for a greener and more sustainable future.

Increased Social Justice: This action promotes social justice by encouraging businesses of all sizes and types to adopt energy-saving measures. It levels the playing field and ensures that sustainability practices benefit the broader community, not just large corporations.

Raised Awareness of Social Issues: The initiative can increase awareness of broader social and environmental issues. As businesses become more engaged in sustainability efforts, they may also become advocates for other community concerns, such as social equity and environmental justice.

Reduced Ecological Footprint: Lower energy consumption by businesses contributes to a reduced ecological footprint. This helps conserve natural resources and protects local ecosystems, promoting biodiversity and ecological health.

Reduced Heat Island Effect: Energy-saving measures can include strategies to reduce heat generation in urban areas, mitigating the urban heat island effect. This creates a more comfortable and healthier living environment for residents.

Increased Economic Thriving: The initiative can lead to economic benefits by fostering the growth of green industries, promoting quality job creation, and encouraging sustainable supply chains. This can enhance the overall economic well-being of the community.

Economic Returns of Natural Capital: By conserving energy and resources, businesses contribute to preserving the natural capital of the municipality. This, in turn, can result in long-term economic returns, such as improved environmental quality and reduced infrastructure costs.

Increased Ecological Awareness: As businesses and the community as a whole become more engaged in energy-saving practices, there is a greater likelihood of increased ecological awareness. This heightened awareness can drive further sustainable actions and policies in the future.

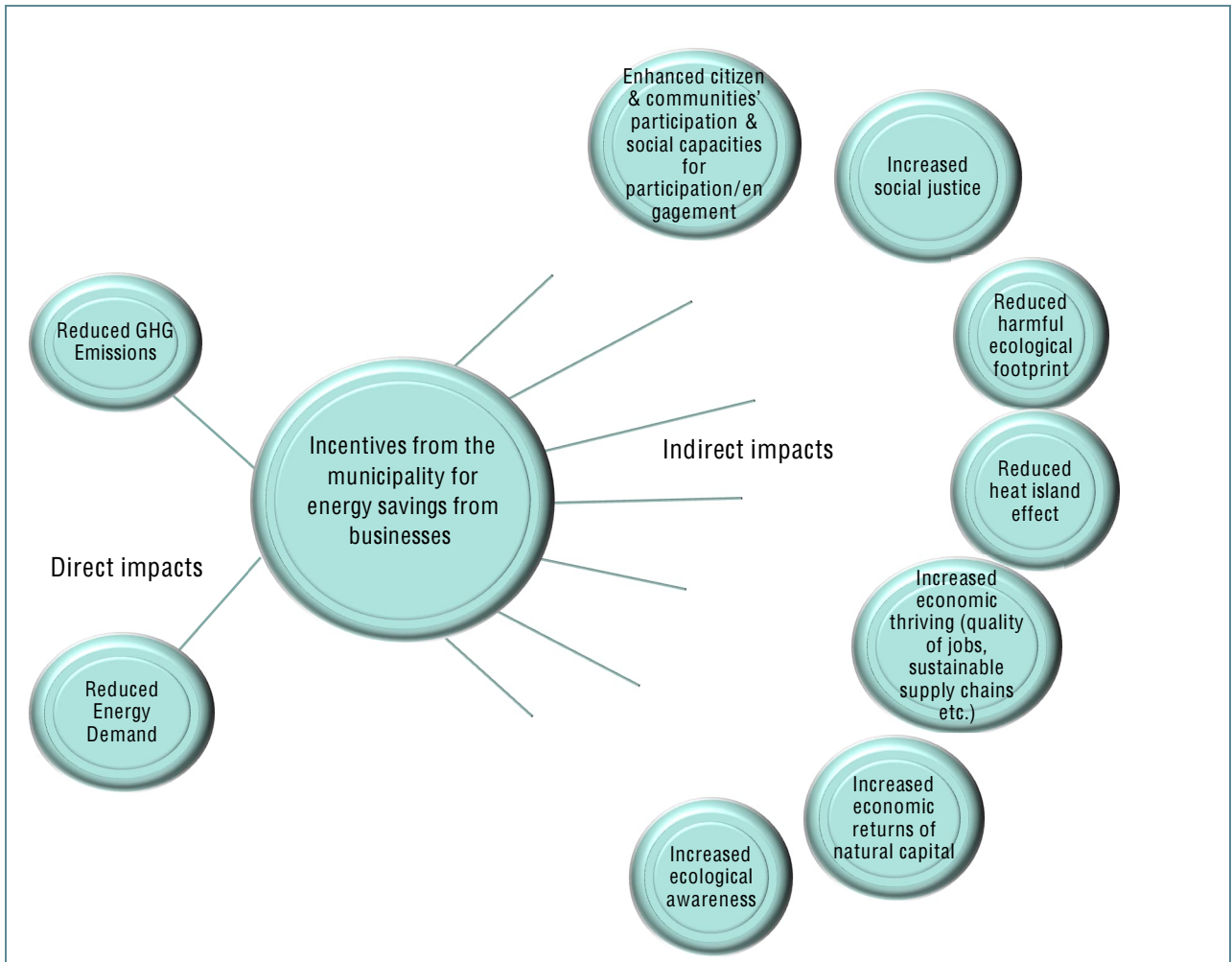


Figure 53: Direct and indirect impacts of incentives from the municipality for energy savings from businesses

Seminars and workshops for different professional groups with the aim of informing on Energy Saving issues

To enhance the energy efficiency of businesses, it is advisable to implement a comprehensive strategy that involves conducting specialized workshops and seminars. These workshops and seminars serve as vital platforms for educating professionals across various industries about the measures they can adopt to optimize energy consumption. The primary objective is to equip them with knowledge and strategies that can be applied both in a general context and tailored to the specific needs and characteristics of their respective sectors.



These educational sessions will feature expert speakers who possess in-depth knowledge of energy efficiency practices. These speakers will play a pivotal role in delivering valuable insights and information, aligning their presentations with the unique requirements and challenges faced by different types of businesses, such as commercial stores, offices, and industrial facilities.

The content of these workshops and seminars will encompass a broad spectrum of topics, including but not limited to, energy-efficient technologies, best practices in energy management, and innovative solutions for reducing energy consumption. Furthermore, participants will gain insight into the techno-economic aspects of these energy-saving actions. This means they will not only understand the technical feasibility but also the financial implications of implementing energy-efficient measures.

In addition to technical and economic considerations, attendees will receive information about the existence of various financing programs. This knowledge is essential for evaluating the feasibility and sustainability of the proposed energy upgrades. Understanding the availability of financial support, grants, or incentives can greatly influence decision-making and encourage businesses to take concrete steps toward energy efficiency improvements.

In summary, the recommendation to organize specialized workshops and seminars for businesses to improve their energy efficiency is a comprehensive approach that aims to empower professionals with the knowledge and tools necessary to make informed decisions. These educational initiatives, featuring expert speakers and covering a wide range of topics, ensure that businesses can not only identify energy-saving opportunities but also assess their economic viability while leveraging available financing options. Ultimately, this approach fosters a culture of energy efficiency and sustainability within the business community, leading to reduced energy consumption and environmental benefits.

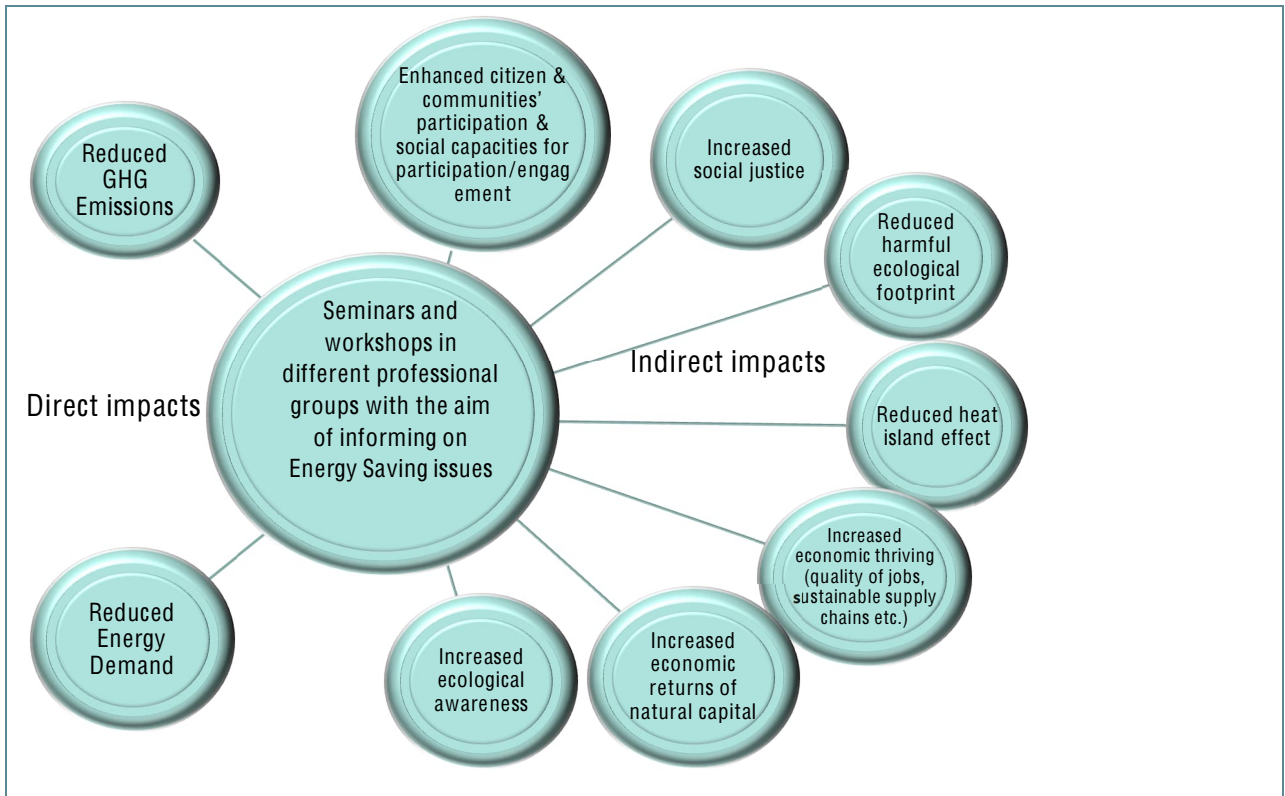


Figure 54: Direct and indirect impacts of seminars and workshops in different professional groups

Actions to inform users of municipal buildings to improve behavior and optimal use of electromechanical equipment

The behavior of individuals who frequent use municipal buildings plays a pivotal role in achieving substantial reductions in energy consumption and ensuring the efficient utilization of heating, cooling systems, and electronic devices within these facilities. Consequently, it is highly advisable to implement a multifaceted approach aimed at promoting energy-conscious behavior among permanent users of such energy-intensive municipal buildings.

One crucial facet of this strategy involves conducting targeted information activities tailored to the needs and routines of the individuals who regularly occupy these municipal structures. The primary objective of these initiatives is to instill an energy-conscious mindset among the building occupants. By educating them about the importance of responsible energy usage, it becomes possible to minimize energy wastage, particularly in the context of air conditioning, heating, and the operation of various electronic equipment within the premises. In essence, these information activities aim to empower occupants to take proactive steps in reducing their energy consumption, contributing to cost savings for both the municipality and the environment.

Simultaneously, it is recommended to launch a comprehensive information campaign that extends its reach beyond municipal building users to encompass all residents of the community. The overarching goal of this campaign is to foster an energy-saving ethos that permeates daily life, especially within the confines of individual households. By raising awareness about the broader implications of energy conservation, residents can be encouraged to adopt sustainable practices within their homes, thereby collectively reducing the community's overall energy footprint.

This community-wide energy-saving spirit entails a shift in mindset, encouraging residents to make conscious choices in their daily routines, such as optimizing heating and cooling systems, turning off lights and electronic devices when not in use, and being mindful of energy-efficient practices in their homes. By engaging the entire community in this endeavor, the campaign seeks to create a culture of energy-conscious living that extends well beyond municipal buildings, ultimately leading to significant energy savings, reduced environmental impact, and enhanced quality of life for all residents.

In summary, the proposal advocates for a multifaceted approach to promote energy-conscious behavior among users of municipal buildings and the broader community. Through tailored information activities for building occupants and a comprehensive awareness campaign for all residents, the aim is to cultivate a sustainable, energy-saving mindset that not only optimizes energy usage within municipal facilities but also extends to homes and daily life. This holistic approach represents a proactive step toward achieving significant energy efficiency gains, cost savings, and environmental benefits for the entire community.

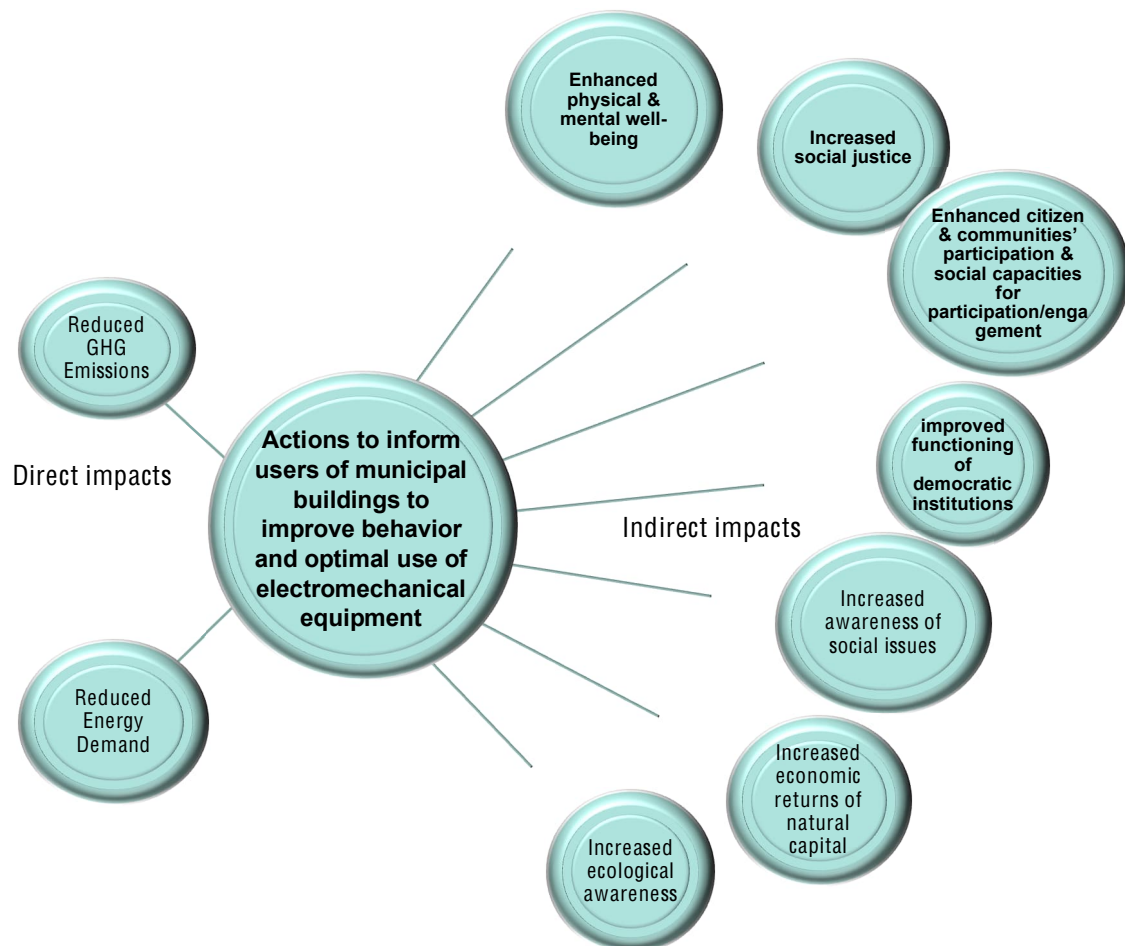


Figure 55: Direct and indirect impacts of actions to inform users of municipal buildings to improve behavior and optimal use of electromechanical equipment

Student Awareness Actions



An essential aspect of addressing environmental concerns, especially in the context of prevention and mitigation, goes beyond just upgrading municipal buildings. It involves conducting a range of awareness-raising initiatives, with a particular focus on educational efforts targeting students. This approach recognizes the critical role that informed and environmentally conscious youth can play in shaping a sustainable future.

To achieve this, it is proposed to establish dedicated groups or teams that will engage with students to educate them about the benefits of energy conservation and sustainable development more broadly. These educational activities aim to instill a deep understanding of the significance of sustainable practices and environmental literacy from an early age. The Municipality recognizes the profound importance of continually educating students about climate change and its multifaceted impact on the environment.

Awareness programs designed for students may include a variety of engaging activities and events. These could involve informative sessions, workshops, and presentations that elucidate the positive outcomes of energy-saving measures and sustainable development. By imparting this knowledge to students, they can develop a strong sense of responsibility towards environmental preservation and sustainable living.

Moreover, these awareness initiatives might encompass creative elements, such as contests and online campaigns conducted via social networks. These interactive platforms can help to engage students and the wider community in meaningful discussions about sustainability, fostering a sense of shared responsibility. Additionally, meetings featuring team-based games and challenges can be organized to emphasize the tangible benefits of sustainable practices in a fun and engaging manner.

It's worth noting that these awareness-raising actions may not yield immediate direct financial benefits that can be considered economically sustainable. However, they can be financially supported through national and European funding programs, in addition to the Municipality's own resources. These initiatives can generate indirect benefits that are difficult to quantify but are nonetheless immensely valuable. For instance, increased environmental awareness among young children can lead to more responsible behavior and choices throughout their lives, potentially contributing to long-term energy and resource conservation, reduced environmental harm, and improved overall quality of life for the community.

In conclusion, the proposal underscores the importance of education and awareness-raising, especially among students, as a critical component of a comprehensive strategy to address climate change and promote sustainable development. By investing in these initiatives, the Municipality aims to empower the younger generation with knowledge and values that will guide them towards more sustainable lifestyles and choices, ultimately benefiting both the community and the environment in the long run. While the direct financial returns may be challenging to measure, the potential positive impacts on future generations are immeasurable and invaluable.

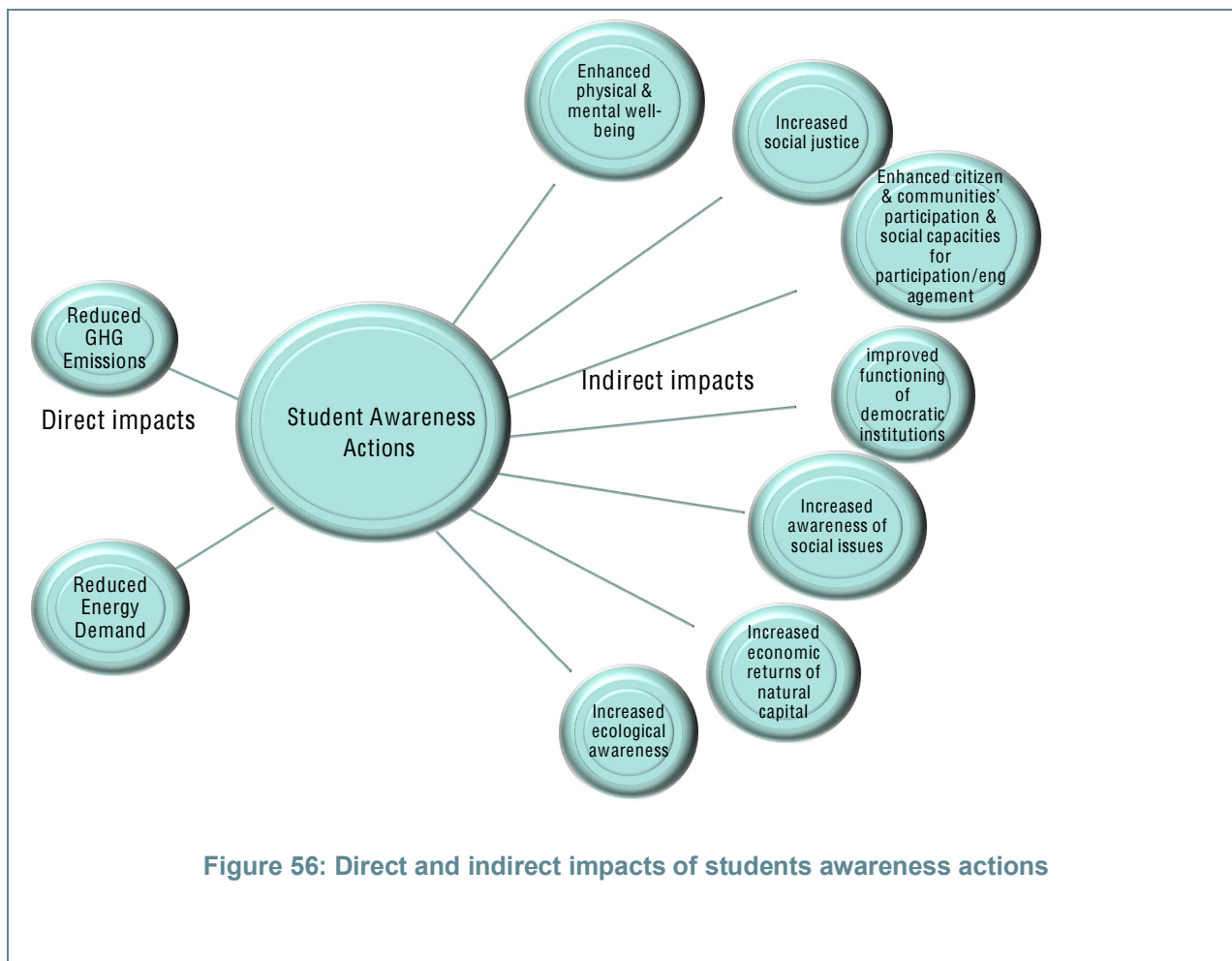


Figure 56: Direct and indirect impacts of students awareness actions

5.3 Module C-3 Financing of Action Portfolio

Module C-3 “Financing of Action Portfolio” should contain the list of action portfolios and interventions outlined in Modules B-2, and those from C-1 and C-2 with cost implication to provide a summary list of interventions that need to be unpacked in the Investment Plan.

C-3.1: Summary of interventions with cost implication (to be unpacked in Investment Plan)					
Action/intervention name	Responsible entity and person	Start/end date	Field of action	Impact	Total cost estimated
Action ES_1 Supply and Installation of Internal monitoring system for water network	Municipal Enterprise for Water and WasteWater	Start 2023 End 2025	Energy Systems	1.586,18 tn CO _{2e} /year	4.880.020,00 €



of Ioannina City					
Action ES_2 Supply and Installation of external monitoring system for water network of Ioannina City	Municipal Enterprise for Water and WasteWater	Start 2023 End 2025	Energy Systems	3.885,09 tn CO _{2e} /year	4.116.589,00 €
Action ES_3 Upgrade of Existing Wastewater Network Infrastructure	Municipal Enterprise for Water and WasteWater	Start 2023 End 2025	Energy Systems	1.852,66 tn CO _{2e} /year	11.168.602,29 €
Action ES_4 Installation of RES on Water Sector – 1 PV stations	Municipality of Ioannina, Municipal Enterprise for Water and WasteWater	Start 2024 End 2026	Energy Systems	849,14 tn CO _{2e} /year	1.000.000,00 €
Action ES_5 Installation of RES – 4 PV stations	Municipality of Ioannina	Start 2024 End 2026	Energy Systems	3.110,02 tn CO _{2e} /year	4.260.000 €
Action ES_6 Upgrade in the traffic light infrastructure of the Municipality of Ioannina	Municipality of Ioannina	Start 2023 End 2023	Energy Systems	100,29 tn CO _{2e} /year	830.000 €
Action ES_7 ICT Actions - Digital services and equipment e-governance in the Municipality of Ioannina	Municipality of Ioannina	Start 2024 End 2025	Energy Systems	2.056,71 tn CO _{2e} /year	1.300.000 €
Action ES_8 ICT Actions - Investments in	Municipality of Ioannina	Start 2024 End	Energy Systems	2.056,71 tn CO _{2e} /year	3.069.000 €



infrastructure and SSC systems for a sustainable & green urban future		2025			
Action ES_9 Public-private partnership for the upgrade of energy efficiency of road and urban lighting system and infrastructure with LED systems	Municipality of Ioannina	Start 2026 End 2028	Energy Systems	3.279,09 tn CO _{2e} /year	2.000.000 €
Action ES_10 Transition Team Support – Action/Investment Plan Monitoring	Municipality of Ioannina	Start 2023 End 2030	Energy Systems	- tn CO _{2e} /year	2.000.000 €
Action MT_1 Walking and cycling: a push towards a real sustainable modal shift	Municipality of Ioannina	Start 2025 End 2028	Mobility & Transport	22.628,85 tn CO _{2e} /year	163.742.327,7 7 €
Action MT_2 Greening the bus fleet and strengthening the public transport role	Municipality of Ioannina	Start 2025 End 2028	Mobility & Transport	21.487,23 tn CO _{2e} /year	80.070.000 €
Action MT_3 Low to zero emission City center	Municipality of Ioannina	Start 2023 End 2026	Mobility & Transport	17.463,55 tn CO _{2e} /year	200.000 €
Action MT_4 Less cars- cleaner cars	Municipality of Ioannina	Start 2023 End	Mobility & Transport	22.857,26 tn CO _{2e} /year	143.000.000 €

		2026			
Action MT_5 Cleaning and strengthening waterborne transportation	Municipality of Ioannina	Start 2025 End 2028	Mobility & Transport	3.202,93 tn CO _{2e} /year	9.420.000 €
Action MT_6 Greening logistics. A new era in goods transportation	Municipality of Ioannina	Start 2025 End 2028	Mobility & Transport	15.085,90 tn CO _{2e} /year	131.420 €
Action MT_7 Using Sustainable Transportation on waste collection	Municipality of Ioannina	Start 2025 End 2028	Mobility & Transport	22,17 tn CO _{2e} /year	680.000 €
Action WCE_1 Separate collection of paper & cardboard	Municipality of Ioannina	Start 2023 End 2027	Waste & Circular Economy	306,81 tn CO _{2e} /year	516.832 €
Action WCE_2 Brown bins (food and garden waste) and separate bio-waste collection	Municipality of Ioannina	Start 2023 End 2027	Waste & Circular Economy	2.400,31 tn CO _{2e} /year	1.229.617,31 €
Action WCE_3 Development of a household composting network	Municipality of Ioannina	Start 2023 End 2027	Waste & Circular Economy	90,24 tn CO _{2e} /year	1.229.617,31 €
Action WCE_4 Organization of separate waste collection in municipal buildings	Municipality of Ioannina	Start 2024 End 2027	Waste & Circular Economy	15,34 tn CO _{2e} /year	300.000 €



<p>Action WCE_5 a) Strengthening of the present waste collection network, b) create a network for separate collection, c) organisation of the collection waste management, of specific types of waste</p>	Municipality of Ioannina	<p>Start 2023</p> <p>End 2027</p>	Waste & Circular Economy	688,20 tn CO _{2e} /year	150.000 €
<p>Action WCE_6 Construction of Green Points</p>	Municipality of Ioannina	<p>Start 2023</p> <p>End 2025</p>	Waste & Circular Economy	1.545,46 tn CO _{2e} /year	967.200,60 €
<p>Action WCE_7 Supply of Mobile Green Points</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2026</p>	Waste & Circular Economy	282,14 tn CO _{2e} /year	987.200 €
<p>Action WCE_8 Construction of Recycling Corners</p>	Municipality of Ioannina	<p>Start 2023</p> <p>End 2026</p>	Waste & Circular Economy	278,21 tn CO _{2e} /year	1.326.800 €
<p>Action WCE_9 Establishment of a Center for Creative Reuse of Materials</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2026</p>	Waste & Circular Economy	9,02 tn CO _{2e} /year	310.000 €
<p>Action WCE_10 Digital transformation : applying digital tools to waste</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2027</p>	Waste & Circular Economy	1.003,69 tn CO _{2e} /year	2.610.820 €



collection and management					
Action WCE_11 Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)	Municipality of Ioannina	Start 2024 End 2029	Waste & Circular Economy	496,31 tn CO _{2e} /year	368.280 €
Action WCE_12 Green Public Procurement	Municipality of Ioannina	Start 2024 End 2030	Waste & Circular Economy	135,36 tn CO _{2e} /year	10.000 €
Action WCE_13 Adoption of the circular economy in the sector of silver jewellery designers and makers	Municipality of Ioannina	Start 2024 End 2027	Waste & Circular Economy	4,51 tn CO _{2e} /year	50.000 €
Action WCE_14 Pilot implementation of circular economy and zero waste on Pamvotis Island	Municipality of Ioannina	Start 2024 End 2027	Waste & Circular Economy	27,07 tn CO _{2e} /year	400.000 €
Action WCE_15 Utilisation and distribution of surplus food from supermarkets, cafes, restaurants	Municipality of Ioannina	Start 2024 End 2026	Waste & Circular Economy	13,54 tn CO _{2e} /year	100.000 €

Action WCE_16 Support (inform, empower) private sector businesses to adopt circular production models	Municipality of Ioannina	Start 2025 End 2027	Waste & Circular Economy	9,02 tn CO _{2e} /year	150.000 €
Action WCE_17 Industrial symbiosis	Municipality of Ioannina	Start 2024 End 2027	Waste & Circular Economy	406,07 tn CO _{2e} /year	300.000 €
Action GI_A_1 Alternative use of forest areas as recreational areas	Municipality of Ioannina	Start 2023 End 2025	Green infrastructure & nature based solutions	1.473,28 tn CO _{2e} /year	100.000 €
Action GI_A_2 Education and awareness (training programs)	Municipality of Ioannina	Start 2024 End 2029	Green infrastructure & nature based solutions	1.473,28 tn CO _{2e} /year	1.000.000 €
Action GI_B_1 Creation of 5 Climate Neutral Zones	Municipality of Ioannina	Start 2024 End 2026	Green infrastructure & nature based solutions	16.404,14 tn CO _{2e} /year	50.000.000 €
Action GI_B_2 Creation of Climate Neutral Offices and Climate Neutral Observatory	Municipality of Ioannina	Start 2024 End 2024	Green infrastructure & nature based solutions	6.829,71 tn CO _{2e} /year	-
Action GI_B_3 Creation of climate-neutral green spaces	Municipality of Ioannina	Start 2023 End 2025	Green infrastructure & nature based solutions	3.059,64 tn CO _{2e} /year	32.059.922,77 €



<p>Action GI_B_4 Ensuring Shared and Community spaces through programs and funding</p>	Municipality of Ioannina	<p>Start 2023</p> <p>End 2030</p>	Green infrastructure & nature based solutions	3.059,64 tn CO _{2e} /year	49.980 €
<p>Action GI_B_5 Renovation-redesign and enhancement of specific mid-sized green areas</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2025</p>	Green infrastructure & nature based solutions	-	8.215.000 €
<p>Action GI_B_6 Reuse of small public spaces and upgrade them into pocket parks</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2027</p>	Green infrastructure & nature based solutions	-	1.500.000 €
<p>Action GI_B_7 Enhancement and upgrading of Schoolyards</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2026</p>	Green infrastructure & nature based solutions	-	3.000.000 €
<p>Action GI_C_1 Bioclimatic design and enhancement of the surrounding area</p>	Municipality of Ioannina	<p>Start 2026</p> <p>End 2029</p>	Green infrastructure & nature based solutions	-	10.000.000 €
<p>Action GI_C_2 Re-demarcation of Pamvotida lake</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End 2030</p>	Green infrastructure & nature based solutions	-	2.500.000 €
<p>Action GI_C_3</p>	Municipality of Ioannina	<p>Start 2024</p> <p>End</p>	Green infrastructure & nature	-	16.000.000 €

Pamvotida lake restoration		2030	based solutions		
Action GI_C_4 Monitoring the flood situation of lake Pamvotida	Municipality of Ioannina	Start 2025 End 2026	Green infrastructure & nature based solutions	-	400.000 €
Action GI_C_5 Addressing rainwater accumulation to protect Pamvotida lake	Municipality of Ioannina	Start 2023 End 2025	Green infrastructure & nature based solutions	-	4.000.000 €
Action GI_C_6 Study and implementation of restoration of mining zones (e.g. quarries)	Municipality of Ioannina	Start 2026 End 2028	Green infrastructure & nature based solutions	-	1.940.000 €
Action GI_C_7 Management and systematization of the upgrading process of the newest monuments	Municipality of Ioannina	Start 2026 End 2028	Green infrastructure & nature based solutions	3.260,69 tn CO _{2e} /year	15.000.000 €
Action GI_D_1 Urban Greenways: City-Lake Transverse Connections	Municipality of Ioannina	Start 2026 End 2028	Green infrastructure & nature based solutions	-	10.000.000 €
Action GI_D_2 Vertical Connections : Public Stairs - Public Elevators	Municipality of Ioannina	Start 2026 End 2028	Green infrastructure & nature based solutions	-	15.000.000 €



Action GI_D_3 Green Necklace	Municipality of Ioannina	Start 2026 End 2028	Green infrastructure & nature based solutions	-	10.000.000 €
Action GI_D_4 Lakeside Promenade	Municipality of Ioannina	Start 2025 End 2027	Green infrastructure & nature based solutions	-	15.000.000 €
Action GI_D_5 Thematic areas	Municipality of Ioannina	Start 2025 End 2027	Green infrastructure & nature based solutions	-	30.000.000 €
Action GI_E_1 The existing absorption of the planted trees in Ioannina General Area	Municipality of Ioannina	Start 2023 End -	Green infrastructure & nature based solutions	-	-
Action GI_E_2 New tree plantings	Municipality of Ioannina	Start 2024 End 2030	Green infrastructure & nature based solutions	10.000 tn CO _{2e} /year	10.000.000 €
Action BE_1 Energy efficiency interventions in educational facilities of the Municipality of Ioannina	Municipality of Ioannina	Start 2024 End 2027	Build Environment	38,31 tn CO _{2e} /year	5.000.000 €
Action BE_2 Replacement of lighting fixtures and installation of a control system in buildings of the Municipality of Ioannina	Municipality of Ioannina	Start 2024 End 2025	Build Environment	1.925,05 tn CO _{2e} /year	2.000.000 €
Action BE_3	Municipality of Ioannina	Start 2024	Build Environment	220,06 tn CO _{2e} /year	5.000.000 €

Energy efficiency interventions in buildings and infrastructure of the Municipality of Ioannina		End 2028			
Action BE_4 Interventions for the energy upgrade of the Municipality's buildings	Municipality of Ioannina	Start 2025 End 2030	Build Environment	1.072,55 tn CO _{2e} /year	12.477.000 €
Action BE_5 Installation of RES in existing municipal infrastructure	Municipality of Ioannina	Start 2025 End 2030	Build Environment	4.423,90 tn CO _{2e} /year	3.538.000 €
Action BE_6 Organizing events and issuing guides, brochures and other forms in order to inform the citizens and visitors of the Municipality about the benefits and advantages of RES	Municipality of Ioannina	Start 2024 End 2030	Build Environment	14.983,30 tn CO _{2e} /year	30.000 €
Action BE_7 Saving energy and increasing energy efficiency with energy upgrading of existing buildings	Municipality of Ioannina	Start 2024 End 2030	Build Environment	461,36,30 tn CO _{2e} /year	5.000.000 €
Action BE_8	Municipality of Ioannina	Start 2023	Build Environment	36.822,95 tn CO _{2e} /year	30.000.000 €



Home Energy Saving Program		End 2027			
Action BE_9 Recycle-Change of Water Heater	Municipality of Ioannina	Start 2023 End 2027	Build Environment	22.712,46 tn CO _{2e} /year	1.000.000 €
Action BE_10 Energy Upgrade of the Municipality's Building Stock through ESCOs	Municipality of Ioannina	Start 2024 End 2030	Build Environment	34.269,64 tn CO _{2e} /year	100.000.000 €
Action BE_11 Business Energy Saving Program	Municipality of Ioannina	Start 2023 End 2027	Build Environment	25.035,42 tn CO _{2e} /year	25.000.000 €
Action BE_12 Renovate - Energy Saving on monument buildings	Municipality of Ioannina	Start 2023 End 2027	Build Environment	25.035,42 tn CO _{2e} /year	30.000.000 €
Intervention Creation of a special Climate Change Unit under the Mayor (special office/unit)	Mayor of Municipality of Ioannina Municipality of Ioannina	-	-	-	-
Intervention Green Public Procurement	Municipality of Ioannina	-	-	-	-
Intervention Energy Manager in every municipal building	Municipality of Ioannina	-	-	-	-



Intervention Groups of Engineers per sector (neighborhood) of the city	Municipality of Ioannina	-	-	-	-
Intervention Incentives from the municipality for energy savings from businesses	Municipality of Ioannina	-	-	-	-
Intervention Seminars and workshops in different professional groups with the aim of informing on Energy Saving issues	Municipality of Ioannina	-	-	-	-
Intervention Actions to inform users of municipal buildings to improve behavior and optimal use of electromechanical equipment	Municipality of Ioannina	-	-	-	-
Intervention Student Awareness Actions	Municipality of Ioannina	-	-	-	-

6 Outlook and next steps

This section should draw any necessary conclusions on the Action Plan above and highlight next steps and plans for further refining the Action Plan as part of the Climate City Contract.

Plans for next CCC and Action Plan iteration – textual elements



The "2030 Climate Neutrality Action Plan" for the City of Ioannina, Greece, is a testament to the city's commitment to achieving climate neutrality by 2030. As we reflect on the strategies and actions outlined in the plan, it's essential to look ahead and consider the journey that lies before us.

Milestones for the Implementation Process:

1. **Initial Implementation (2024):** The year 2024 marks the commencement of the carefully planned initiatives outlined in the Action Plan for the Municipality of Ioannina. During this pivotal phase, the focus will be on setting the wheels in motion for these strategic endeavors.

Activities will include the deployment of key resources, the establishment of essential infrastructure, and the initial engagement of stakeholders. Concurrently, a preliminary assessment of progress will be conducted to gauge the early outcomes and ensure that the proposed initiatives align with the defined objectives. This stage lays the foundation for the comprehensive transformation towards climate neutrality and sets the trajectory for subsequent milestones.

2. **Mid-Term Review (2026):** Two years into the implementation of the Action Plan, the Municipality of Ioannina will undertake a comprehensive mid-term review. This critical juncture serves as a checkpoint to evaluate the progress made towards achieving climate neutrality. During the Mid-Term Review in 2026, a meticulous examination of the results achieved thus far will take place. This includes a thorough analysis of both quantitative data and qualitative feedback from all the actions and initiatives that implemented in that period.
3. **Preparation for Final Phase (2028):** The year 2028 serves as a period of intense preparation for the Final Review in 2030. During this time, the Municipality will work diligently to finalize any outstanding projects, assess the performance of ongoing initiatives, and address any unforeseen challenges that may have arisen. In essence, this phase will serve as the bridge between the Action Plan's implementation and the comprehensive review in 2030. It is essential to ensure that all elements of the plan are executed effectively and that the Municipality remains on track to achieve its climate neutrality goals.

Needs for Further Improvement:

- **Participatory model or platform :** Stakeholder engagement and collaboration stand at the forefront of our efforts to attain climate neutrality in the Municipality of Ioannina. Currently, discussions among various stakeholders are actively underway to determine the most effective and inclusive participatory model or platform. The goal is to establish a robust framework that not only embraces the diversity of perspectives and expertise within our community but also fosters a sense of shared responsibility in addressing climate change.

These discussions encompass a wide array of stakeholders, including local government officials, community leaders, environmental organizations, businesses, academic institutions, and concerned citizens. Each stakeholder group brings unique insights, resources, and strengths to the table, making this a truly comprehensive endeavor.

The process of selecting the primary participatory model or platform is a dynamic one, where ideas are exchanged, and proposals are carefully considered. It is expected that substantial progress in this regard will be achieved during the first half of 2024, marking a pivotal moment in our journey towards climate neutrality.

The chosen participatory model or platform will serve as the cornerstone of our climate action strategy, enabling us to harness collective wisdom, mobilize resources, and implement initiatives that resonate with the values and aspirations of our community. Through this



collaborative approach, we aim to forge a resilient path toward climate neutrality, ensuring a sustainable and prosperous future for the Municipality of Ioannina.

- **Data Integration:** The approach to data integration is multi-faceted. We recognize that the landscape of climate-related data is dynamic and constantly evolving. Therefore, we have established robust mechanisms to source, evaluate, and integrate new data seamlessly into our Action Plan. This approach guarantees that our strategies and actions remain aligned with the most accurate, up-to-date, and relevant information available.

Furthermore, the data integration process is characterized by transparency and accountability. We maintain open lines of communication with relevant stakeholders, data providers, and experts to facilitate a constant exchange of knowledge. This collaborative effort not only enriches our dataset but also fosters a culture of data-driven decision-making.

- **Stakeholder Engagement Enhancement:** At its core, our approach to enhancing stakeholder engagement is rooted in inclusivity, transparency, and responsiveness. We are committed to creating a platform where every voice is not only heard but also valued. Feedback, insights, and perspectives from our diverse stakeholders serve as invaluable resources that guide and shape our climate action strategies.

We acknowledge that the landscape of climate action is multifaceted, with a myriad of complex challenges and opportunities. Therefore, we are continually refining our engagement processes to ensure that we not only invite but actively seek the input of our stakeholders. This involves developing innovative methods of engagement, harnessing digital technologies, and conducting regular consultations, surveys, and public forums.

Furthermore, we recognize that meaningful engagement extends beyond just receiving feedback; it encompasses our responsibility to respond and adapt to the inputs received. We are committed to incorporating stakeholder feedback into our decision-making processes, thereby fostering a sense of co-ownership in our climate initiatives.

- **Addressing Technical Challenges:** Our approach to addressing technical challenges begins with a recognition that embracing new technologies may necessitate adjustments to existing systems, infrastructures, and processes. We are committed to conducting detailed feasibility studies and impact assessments to identify potential roadblocks and ensure seamless integration of new technologies.

Furthermore, we understand that each project may come with its unique set of technical intricacies. Therefore, our methodology involves assembling cross-functional teams with diverse expertise, including technical specialists, engineers, environmental scientists, and local experts. This collaborative approach allows us to comprehensively evaluate potential challenges and develop innovative solutions.

- **Financial Clarity:** At the heart of our approach is the commitment to transparent financial governance. This entails clearly defined financial agreements that outline the scope, scale, and duration of investments and funding sources. These agreements serve as a contractual foundation that ensures all parties involved are aligned on their respective roles and obligations.

Timelines are equally vital in our pursuit of financial clarity. We understand that time is often a critical factor in the successful implementation of climate initiatives. As such, we are dedicated to setting realistic and achievable timelines for each phase of our projects, from planning and funding acquisition to execution and completion. This approach not only helps us manage expectations but also fosters accountability among stakeholders.



- **Monitoring and Verification:** By closely monitoring progress, we can promptly identify areas where adjustments or improvements are needed. This adaptive management approach ensures that our efforts remain aligned with our goals and deliver the intended results.

It provides the necessary validation for the anticipated benefits of our actions. Through transparent and verifiable data, we can demonstrate the positive impact of our climate initiatives. This not only builds trust within our community and among our partners but also allows us to celebrate and communicate our achievements effectively.

- **Regulatory Considerations:** Our approach hinges on a thorough understanding of the legal landscape surrounding our initiatives. We will conduct comprehensive assessments to identify any potential regulatory hurdles or constraints that may arise during the implementation of our climate actions. These assessments will encompass a wide spectrum of legal factors, including zoning laws, building codes, environmental regulations, and heritage preservation mandates.

By proactively addressing regulatory considerations, we ensure that our actions align seamlessly with the existing legal framework. This proactive stance not only minimizes delays and complications but also upholds the integrity of our initiatives.

- **Capacity Building:** Our commitment extends to regular and tailored training sessions, designed to empower municipal staff and stakeholders with the knowledge and skills necessary for effective participation in our initiatives. These training programs will be carefully curated to address the specific needs and challenges associated with each climate action.

These training sessions will encompass a wide range of topics, including the latest developments in sustainable technologies, climate policy, and best practices for reducing greenhouse gas emissions.

- **Qualitative Indicators:** As part of our forward strategy, we will be developing qualitative indicators. These indicators will encompass various aspects such as the number of electric vehicles in our municipality, the size of our workforce, and more. These indicators will serve as essential monitoring tools to gauge the progress of our initiatives, aligning with the actions we have proposed in our plan.
- **Monitoring Team:** In the upcoming phases, a pivotal stride will be the formation of a dedicated monitoring team within the Municipality of Ioannina. This team will be entrusted with a primary mission: to meticulously oversee and evaluate the advancement of both quantitative and qualitative indicators.
- **Climate Change Unit:** One of the imminent milestones in our journey towards climate neutrality is the establishment of a dedicated Climate Change Unit, operating directly under the office of the Mayor. This specialized unit is envisioned to play a pivotal role in bolstering the municipality's efforts in designing and executing comprehensive programs, strategic plans, and targeted interventions across various sectors of action aimed at achieving climate neutrality.
- **Indicators Deliverables:** There is an ongoing process to deliberate and define key indicator deliverables. It is estimated that process will end in the early months of 2024.

In subsequent iterations of the Climate City Contract, these needs will be at the forefront. The City of Ioannina is committed to learning, adapting, and refining its strategies to ensure the successful realization of its climate neutrality goals.



7 Annexes

Add any textual or visual material to the 2030 Climate Neutrality Action Plan in the ANNEX as necessary.

7.1 Appendix I: Citizen's questionnaire

7.2 Appendix II: Letters of Support

7.3 Appendix III: Mobility & transport planning

7.4 Appendix IV: Individual Actions Outline

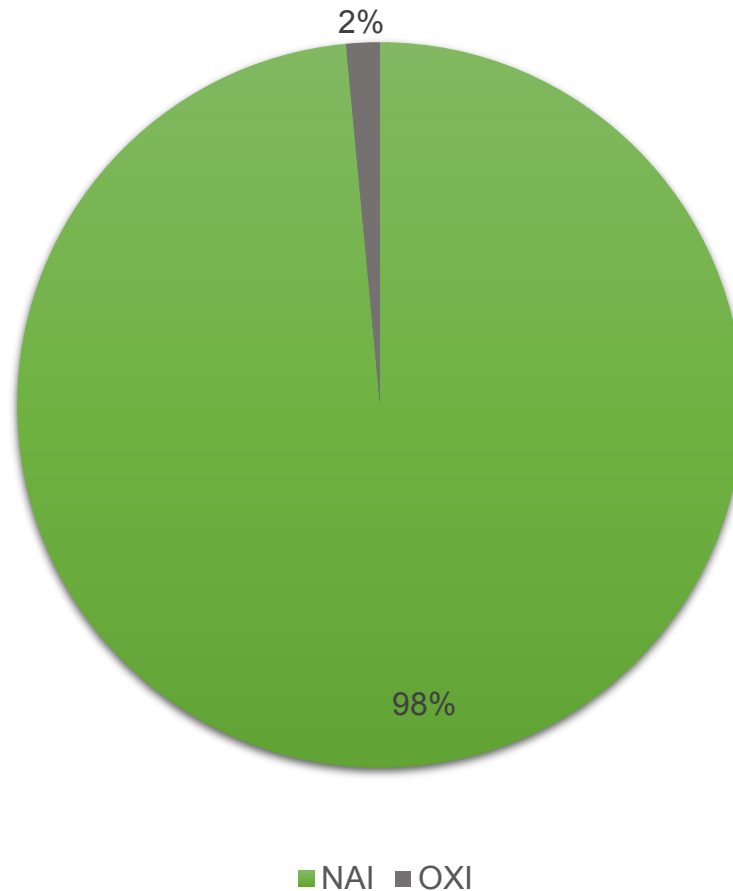
7.5 Appendix V: Indicator Metadata



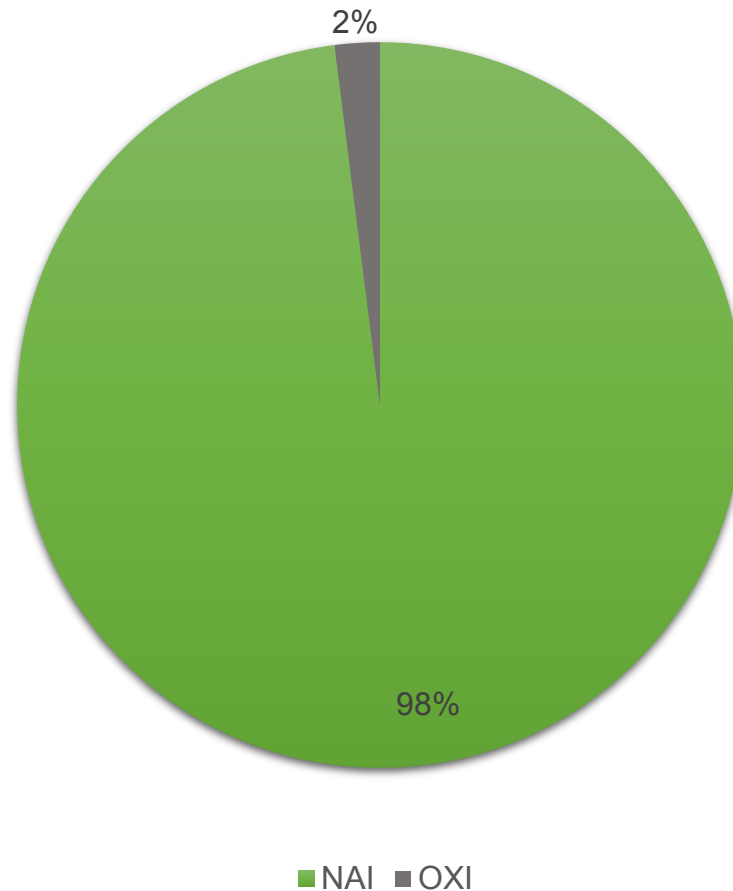
Κλιματικά ουδέτερη και έξυπνη πόλη.

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΙΟΑΝΝΙΝΑ 2030

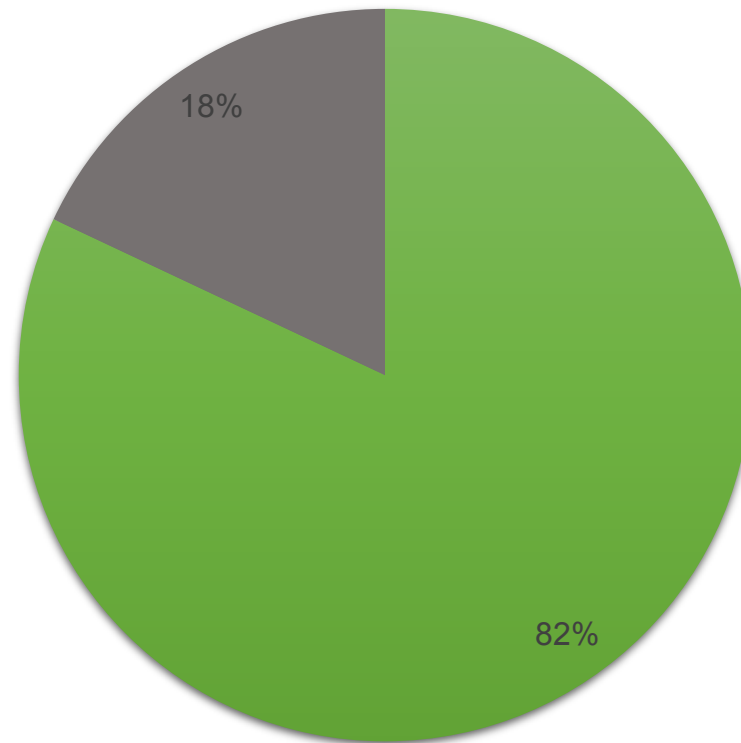
1. Ποια είναι η γνώμη σας για την κλιματική αλλαγή; Πρέπει να δράσουμε άμεσα για την αντιμετώπιση της;



2. Συμφωνείτε με την πρωτοβουλία του Δήμου μας να οδηγήσουμε μαζί τα Ιωάννινα προς την κλιματική ουδετερότητα μέχρι το 2030;

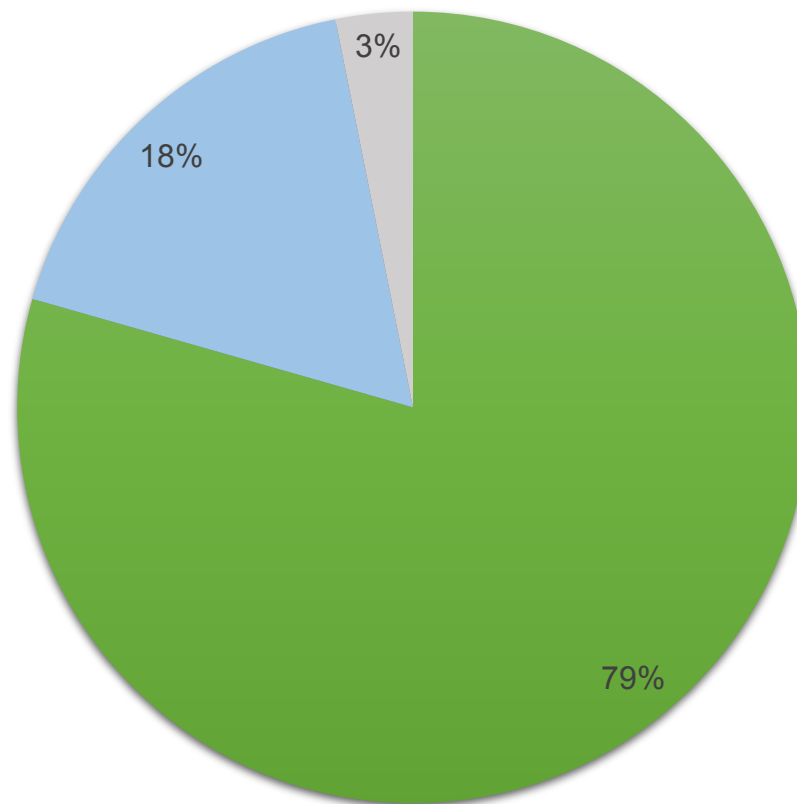


3. Πιστεύετε ότι είναι εφικτή η κλιματική ουδετερότητα για τα Ιωάννινα μέχρι το 2030 αν συμμετέχουμε όλοι σε αυτήν την προσπάθεια;



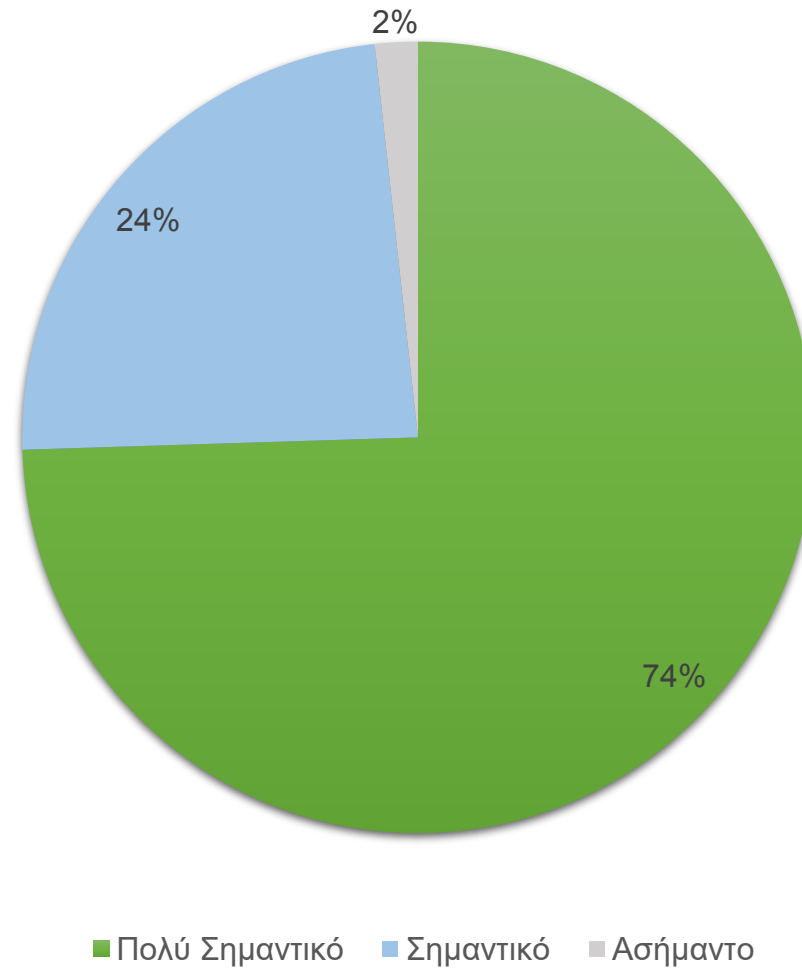
■ ΝΑΙ ■ ΟΧΙ

4. Διαπλάτυνση πεζοδρομίων και ζώνες ήπιας κυκλοφορίας

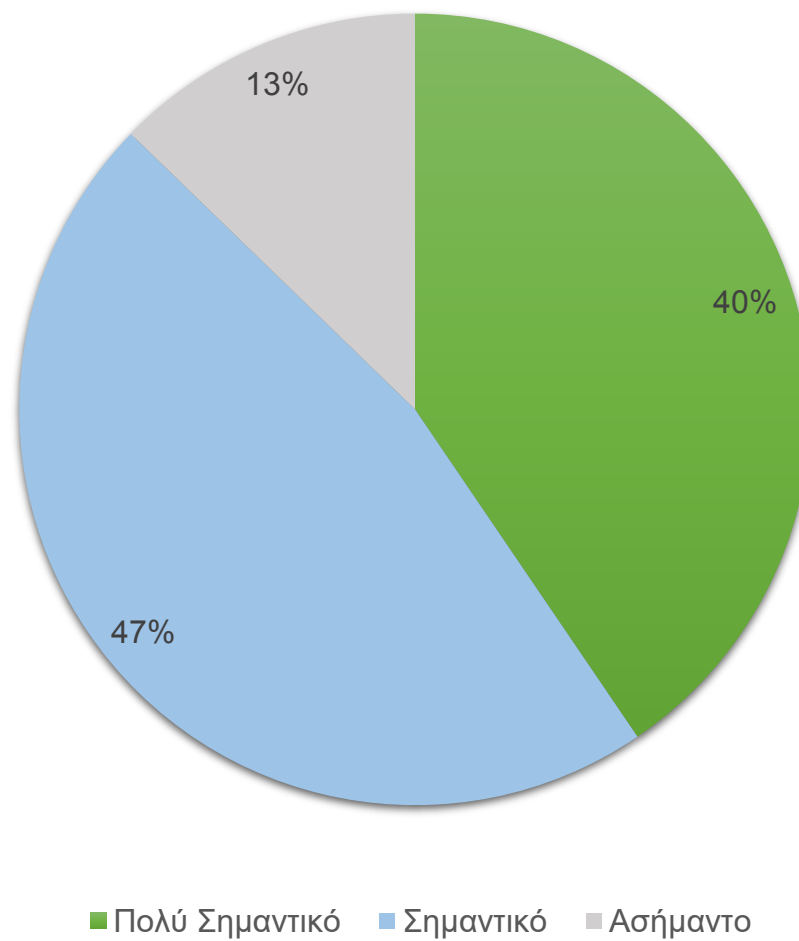


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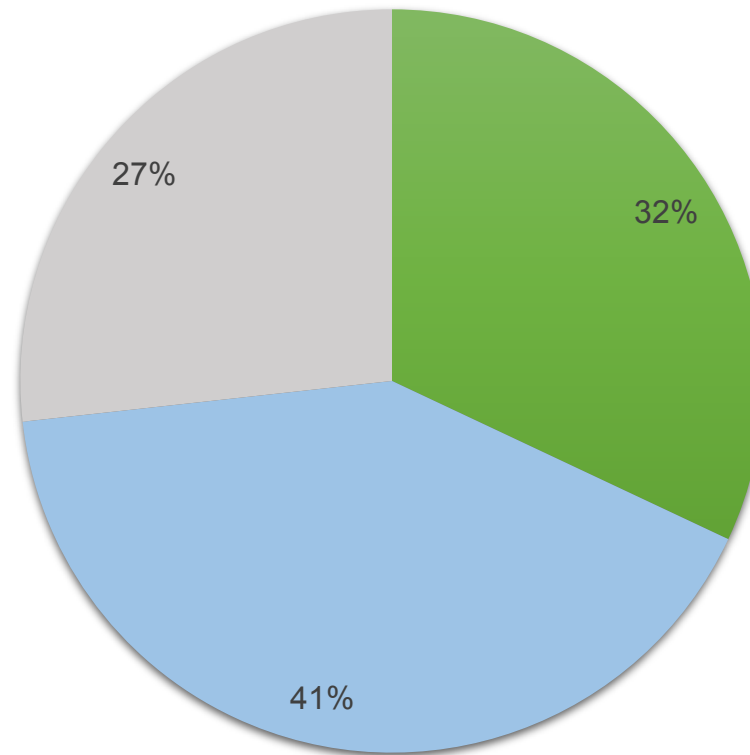
5. Δημιουργία δικτύου πεζόδρομων και ποδηλατόδρομων



6. Δημιουργία δικτύου δανεισμού ηλεκτρικών ποδηλάτων

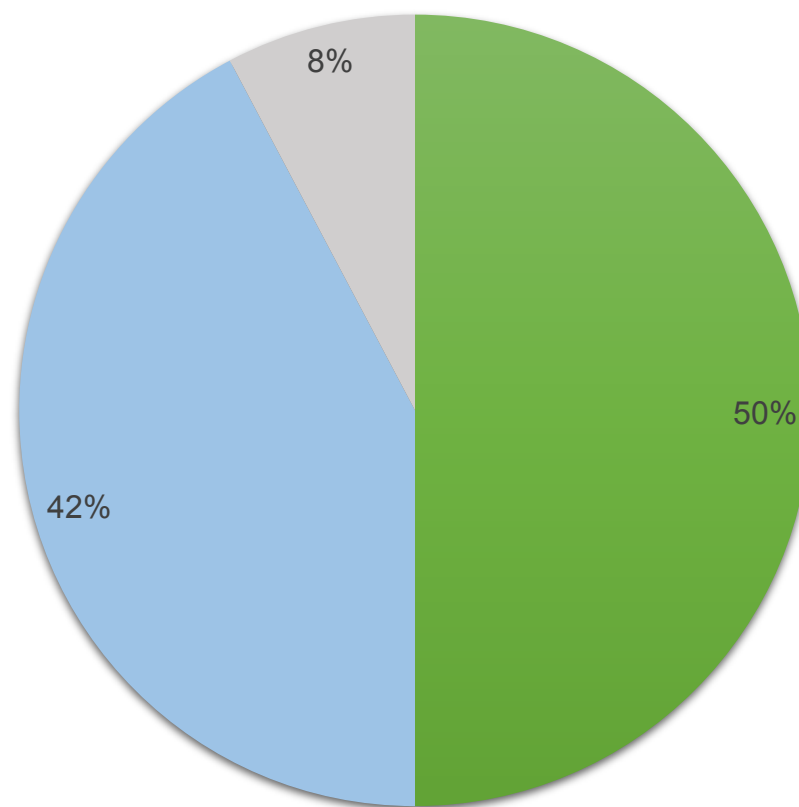


7. Εγκατάσταση δημόσιων ανελκυστήρων για την διευκόλυνση της μετακίνησης πεζών από/προς περιοχές με υψομετρικές διαφορές



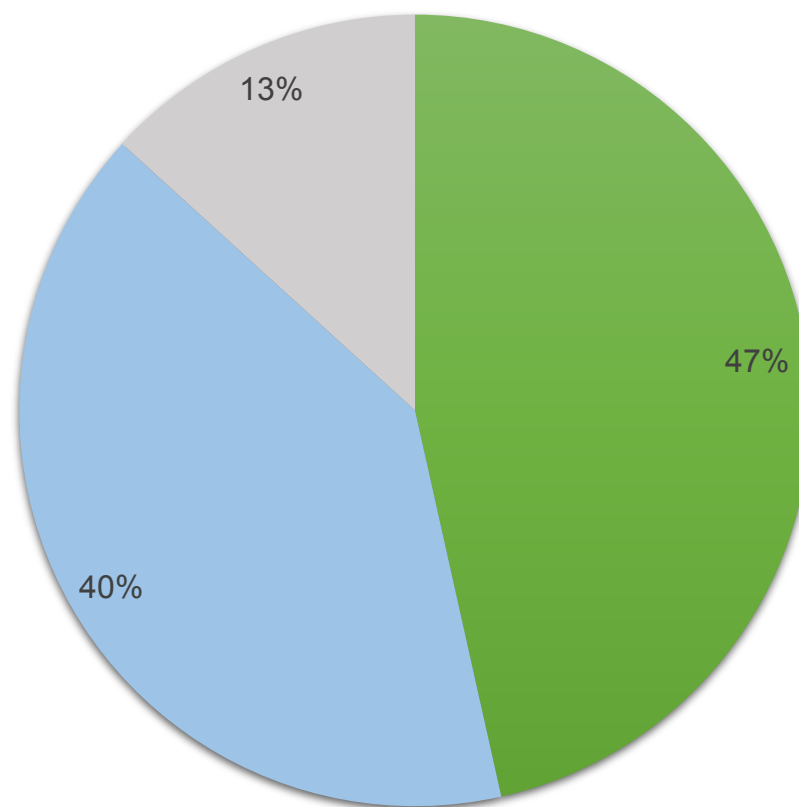
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8. Στροφή προς την ηλεκτροκίνηση



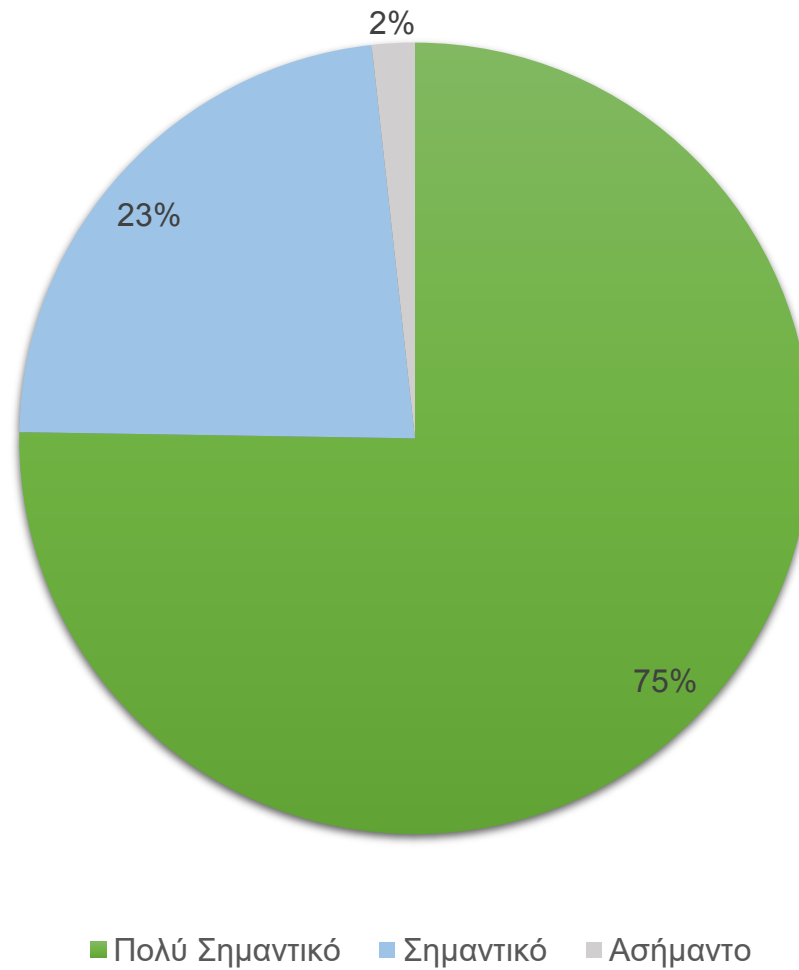
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9. Δημιουργία ζωνών ελεγχόμενης στάθμευσης

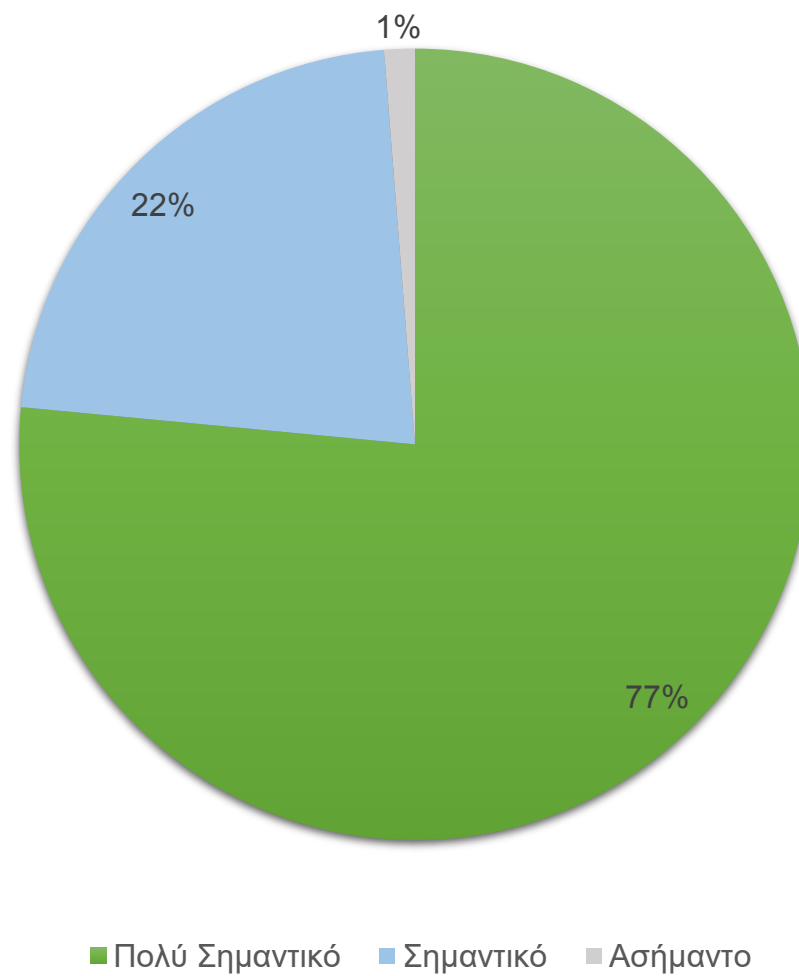


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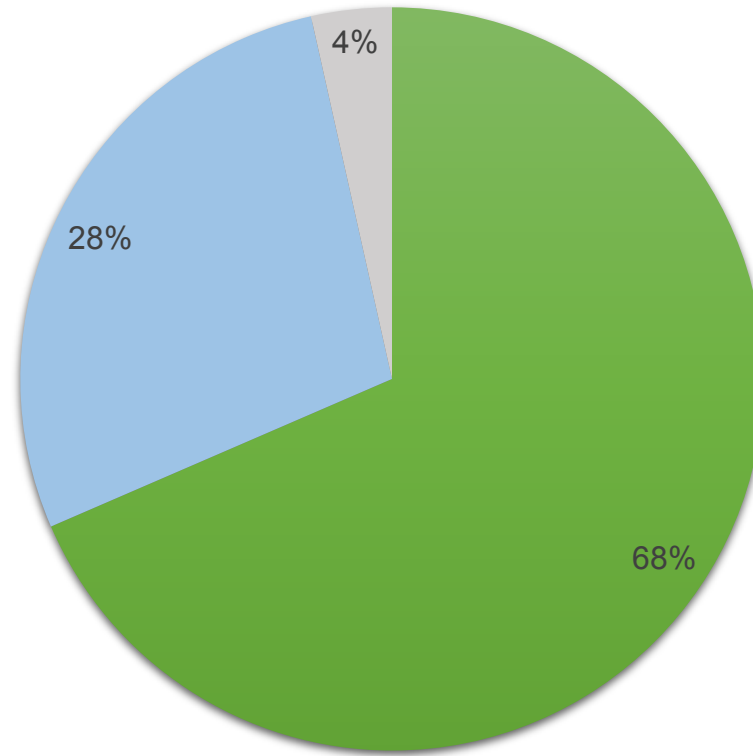
10. Αύξηση και αναβάθμιση των αστικών συγκοινωνιών



11. Ενεργειακή αναβάθμιση όλων των κατοικιών

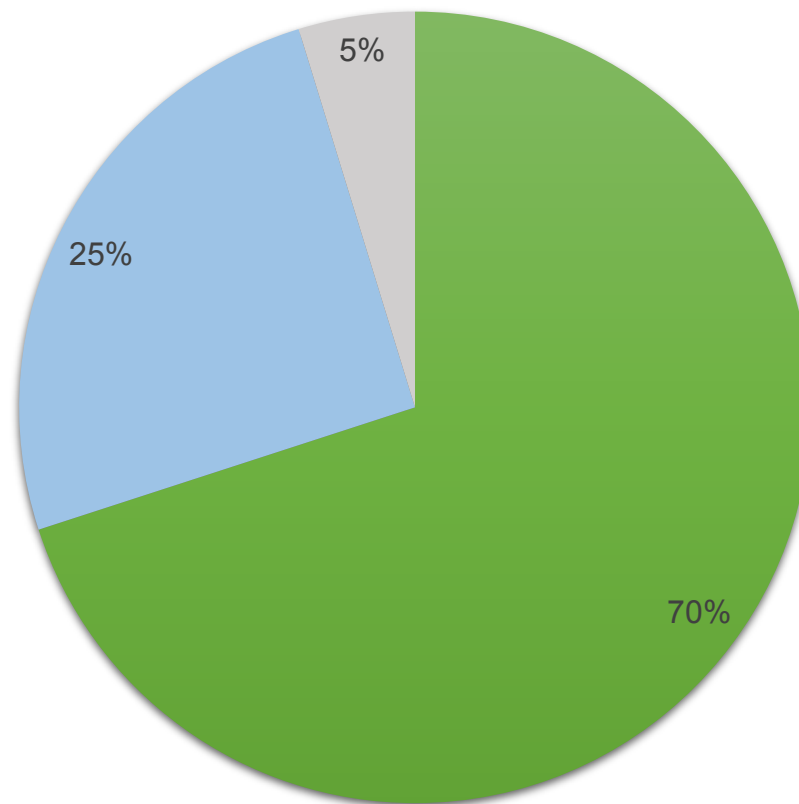


12. Αποκλειστική χρήση οικολογικών συστημάτων θέρμανσης και ψύξης σε όλα τα κτήρια



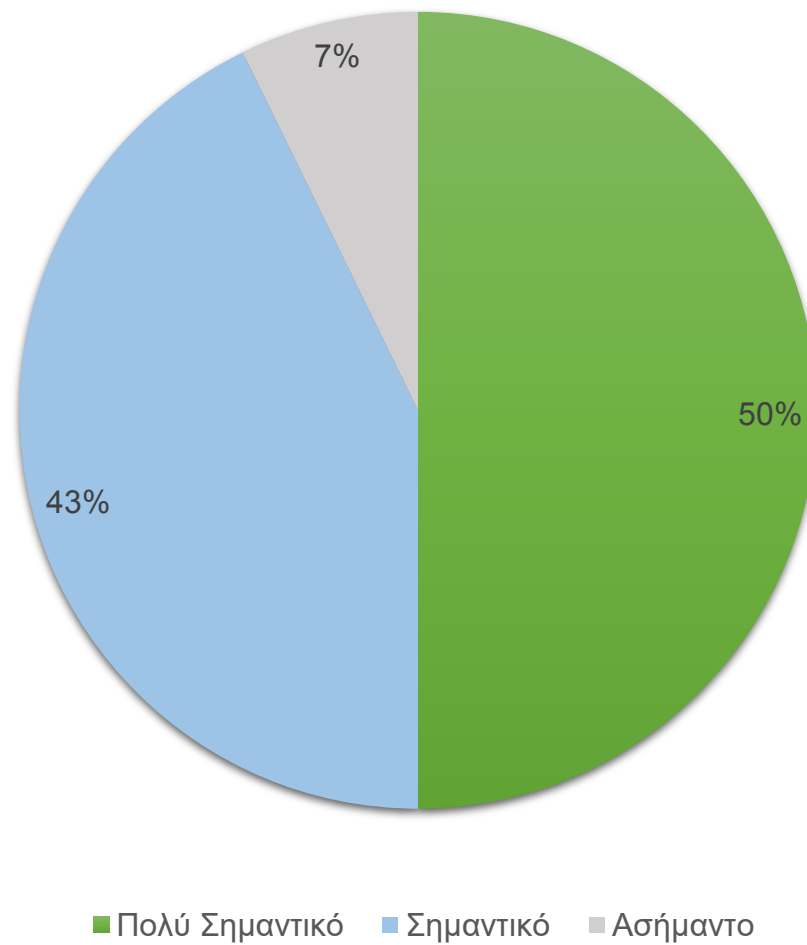
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13. Αποκλειστική στροφή προς τις ανανεώσιμες πηγές ενέργειας

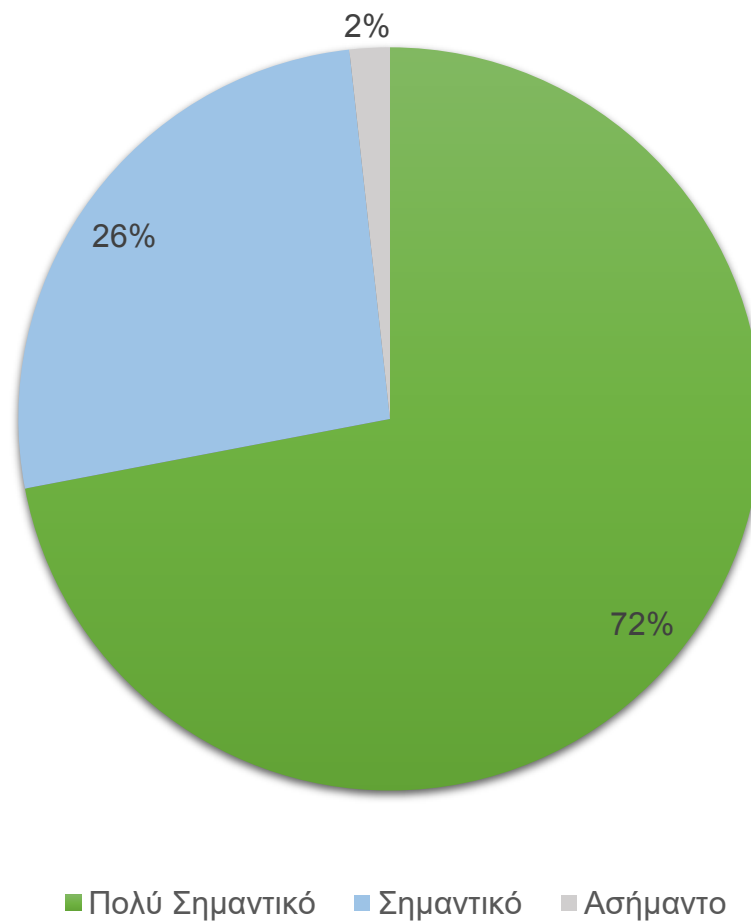


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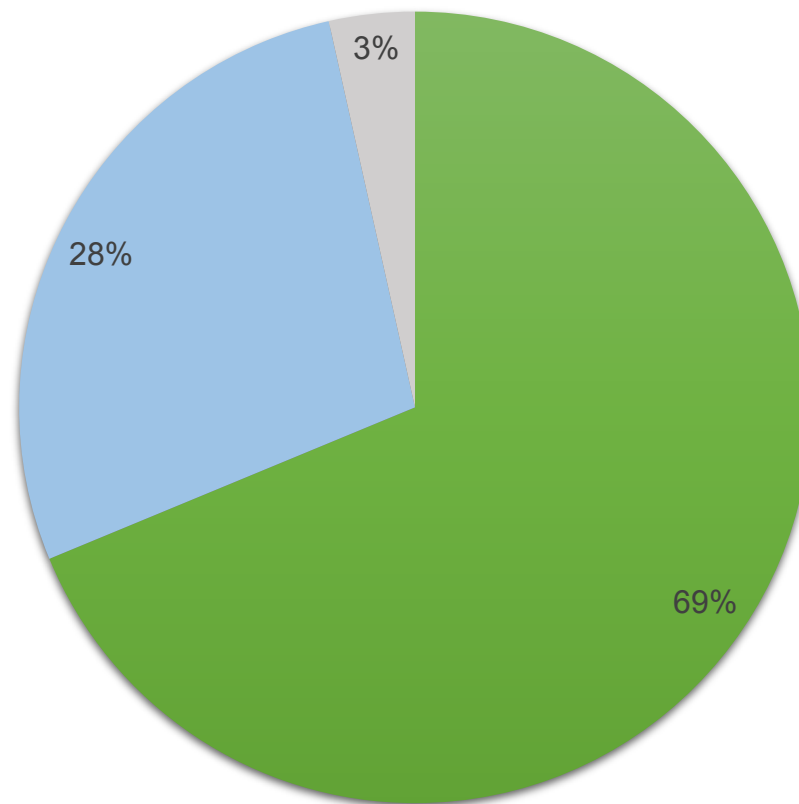
14. Τοποθέτηση κάδων κομποστοποίησης σε όλες τις κουζίνες, μπαλκόνια, αυλές



15. Ανακύκλωση του συνόλου των σκουπιδιών και τοπική επανάχρηση π.χ. των οικοδομικών υλικών

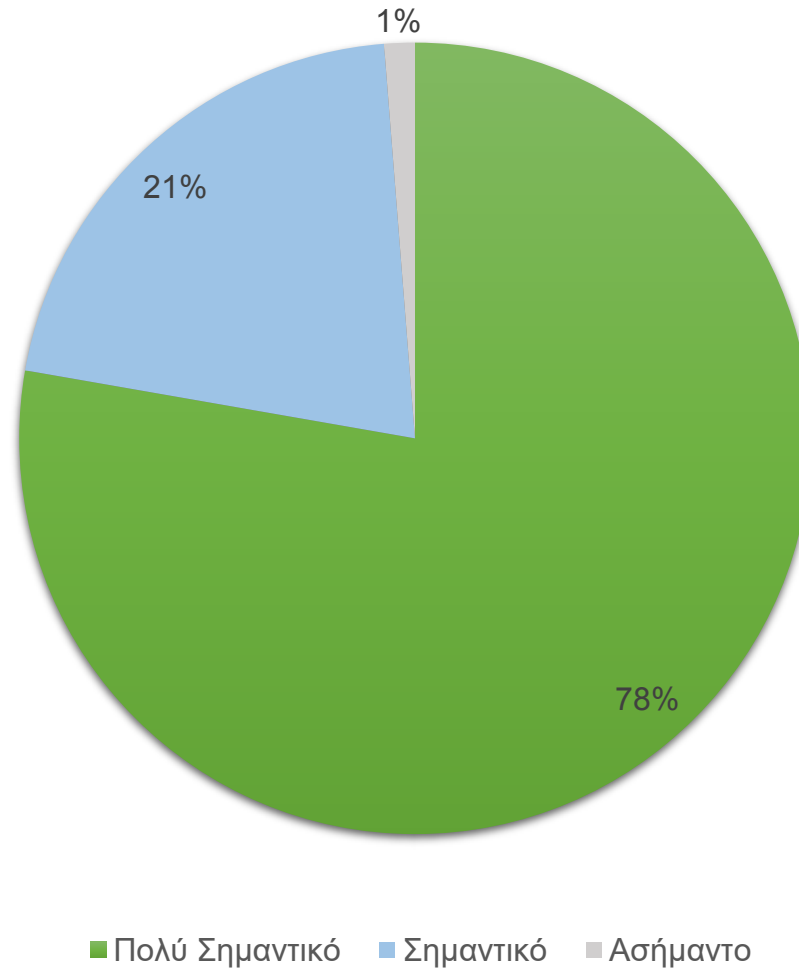


16. Παραγωγή ενέργειας από απορρίμματα και απόβλητα

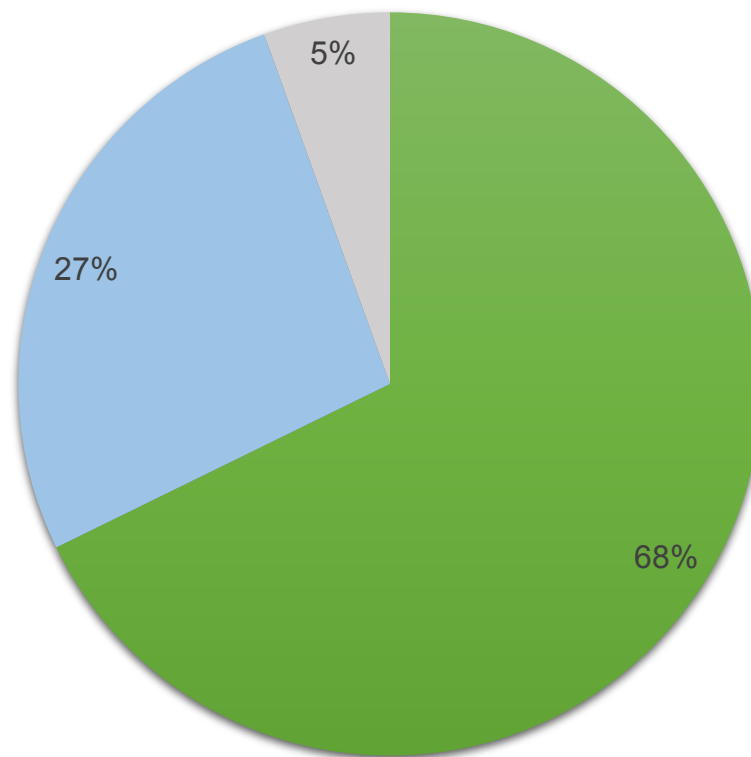


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17. Δημιουργία δικτύου χώρων πρασίνου και δεντροστοιχισμένων δρόμων

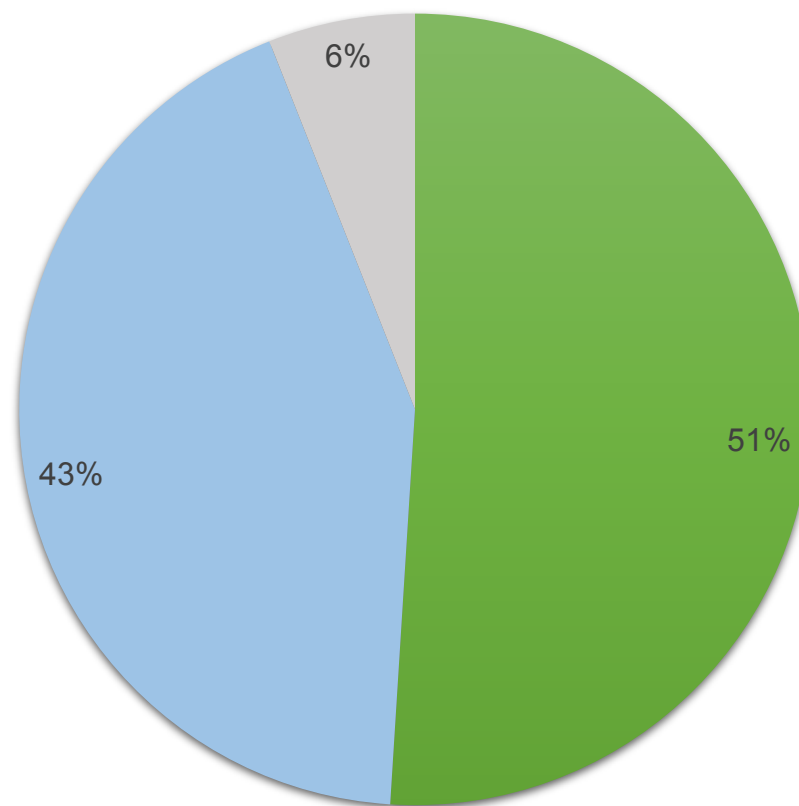


18. Δημιουργία μιας νέας πλατείας ή ενός νέου χώρου πρασίνου σε κάθε γειτονιά



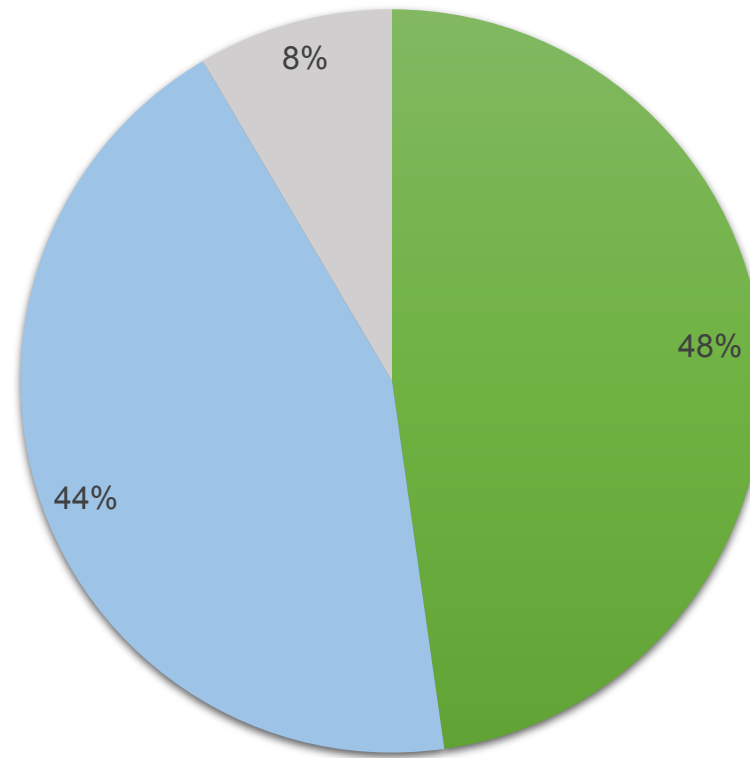
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19. Στροφή στον ήπιο, οικολογικό και ποιοτικό τουρισμό



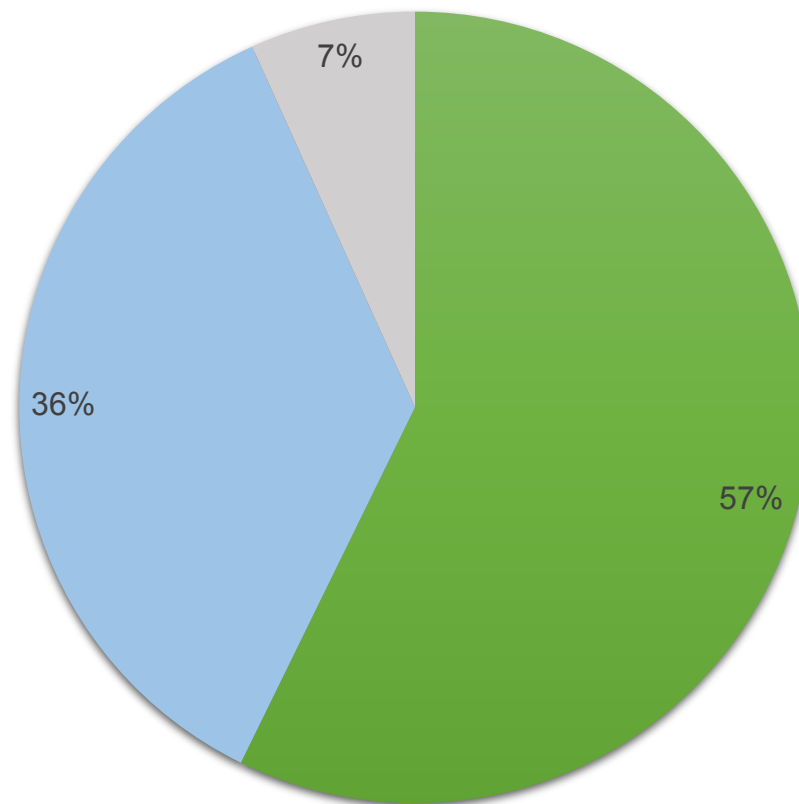
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20. Στροφή στον εθελοντισμό, π.χ. η δημιουργία δικτύου εθελοντών για την φροντίδα των δασών και την πυροπροστασία



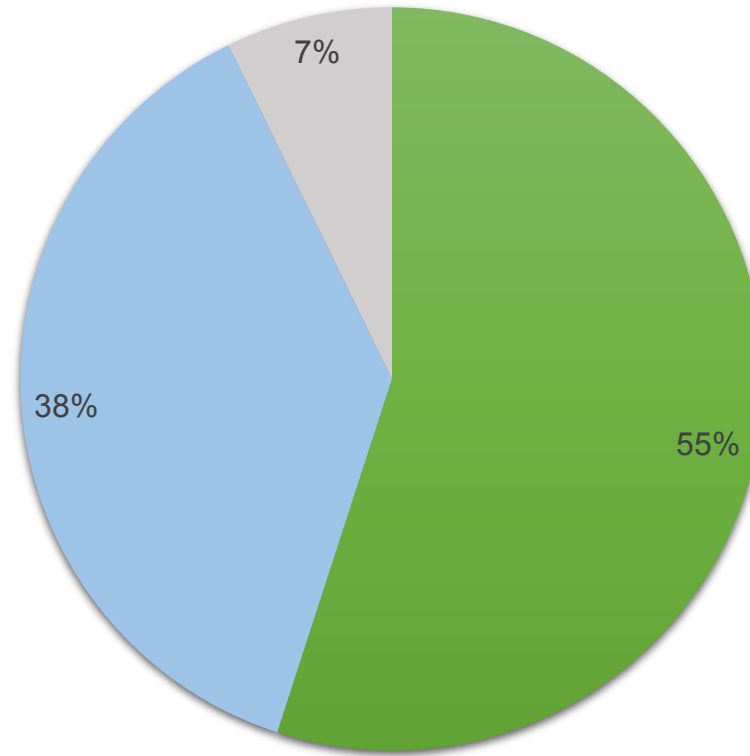
■ Πολύ Σημαντικό ■ Σημαντικό ■ Ασήμαντο

21. Συστηματική εκπαίδευση για την αποφυγή της υπερκατανάλωσης



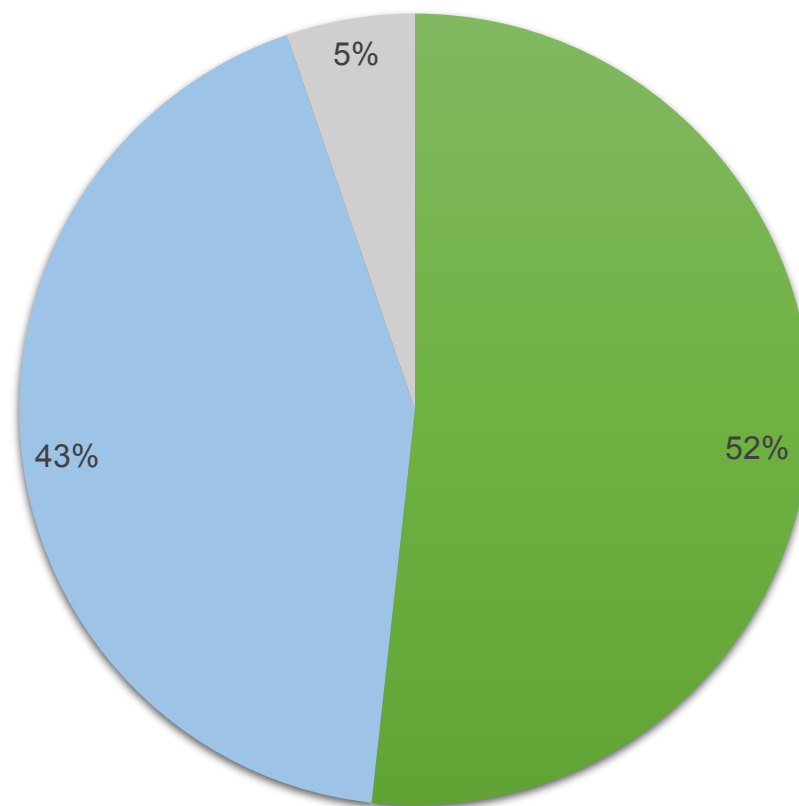
■ Πολύ Σημαντικό ■ Σημαντικό ■ Ασήμαντο

22. Παροχή εναλλακτικών λύσεων και η συστηματική αποφυγή χρήσης αυτοκινήτου για μετακινήσεις εντός της πόλης



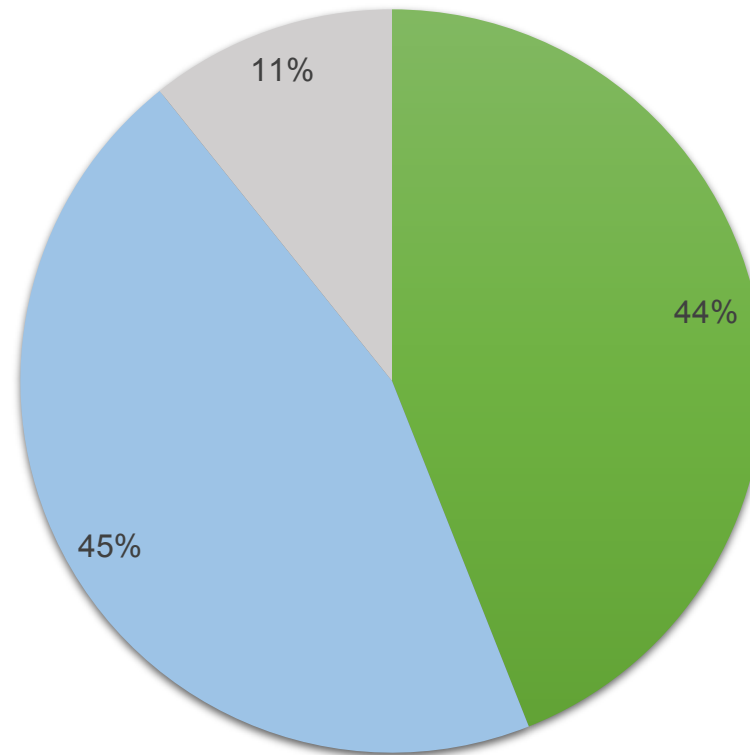
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23. Ελαχιστοποίηση της χρήσης συσκευασιών



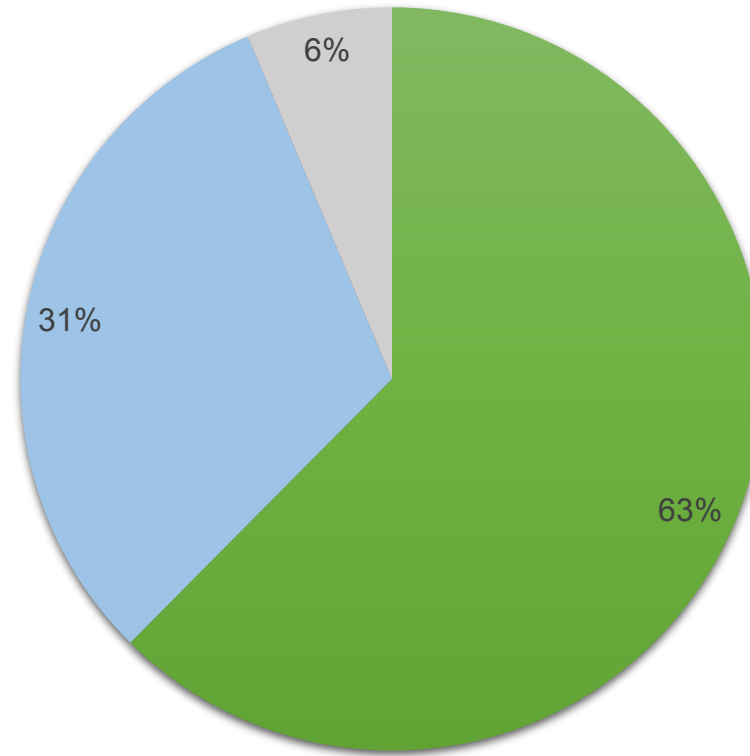
■ Πολύ Σημαντικό ■ Σημαντικό ■ Ασήμαντο

24. Δημιουργία τοπικού συστήματος/δικτύου deliveries με αποκλειστικώς ηλεκτροκινούμενα δίκυκλα/τρίκυκλα οχήματα



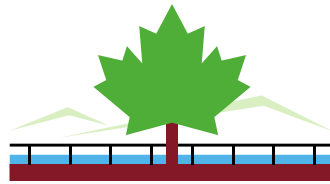
■ Πολύ Σημαντικό ■ Σημαντικό ■ Ασήμαντο

25. Στροφή προς συμπεριφορές αλληλέγγυες με το κοινωνικό σύνολο και τις μελλοντικές γενιές



■ Πολύ Σημαντικό ■ Σημαντικό ■ Ασήμαντο





Thank You

Ioannina 2030

Mobility & transport



INTRODUCTION

Ioannina aims to become a Climate-Neutral and Smart City by 2030. A revolution in transportation and a shift towards sustainable and zero-emission mobility is the key to achieving this goal. **This revolution demands systemic, deep and structural changes in the transport sector** and will be coproduced with citizens and stakeholders. This action plan builds on existing plans, strategies, collaborations and commitments (SUMP, cycle network workshops, VAA strategy etc.). It focuses on emissions for which the city of Ioannina is directly responsible and partly on emissions that it is responsible for beyond its borders.



PURPOSE

Transportation and mobility sector focuses on making mobility climate neutral. The roadmap has previously explained the path towards achieving it. This action plan breaks down the strategy into 15 different actions and projects and identifies the scale, the impact pathway, the implementation and the involved stakeholders.

Critical data & targets

- >> population 112.486 (municipality)
- >> 38.803 households with 94.809 people (2,4 people/household)
- >> 45.534 private cars in the municipality (39.588 in the SUMP area and 25.000 in the city of Ioannina)
- >> 21.336 private car parking spaces // 19.456 in the SUMP study area)

- >>> SUMP (2021) target
 - 52 km bike lanes
 - 27 km pedestrian streets
 - 29 km streets with proper sidewalks
 - 32,5 km traffic calmed streets

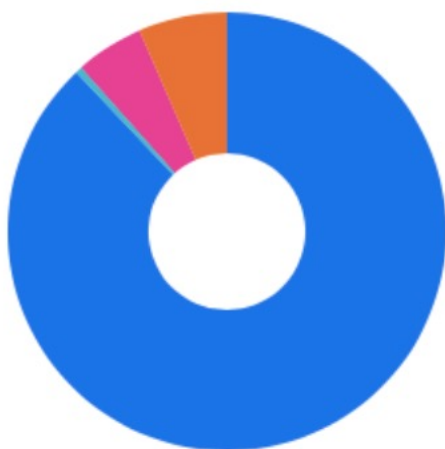
- >>> SUMP target 12% public transport

- >>> **New Cycle Network plan 2023:** 30km of separated cycle lanes, >21km traffic calmed streets, >19km new pedestrian streets, 11km new cycle lanes in pedestrian street

- >>> 250 shared bikes

Mode split

% of total distance traveled in 2022

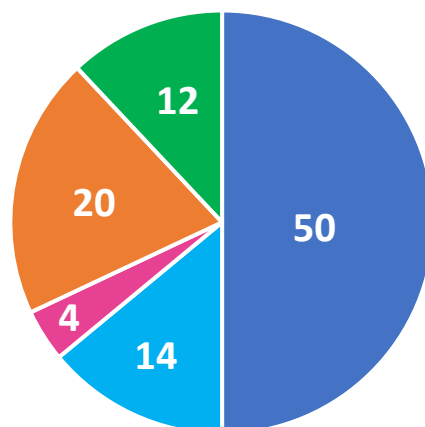


● Automobile ● Cycling ● Motorcycle
● On foot

2030 Target



Mode Split 2030



■ automobile - EV ■ cycling - Ebike
■ motorcycle ■ on foot
■ E- public transport


B-2.1: Description of action portfolios - textual or visual

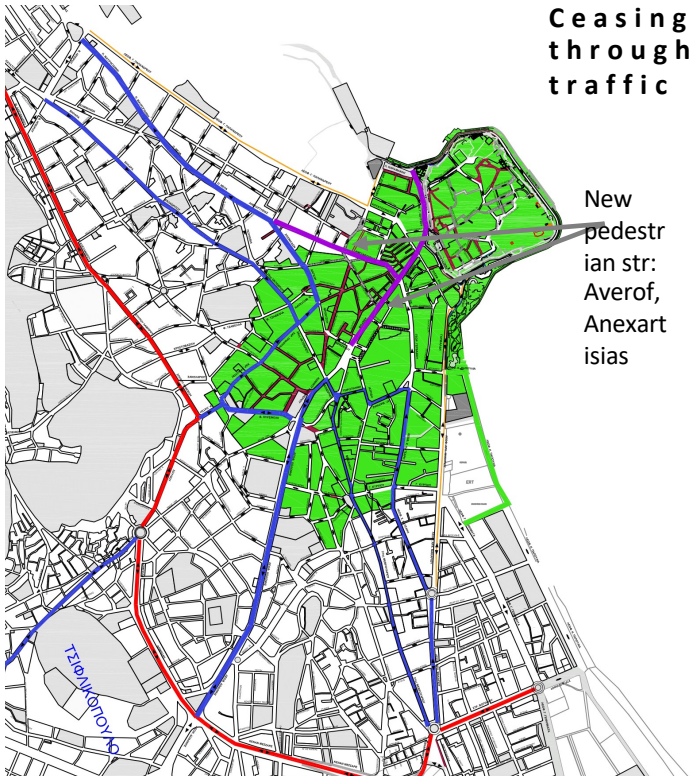
Fields of action	Portfolio description	Descriptions
Mobility & transport	List of actions	
	1. Walking and cycling: a push towards a real sustainable modal shift	<p>The action aims to increase active mobility infrastructure and boost walking and cycling as commuting modes. Increase of pedestrian streets in the CC and the neighborhoods, increase of the city's sidewalks in major roads, cycle lanes and traffic calmed streets shall be at the core of the city's new image. Reducing car travel by 20% will be achieved through investing in new active mobility infrastructure and policies, tightening car policies and freedoms etc.</p> <p>This action includes various projects, both common regeneration infrastructure and soft/ hard policy measures. The key aim is to create a car-free downtown and vivid neighborhoods that limit car-presence and pollution. Cyclist- and pedestrian- friendly streets and complementary infrastructure and policies promoting active mobility will act as the drivers in changing mobility habits.</p>
	2. Greening the bus fleet and strengthening the public transport role	<p>The action includes the upgrade of the current bus fleet with cleaner (electric, hydrogen etc) vehicles and the upgrade of the overall service level of the public transport. On-demand transportation services, new bus circulation plans, mini-bus services for the CC. KTEL of Ioannina (sole public transport operator) is the key stakeholder to apply the needed changes in accordance to the city's needs.</p> <p>This action includes sub-projects- as thoroughly examined and approved through Ioannina's Sustainable Urban Mobility Plan (SUMP) - such as the re-routing of bus lines with three (3) core axis and eight (8) routes serving the dense CC and the surrounding urban areas. It also includes the fleet replacement with a local scheme for buses and EV chargers for fast charging in the city.</p> <p>A landmark project that is also adopted is the development of a new Cable car service linking disconnected areas.</p>
	3. Low to zero emission zones: Thorough and JUST transition for pilot zones	<p>This action sets out the key steps to gradually apply a LEZ/ ZEZ scheme in three pilot zones in the city. The city center, the island and the university campus take the lead and by 2025 present replicable results to the rest of the city. By 2028 and 2030 more and more areas apply restrictions related to GHG emissions and car-circulation. Emphasis is given on policies to ensure a just transition, while also develop a medium-term plan to ban diesel vehicles and all ICE vehicles in the city. The suggested UVAR schemes are in accordance with the overall SUMP strategy for a car-free downtown and green- University Campus, while also focuses on altering the norms in the high and middle-density districts of the city.</p>

B-2.1: Description of action portfolios - textual or visual

Fields of action	Portfolio description	
Mobility & transport	List of actions	Descriptions
	4. Less cars- cleaner cars	<p>This action is at the core of urban mobility strategy and aims to assist the overall urban redevelopment by limiting car presence and boosting e-mobility with a comprehensive and extended EV chargers' network. The action takes into account the 'avoid-shift-improve' approach and deploys a new policy paradigm for the city. This network goes along with incentivizing private car users to minimize the use of conventional cars/ motorcycles and/ or replace their vehicles with cleaner ones that fully or partially run on electricity, such as battery electric vehicles or plug-in hybrid electric vehicles.</p> <p>Moreover the action deals with the replacement of city-owned fossil fuel vehicles fleet with green vehicles and other policies and practices that limit internal combustion engine vehicles' circulation in the city.</p>
	5. Cleaning and strengthening waterborne transportation	<p>This action aims to increase the role of waterborne transportation by adding services and ease the replacement of diesel boats serving currently the connection between the city and the island. Lake Pamvotis can become an extra transportation corridor for connecting different areas of the city and the overall Ioannina conurbation with currently limited access to public transit through clean, electric and fast taxi-boats</p>
	6. Greening logistics. A new era in goods transportation	<p>This action aims to reduce urban freight emissions through regulatory schemes that promote clear timetables, encourage clean vehicles, promote cargo bikes and infrastructure that allow for this transition. Smaller, cleaner and quieter vehicles shall deliver goods in the conurbation of Ioannina with the support of UCCs and loading/unloading platforms. Replacing ICE van and lorries entering the city will directly have an impact on local health and pollution, while also for vehicles serving the overall logistics chain which will allow for lowering emissions beyond our borders.</p>
	7. Using Sustainable Transportation on waste collection	<p>This action aims to build on the existing waste strategy and rearrange waste collection with cleaner and smaller vehicles. The action includes projects such as smart waste collection system, supply of new waste collection vehicles (EVs) etc. Needed changes include;</p> <ul style="list-style-type: none"> - Structural changes for - National scale supported by local actions - Administrative changes for – both national and Local scale,

B-2.2: Individual action outlines // 1. Walking and cycling: a push towards a real sustainable modal shift
1 A – Boosting walking

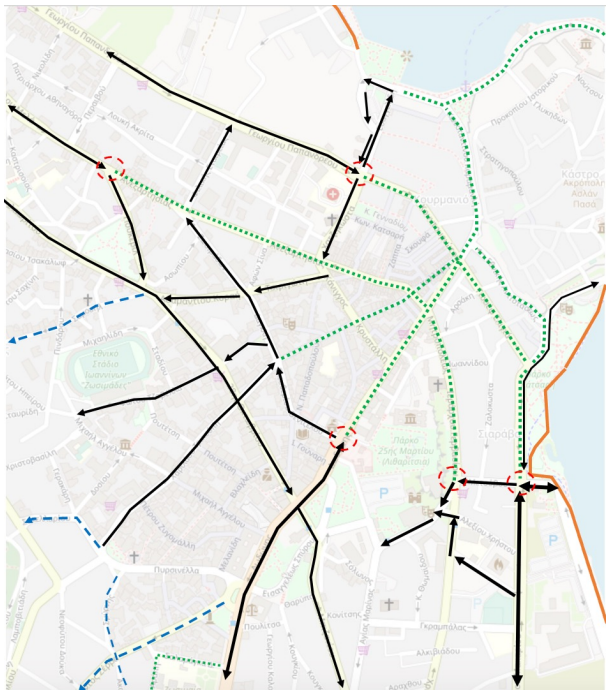
	Action name	<p>1. Walking and cycling: a push towards a real sustainable modal shift</p> <p><u>1 A – Boosting walking as a commuting mode</u></p>
	Action type	<p>Physical/ spatial interventions</p> <p>Infrastructure</p>
	Action description	<p>1A. Boosting walking as a commuting mode & 1B. Enhancing cycling as a commuting mode. The action aims to increase active mobility infrastructure and boost walking and cycling as commuting modes. Increase of pedestrian streets in the CC and the neighborhoods, increase of the city's sidewalks in major roads, cycle lanes and traffic calmed streets shall be at the core of the city's new image. Reducing car travel by 20% will be achieved through investing in new active mobility infrastructure and policies, tightening car policies and freedoms etc. This action includes various projects, both common regeneration infrastructure and soft/ hard policy measures. The key aim is to create a car-free downtown and vivid neighborhoods that limit car-presence and pollution. Cyclist- and pedestrian- friendly streets and complementary infrastructure and policies promoting active mobility will act as the drivers in changing mobility habits. 1A. Boosting walking as a commuting mode includes projects that aim to a) activate urban plans and implement foreseen pedestrian streets (+ number of KM provided), b) implement new emblematic pedestrian and cycle-friendly streets as demonstrated in the SUMP (i.e. Averof Str.), and c) apply street regeneration schemes for traffic calming and accessibility enhancement for new sidewalks, equipment for disabled people. Some of the strategic interventions are demonstrated in the following graphs/maps;</p>
Reference to impact pathway	Field of action	Mobility & Transport
	Systemic lever	
	Outcome (according to module B-1.1)	<p>Reducing car travel share by 20%</p> <p>Increasing walking share at 20%</p> <p>Increasing cycling share at 14%</p> <p>Reducing air and noise pollution from ICE vehicles, road traffic, delays, travel fatigue while increasing road capacity and functionality, Enhancing public health and social cohesion etc.</p>
Implementation	Responsible bodies/person for implementation	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc. etc.
	Action scale & addressed entities	City scale + residents + residents with mobility limitations
	Involved stakeholders	local traders etc. etc.
	Comments on implementation	++



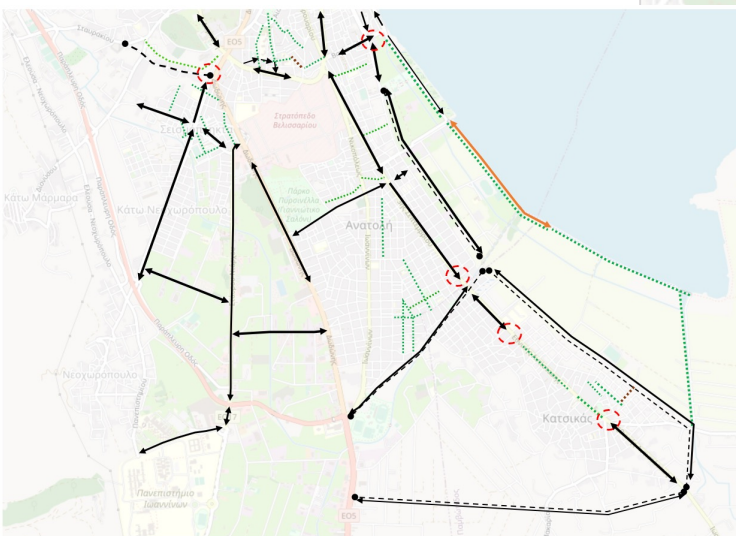
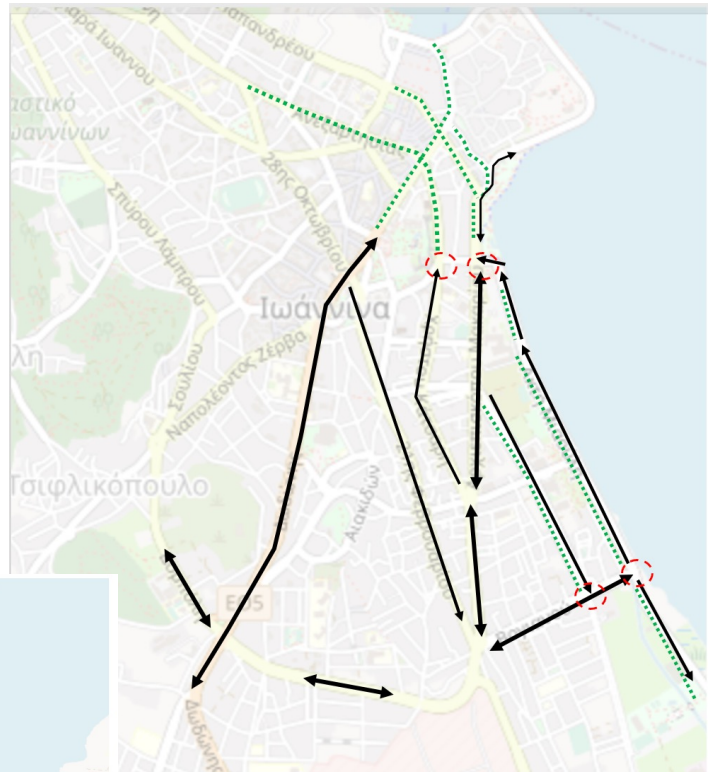
Ceasing through traffic

New pedestrian str:
Averof,
Anexart isias

1 A –overall strategy derived from plans (SUMP, Grid Plan, New cycle network plan 2030 etc)



CAR CIRCULATION





1 A – Boosting walking as a commuting mode HOW // projects

Mature & Programmed/ secure funding:

€

C.H.	2B.4 BAA «Διασύνδεση, ανάπλαση, αναβάθμιση και ανάδειξη κοινόχρηστων χώρων, υφιστάμενου δικτύου πεζόδρομων, κοινόχρηστων οδών και πλατειών στο Κάστρο Ιωαννίνων» (συνεχιζόμενο)	2.394.785,00	2023
C.H.	2B.5 BAA «Διαμορφώσεις – πεζοδρομήσεις στην περιοχή Σιαράβα» (συνεχιζόμενο)	2.724.175,00	2023
C.H.	3.1 (ΥΠ2) BAA «Σύνδεση περιοχών πόλης με μεγάλες υψομετρικές διαφορές για την εξασφάλιση βέλτιστης προσβασιμότητας»	4.000.000	2025
	3.3 BAA Οδός Σταύρου Νιάρχου (συνεχιζόμενο)	22.698.945	2023
C.H.	5.2 BAA Ανάπλαση- προσασία Ακτής Μιαούλη στην παραλίμνια περιοχή Ιωάννινα	4.000.000	2023
C.H.	5.3 & 5.4 & 5.5 BAA Βιοκλιματική ανάπλαση Πλ. Χατζή & Ανάπλαση κοινόχρηστων χωρών Δήμου Ιωαννιτών και μετατροπή τους σε πράσινους "αστικούς χώρους" & συνεχιζόμενο Πλ. Πύρρου	4.000.000 + 3.000.000 + 1.500.000 + 3.500.000	2024
	2B.β Ταμ. Ανάκαμψης Παρεμβάσεις για τη βελτίωση της οδικής ασφάλειας στο αστικό οδικό δίκτυο Δήμου Ιωαννιτών	4.000.000	2025 Λεωφόρος Δωδώνης, Οδός Αβέρωφ, Οδός Καραμανλή, Οδός Διονύσιου Σκυλοσόφου, Λεωφόρος Γ. Παπανδρέου, Οδός Ν. Ζέρβα, Οδός Αρχ. Μακαρίου, Οδός Κατάρη.
C.H.	3α Ταμ. Ανάκαμψης Sub.1.2.4 Υποδομές προσβασιμότητας βορειοανατολικής Ακρόπολης Κάστρου Ιωαννίνων	1.550.000	2025
C.H.	5α Ταμ. Ανάκαμψης Ανάπλαση – Ανάδειξη Πάρκου Πυρσινέλλα Δήμου Ιωαννιτών	9.010.922,77	2024
C.H.	2B. ii ΕΣΠΑ/ΠΕΠ/ INTERREG Αναπλάσεις οδών περιμετρικά των σχολικών κτιρίων του Δήμου Ιωαννιτών	10.000.000	2025 ++
	Τ.Π.: Αναβάθμιση δικτύου εμπορικών οδών στο Ιστορικό κέντρο της πόλης των Ιωαννίνων	1.260.000,00	2024




1 A – Boosting walking as a commuting mode HOW // projects

TO BE PLANNED & implemented by 2030

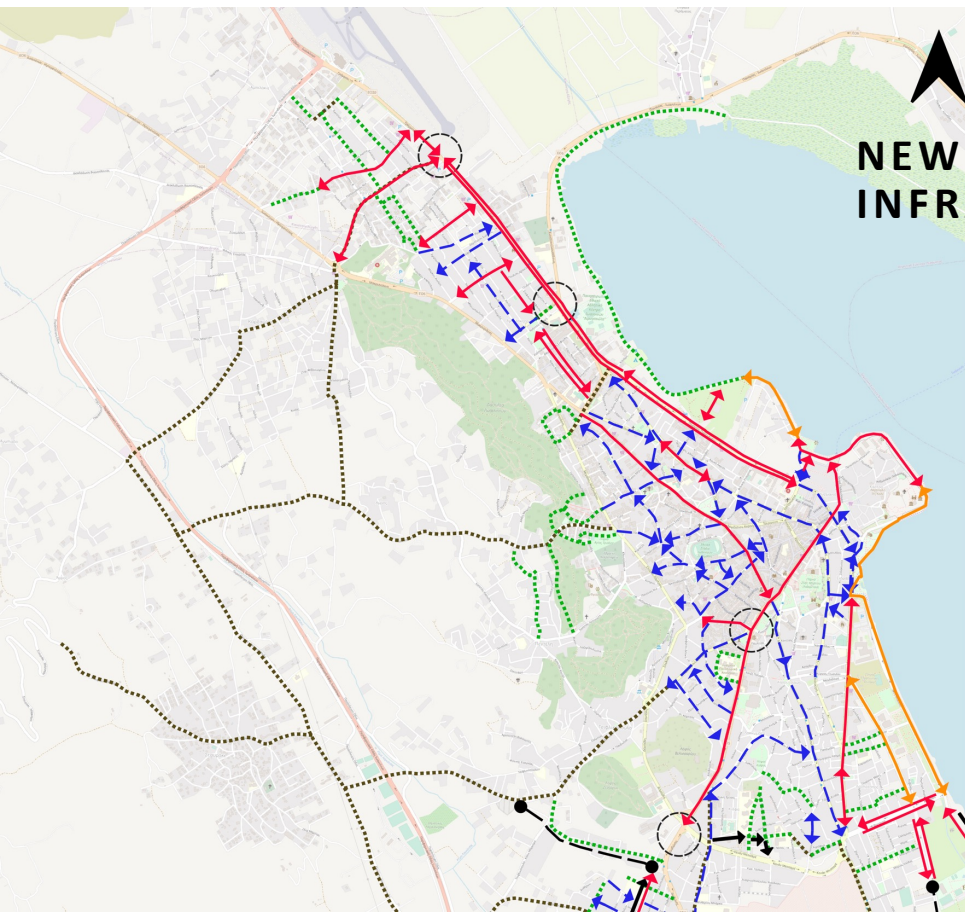


	Pedestrianizations : 19 km of new pedestrian streets in the neighborhoods	40.000	2027 <i>Only for signs // count 40 euros per sign // add 1 sign at the beginning and end and each intersection</i>
SUMP	Ανάπλαση παραλίμνιου μετώπου από τον ισόπεδο κόμβο στην οδό Βογιάννου έως την περιοχή Μάτσικας	9.015.000 +500.000	2025
SUMP	Αναπλάσεις του βασικού οδικού δικτύου στην ευρύτερη κεντρική περιοχή Περιλαμβάνει Γ. Ππανδρέου, Κουντουριώτου, Ευαγγελίδη, Π. Μελά, Ζωσιμάδων, Β. Ηπείρου, Δωδώνης, Μπότσαρη, Τζαβέλλα και πλήθος άλλων == ταυτίζεται με πλήθος οδών που ανήκουν στο δίκτυο ποδηλάτου για cycle streets και bike lanes	21.097.000 +1.205.000	2027
SUMP	Διαμορφώσεις πεζοδρόμων και οδών ήπιας κυκλοφορίας στην περιοχή που περικλείεται από τις οδούς Φιλ. Εταιρίας-Ανεξαρτησίας- Πουκεβίλ-28ης Οκτωβρίου-Φ. Τζαβέλλα-Γερακάρη-Πυρσινέλλα-Εισ. Σπύρου-Μπιζανίου-Γ. Κύργιου-Λεωφ. Αρχ. Μακαρίου-Γαριβάλδη	5.800.000 +350.000	2027
SUMP	Διαμορφώσεις υπόλοιπων οδών ήπιας κυκλοφορίας & πεζοδρόμων στην ευρύτερη κεντρική περιοχή. Γειτονιές: Καραβατιά, Πλάτανος, υπόλοιπο Κέντρο, Καλούτσιανη, Λακκώματα, Κιάφα, Λούτσα, Βελισσάριος,Λασπότοπος)	18.800.000 +1.100.000	2027
	Street regeneration project AVEROF Str & Karamanli Ave (800m) pedestrianization	1.000.000* estimation // can also be achieved with < 20.000	2025
		+ ++ TBC	

B-2.2: Individual action outlines // 1. Walking and cycling: a push towards a real sustainable modal shift
1 B – Enhancing cycling











	Action name	<p>1. Walking and cycling: a push towards a real sustainable modal shift</p> <p>1 B – Enhancing cycling</p>
	Action type	<p>Physical/ spatial interventions</p> <p>Infrastructure</p>
	Action description	<p>1B. Enhancing cycling as a commuting mode includes projects that aim to a) implement new cycle lanes as demonstrated in the Municipal Masterplan for Cycling (with more than 30km of separated cycle lanes, 21+ km of traffic calmed streets, 19+ km of new pedestrian/ cyclists’ lanes, 11+ km new advisory cycle lanes in pedestrian streets) . This new cycling infrastructure will be enhanced with new bike sharing infrastructure and 24/7 services and bike parking facilities all over the city. Some of the strategic interventions are demonstrated in the following graphs/maps;</p>
<p>Reference to impact pathway</p>	Field of action	Mobility & Transport
	Systemic lever	
	Outcome (according to module B-1.1)	<p>Reducing car travel share by 20%</p> <p>Increasing walking share at 20%</p> <p>Increasing cycling share at 14%</p> <p>Reducing air and noise pollution from ICE vehicles, road traffic, delays, travel fatigue while increasing road capacity and functionality, Enhancing public health and social cohesion etc.</p>
<p>Implementation</p>	Responsible bodies/person for implementation	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc. etc.
	Action scale & addressed entities	City scale + residents + residents with mobility limitations
	Involved stakeholders	... etc. etc.
	Comments on implementation	++ Complementary to Vehicles access restrictions PLAN within the city centre, on-street parking spaces removal, increase of pedestrian zones and bike lanes

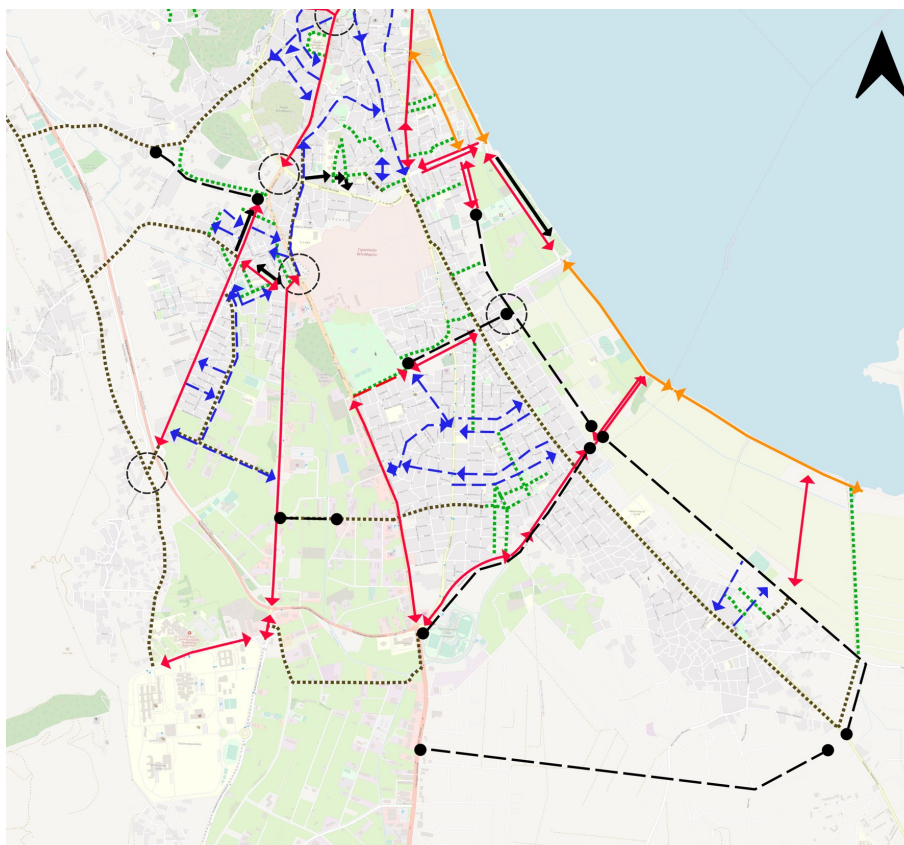
1 B –overall strategy derived from plans (SUMP, Grid Plan etc)













NEW BICYCLE INFRASTRUCTURE

X1 βόρειο τμήμα

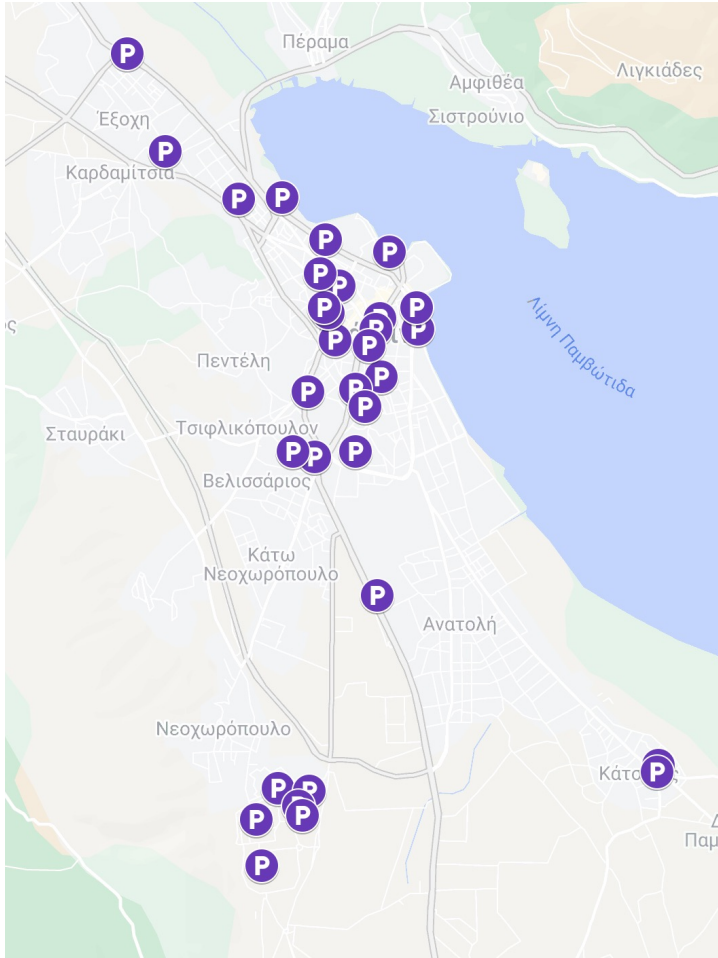
-  Υφ. Υποδομή ποδηλάτου
-  Υποδομή ποδηλάτου – σενάρια υπό διερεύνηση
-  Αμφίδρομη κυκλοφορία ποδηλάτου
-  Αποκλειστική λωρίδα ποδηλάτου
-  Αποκλειστική λωρίδα ποδηλάτου contra flow
-  Μεικτή χρήση ΙΧ- ποδηλάτου cycle street
-  Κίνηση ποδηλάτου σε πεζόδρομο
-  Κυκλοφοριακή ρύθμιση
-  Νέες διανοίξεις οδών/ διαπλατύνσεις οδών
-  Αναβάθμιση Κ



X1 νότιο τμήμα

-  Υφ. Υποδομή ποδηλάτου
-  Υποδομή ποδηλάτου – σενάρια υπό διερεύνηση
-  Αμφίδρομη κυκλοφορία ποδηλάτου
-  Αποκλειστική λωρίδα ποδηλάτου
-  Αποκλειστική λωρίδα ποδηλάτου contra flow
-  Μεικτή χρήση ΙΧ- ποδηλάτου cycle street
-  Κίνηση ποδηλάτου σε πεζόδρομο
-  Κυκλοφοριακή ρύθμιση
-  Νέες διανοίξεις οδών/ διαπλατύνσεις οδών
-  Αναβάθμιση Κ

☞ **COST 181.000 – can be implemented through PPP**



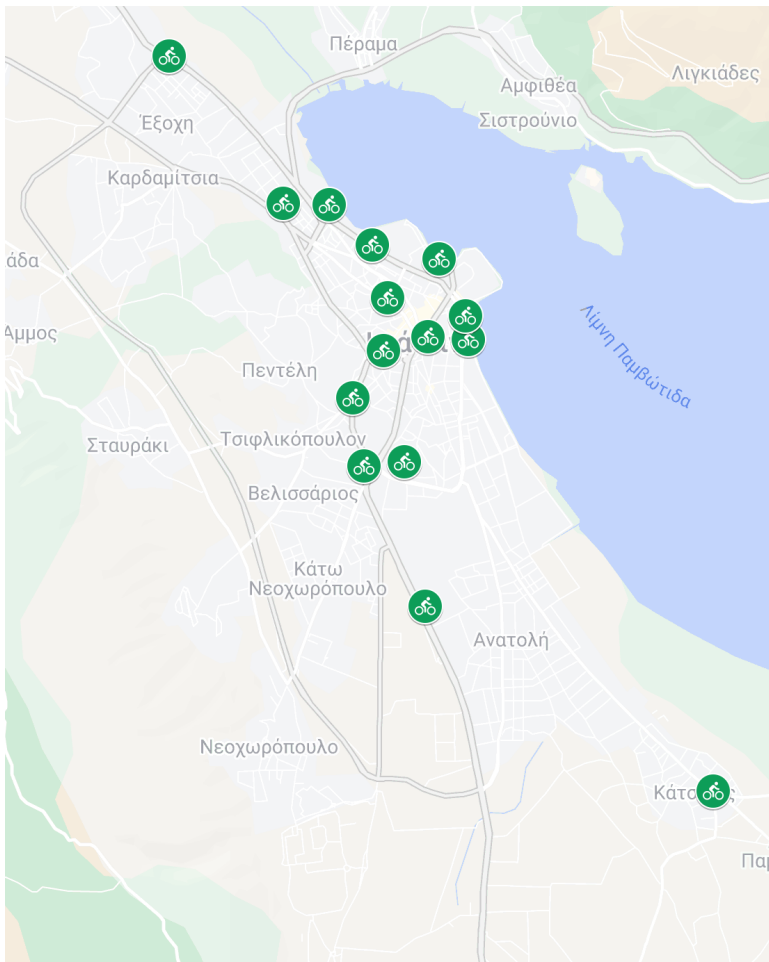
1 B – overall strategy derived from plans (SUMP, Grid Plan etc)

BIKE PARKING

☞ προτείνονται 31 σημεία προς χωροθέτηση υποδομών στάθμευσης με χωρητικότητα από 5 έως και 40 ποδηλάτων ανά σημείο ανάλογα με τη χρήση (>3000.).



WKT	όνομα	Περιγραφή θέσεων
POINT (20.8493431 39.669703)	BP_2 Άλσος	
POINT (20.8544301 39.6665502)	BP_3 Δημαρχείο	20
POINT (20.854002 39.6653939)	BP_4 Ρολόι	
POINT (20.8591974 39.6655013)	BP_5 πλησίον Σφαγείων	20 (κλειστού τύπου)
POINT (20.8462967 39.6530703)	BP_6 Εστίες Δόμησης	
POINT (20.8546846 39.6608114)	BP_7 Τζαμί Πλ. Τραπεζά	5
POINT (20.8513467 39.6535331)	BP_8 Κιάφα Αθλητικό & Σχολεία	40
POINT (20.8556516 39.6729892)	BP_9 Πλ. Μαβίλη	40
POINT (20.842084 39.6782469)	BP_10 Ν.Ο.Ι	20
POINT (20.8272676 39.6826883)	BP_11 Νοσοκ Κατζηκώστα	10
POINT (20.8415369 39.620805)	BP_12 Π Νοσοκομείο	10
POINT (20.8454834 39.6205169)	BP_13 Πανεπ α	
POINT (20.8441851 39.6190012)	BP_13 Πανεπ β	
POINT (20.844727 39.618057)	BP_ Πανεπ γ εστίες	
POINT (20.8389049 39.6177804)	BP_ Πανεπ δ	
POINT (20.8395111 39.6132017)	BP_ Πανεπ ε	
POINT (20.8590036 39.6675799)	BP_14 Πάρκο Κατσάρη	
POINT (20.8513019 39.6595905)	BP_16 Πάρκο Κουραμιά	10
POINT (20.852527 39.6578514)	BP_17 Πλ. Ειρήνης	5
POINT (20.8541237 39.6395113)	BP_18 Πάρκ Πυραυλέλλα	10+
POINT (20.8366183 39.6781057)	BP_19 Πλ Χατζή	10
POINT (20.8529959 39.6638252)	BP_20 Πλ Πύρρου	10
POINT (20.8487987 39.6643506)	BP_21 Πλ Πάρνης	10
POINT (20.8896561 39.6229981)	BP_22 ΚΕΠ Κατσικας	5
POINT (20.8894601 39.622394)	BP_22 κέντρο Κατσικας	5
POINT (20.8453816 39.659347)	BP_23 Πλ Ομήρου	10
POINT (20.8433864 39.6536122)	BP_24 Νεκροταφείο	5
POINT (20.8478579 39.6670508)	BP_25 Εθν Στάδιο	20+
POINT (20.8474355 39.667564)	BP_26 Πρόσκοποι	20
POINT (20.8468605 39.6709065)	BP_27 Ζωομαία σχολεία	20
POINT (20.847503 39.6742168)	BP_15 ΚΤΕΛ Πατανδρέου	40+ (κλειστού τύπου)
POINT (20.8225605 39.6922308)	BP_1 Αεροδρόμιο	10+ (κλειστού τύπου)



BIKE SHARING

☞ προτείνονται 15 σταθμοί ενοικίασης κοινοχρήστων ποδηλάτων με χωρητικότητα ΕΩΣ 10 ποδηλάτων ανά σταθμό -- sump was suggesting 250 bikes



WKT	όνομα	Χωρητικότητα θέσεων
POINT (20.822421 39.6923258)	BS 1 αεροδρόμιο	10
POINT (20.849378 39.6692261)	BS 2 Άλσος	10
POINT (20.8542183 39.6656313)	BS 3 Ρολόι	15
POINT (20.859235 39.6653671)	BS 4 Σφαγεία - Χατζής	10
POINT (20.8463556 39.6532272)	BS 5 Εστίες Δόμησης	10
POINT (20.8513628 39.6536818)	BS 6 Κιάφα (Αθλητικό & Σχολεία)	10
POINT (20.8555845 39.6729376)	BS 7 Πλ. Μαβίλη	15
POINT (20.8420867 39.6781891)	BS 8 Ν.Ο.Ι.	5
POINT (20.8589432 39.667559)	BS 9 Πάρκο Κατσάρη	10
POINT (20.8474017 39.67427)	BS 10 ΚΤΕΛ Πατανδρέου	10
POINT (20.8538769 39.6398913)	BS 11 Πάρκ Πυραυλέλλα	10
POINT (20.836452 39.6782564)	BS 12 Πλ. Χατζή	5
POINT (20.8487346 39.6642595)	BS 13 Πλ. Πάρνης	5
POINT (20.8895381 39.6223431)	BS 14 Κέντρο & ΚΕΠ Κατσικας	5
POINT (20.8450879 39.6597435)	BS 15 Πλ. Ομήρου & δημοτικό	5
		135- 150 θ.



1 B – Enhancing cycling HOW // projects

Mature & Programmed/ secure funding:

€



C.H. 2B.1 | **BAA** | Δημιουργία ποδηλατόδρομου
Μάτσικα- Πέραμα // 3 χλμ

4.000.000

2025

C.H. 2B.2 | **BAA** | Δημιουργία πολιτιστικής ποδηλατικής
διαδρομής στη Νήσου Ιωαννίνων // 2 χλμ

1.000.000

2025

2027

C.H. 2B.3 | **BAA** | Δημιουργία δικτύου ποδηλατοδρόμων
και χώρων στάθμευσης ποδηλάτων // 2,6 χλμ

2.000.000

υποδομής αποκλειστικής χρήσης που θα
συνδέει το Πανεπιστήμιο, δια μέσου της Λ.
Δωδώνης, με το Κάστρο και τον Παραλίμνιο
ποδηλατόδρομο (μήκους περίπου 2,6χλμ), την
σύνδεση τμημάτων της Παραλίμνιας
διαδρομής με την Γ. Παπανδρέου (υποδομή
μήκους περίπου 2χλμ), τη διαμόρφωση 5χλμ
οδών μεικτής χρήσης μέσα σε γειτονίες του
κέντρου (ενδ. Χαρ. Τρικούπη, καθώς και την
χωροθέτηση 80 κατ' ελάχιστον χώρων
στάθμευσης ποδηλάτων σε διάφορα σημεία
της πόλης (κέντρο, βασικές δραστηριότητες,
πλατείες γειτονιών κ.α.).

2B.4 | **BAA** | «Διασύνδεση, ανάπλαση, αναβάθμιση
και ανάδειξη κοινόχρηστων χώρων, υφιστάμενου
δικτύου πεζόδρομων, κοινόχρηστων οδών και
πλατειών στο Κάστρο Ιωαννίνων» (συνεχιζόμενο)

2.394.785

2B.5 | **BAA** | «Διαμορφώσεις – πεζοδρομήσεις στην
περιοχή Σιαράβα» (συνεχιζόμενο)

2.724.175

C.H. 3.1 (υπ1) | **BAA** | Ανακατανομή του οδικού δικτύου
της πόλης, με στόχο την προώθηση της βιώσιμης
κινητικότητας

2.000.000

2027

3.3 | **BAA** | Οδός Σταύρου Νιάρχου (συνεχιζόμενο)

22.698.945

5.2 | **BAA** | Ανάπλαση- προστασία Ακτής Μιαούλη
στην παραλίμνια περιοχή Ιωάννινα

5.3 & 5.4 & 5.5 | **BAA** | Βιοκλιματική ανάπλαση Πλ.
Χατζή & Ανάπλαση κοινόχρηστων χωρών Δήμου
Ιωαννιτών και μετατροπή τους σε πράσινους
"αστικούς χώρους" & συνεχιζόμενο Πλ. Πύρρου

2B.β | **Ταμ. Ανάκαμψης** | Παρεμβάσεις για τη
βελτίωση της οδικής ασφάλειας στο αστικό οδικό
δίκτυο Δήμου Ιωαννιτών

3α | **Ταμ. Ανάκαμψης** | Sub.1.2.4 Υποδομές
προσβασιμότητας βορειοανατολικής Ακρόπολης
Κάστρου Ιωαννίνων

5α | **Ταμ. Ανάκαμψης** | Ανάπλαση – Ανάδειξη Πάρκου
Πυρσινέλλα Δήμου Ιωαννιτών | περιλαμβάνει
ποδηλατόδρομο

2B. ii | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Αναπλάσεις οδών
περιμετρικά των σχολικών κτιρίων του Δήμου
Ιωαννιτών

10.000.000



1 B – Enhancing cycling HOW // projects

TO BE PLANNED & implemented by 2030



SUMP +

Bicycle network (does not include the mature projects and regeneration schemes i.e. traffic calming routes etc)

6.000.000

2027
for 15km+ bike lanes

SUMP

Bike routes implementation

1.371.300 + 81.000

2027

SUMP +

Bike sharing scheme

181.000 * cost estimated by the SUMP Action Plan for 250-300 shared bikes

2025

Can be implemented through PPP

Bike parking

15.500 * cost estimated for 31 bike parking spots costing 500 EUR each

2024

COMMENTS ON IMPLEMENTATION _


1. Walking and cycling: a push towards a real sustainable modal shift

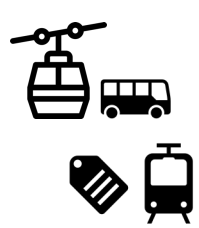
The increase of walking and cycling is directly related to car restrictions, to urban planning and incentives/disincentives. The space that will be created for walking/ cycling will be removed from the car. This change is radical and requires institutional changes/improvements, understanding of local conditions and changing the attractiveness of the car as the key commuting mode.

Needed changes include:

- institutional changes regarding the maturation procedures and timetables (incl. studies, approvals, implementation) – NATIONAL scale,
- Bonus-malus schemes (tax-redemption, direct subsidies, purchase rebates, car/bike replacement rebates etc.) for incentivising car -owners to reduce single-occupancy vehicle traffic and/or replace one household car with an active mobility alternative – NATIONAL scale supported by local actions,
- Structural changes in car ownership system (correlation between car and private parking space ownership) – NATIONAL scale,
- Structural changes in land use planning for obligatory neighbourhood scale parking areas and park and ride areas – NATIONAL scale supported by local actions.

B-2.2: Individual action outlines // 2. Greening the bus fleet and strengthening the public transport role

Action outline 	Action name	2. Greening the bus fleet and strengthening the public transport role
	Action type	Physical/ spatial interventions Infrastructure Organisational and Governance Innovation Incentive scheme (purchase grants/ tax incentives)
	Action description	<p>The action includes the upgrade of the current bus fleet with cleaner (electric, hydrogen etc) vehicles and the upgrade of the overall service level of the public transport. On-demand transportation services, new bus circulation plans, mini-bus services for the CC. KTEL of Ioannina (sole public transport operator) is the key stakeholder to apply the needed changes in accordance with the city's needs.</p> <p>This action includes sub-projects- as thoroughly examined and approved through Ioannina's Sustainable Urban Mobility Plan (SUMP) - such as the re-routing of bus lines with three (3) core axis and eight (8) routes serving the dense CC and the surrounding urban areas. It also includes the fleet replacement with a local scheme for buses and EV chargers for fast charging in the city.</p> <p>A landmark project that is also adopted is the development of a new Cable car service linking disconnected areas.</p> <p>Increasing public transport's role as key commuting mode is inextricably related to car restrictions, parking, and car circulation policies. The scale of the interventions in the proposed action is critical, as more the projects include the replacement of the current bus fleet with EVs and the needed charging equipment, the re-routing of current service connections, and the introduction of a new means of public transport – the Cable Car- connecting currently disconnected areas. Cable cars remain one of the most economically viable public transport services that can connect marginal communities, however it is a system that is not applied in a city scale in Greece.</p>
Reference to impact pathway	Field of action	
	Systemic lever	
	Outcome (according to module B-1.1)	<p>Reducing car travel share by 20%</p> <p>Increasing public transport share at 12%</p> <p>Reducing air and noise pollution from current PT vehicles (buses),</p> <p>Reducing road traffic, delays, travel fatigue while increasing road capacity and functionality, Enhancing public health and social cohesion</p>
Implementation	Responsible bodies/person for implementation	Public transport Operator KTEL etc.
	Action scale & addressed entities	City scale ++
	Involved stakeholders	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc



2. Greening the bus fleet and strengthening the public transport role HOW// projects

TO BE PLANNED & implemented by 2030

C.H. Replacement of **300 -395** buses

Considering 300 of the B are active and 90% of them need the current size
10% of them can be replaced with mini vans

OR
Giving incentives up to 10.000-15.000 for each bus

C.H. Re-routing // new circulation plan for buses
3 axis – 8 routes

C.H. New service Teleferic (Cable Car) – route of 5 km



2025/ 2027

108.000.000 * for 270 buses with a cost of 400.000 each

4.500.000 * for 30 mini buses with a cost of 150.000 each

4.050.000 * for 270 buses

300.000 * for 30 mini buses

100.000 * study 2025

200.000 * study 2028/ 2030
75.000.000 * implementation (*PPP)

Mature & Programmed/ secure funding:

2 public transport | bus EV chargers will be placed // SFIO

1.500.000 2025

NEW route with mini buses serving the city center and lakeside area





New Cable car service

Linking 5 major nodes >> a 5km route

Intended to experience ... & supplement and relieve the current local public transport + & closing gaps in the current PR network & ease the transformation ... from car commuting to public transport alternatives

Speed // 20km/h

6-200 passengers

15 million euros/ km investment 75.000.000

12-18 months (avg construction time)

...



COMMENTS ON IMPLEMENTATION _

Greening the bus fleet and strengthening the public transport role

Increase in PT use is related to car restrictions.

This actions includes the new service of Cable Car.

& replacement of existing polluting buses.

This action requires massive funding and private investment and shall be linked with malus bonus schemes.

Needed changes include ;

- Regulating the current PT operator's monopoly -NATIONAL scale,
- Regulating procurement time-NATIONAL scale,
- institutional changes for the replacement of the current bus fleet with EVs (and the needed charging equipment) BONUS -MALUS SCHEME (for replacement with new incentive scheme with purchase redemption/ tax incentives etc)- NATIONAL scale,
- Structural changes for new / innovative Public Transport Solutions (Cable Car Operation)- NATIONAL scale supported by local actions and investment,
- Structural changes in the Epirus Spatial Plan (Provision for new Cable Car Service/ indicative route and connection nodes)- NATIONAL scale supported by local actions.



ΜΕΣΑ ΜΑΖΙΚΗΣ ΜΕΤΑΦΟΡΑΣ

Αναδιάρθρωση Λεωφορειακών Γραμμών


Το προτεινόμενο δίκτυο λεωφορειακών γραμμών, περιλαμβάνει **τρεις (3) βασικούς άξονες εξυπηρέτησης:**

- | |
|--|
| A. από/προς την περιφερειακή ζώνη βόρεια της πόλης (Ελεούσα, Πέραμα, Νέα Ζωή, Καρδαμίτσια και Αεροδρόμιο) προς/από το κέντρο της πόλης (στάση ΠΛΑΤΕΙΑ) |
| B. από/προς τη νότια περιφερειακή ζώνη της πόλης (Κατσίκας), τα Πανεπιστήμια (ΤΕΙ, Πανεπιστήμιο και Πανεπιστημιακό Νοσοκομείο) και την Πεδινή, προς/ από το κέντρο της πόλης (στάση ΠΛΑΤΕΙΑ) |
| Γ. από/προς την περιφερειακή ζώνη δυτικά της πόλης (Σταυράκι, Κάτω Μάρμαρα ή Νεοχωρόπουλο) προς/από το κέντρο της πόλης (στάση ΠΛΑΤΕΙΑ) |

SUMP
measures

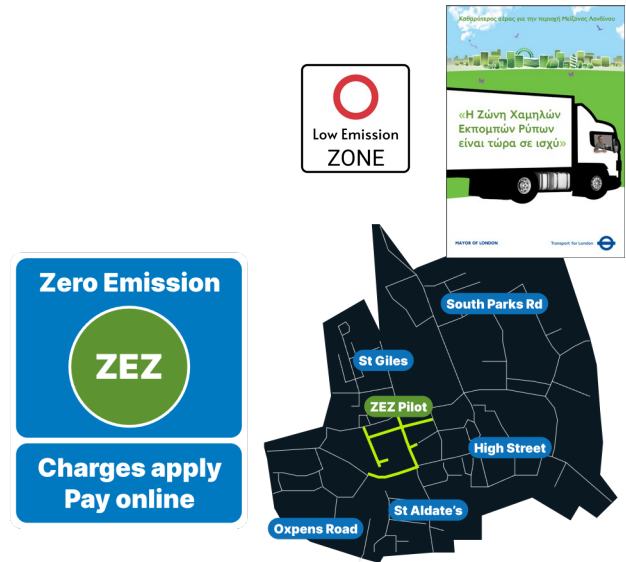
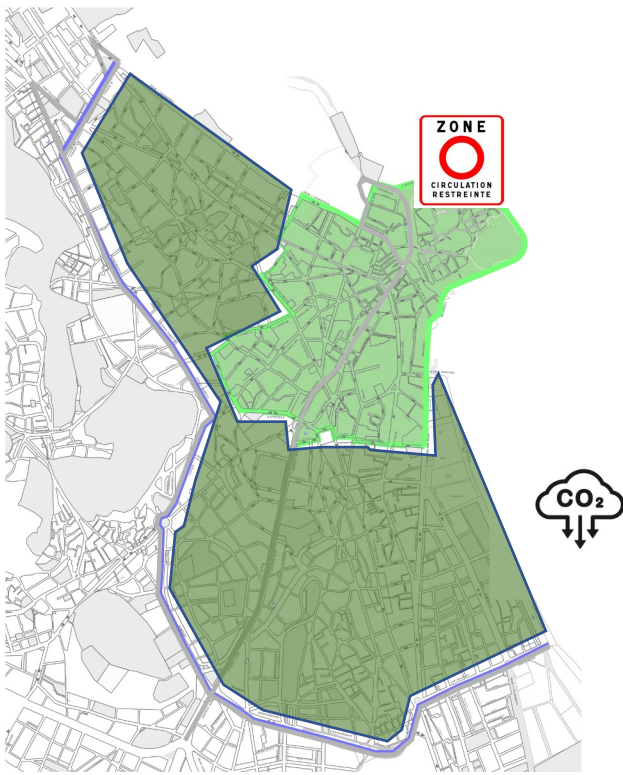
- + Fleet renewal – non-polluting vehicles (395 total buses within the prefecture)
- + Strengthening urban transport (bus, minibus, tram, cable car, etc.) with exclusive bus corridors or sustainable mobility corridors
- + increasing the level of service in the CC and in the lakefront

B-2.2: Individual action outlines // 3. Low to zero emission zones: Thorough and JUST transition for pilot zones

	Action outline	Action name	Low to zero emission zones: Thorough and JUST transition for pilot zones
		Action type	Infrastructure (Signage) Organisational and Governance Innovation
		Action description	This action sets out the key steps to gradually apply a LEZ/ ZEZ scheme in three pilot zones in the city. The city center, the island and the university campus take the lead and by 2025 present replicable results to the rest of the city. By 2028 and 2030 more and more areas apply restrictions related to GHG emissions and car-circulation. Emphasis is given on policies to ensure a just transition, while also develop a medium-term plan to ban diesel vehicles and all ICE vehicles in the city. The suggested UVAR schemes are in accordance with the overall SUMP strategy for a car-free downtown and green- University Campus, while also focuses on altering the norms in the high and middle-density districts of the city.
Reference to impact pathway		Field of action	
		Systemic lever	
		Outcome (according to module B-1.1)	Reducing emissions in a gradual way, Increasing cycling and walking share, Altering freight delivery methods, Reducing air and noise pollution from ICE vehicles, Reducing air and noise pollution from current PT vehicles (buses), Enhancing public health and social cohesion,
Implementation		Responsible bodies/person for implementation	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc.
		Action scale & addressed entities	City Center, University campus, residential centralities, neighborhoods etc.
		Involved stakeholders	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc.
		Comments on implementation	Needed changes include ; - institutional changes for the implementation of LEZ/ ZEZ/ UVAR schemes - NATIONAL scale, - strong Awareness raising for clean air zones and benefits - Local scale, - Structural changes in the local urban development plans (Provision for LEZ/ZEZ zones)- - Local scale

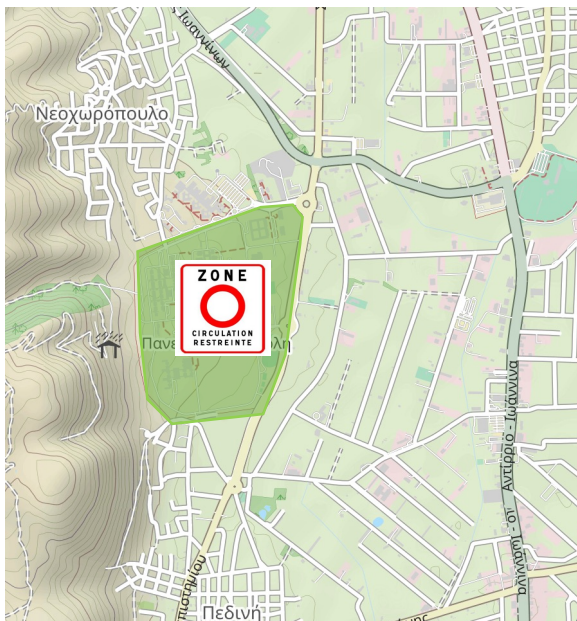
3-overall strategy

LOW EMISSION ZONE [LEZ]



Σχέδιο 7

Όρια δύο επιπέδων προστασίας:
του ευρέος κέντρου και του
κεντρικού πυρήνα





3. Low to zero emission City center // HOW Projects

LEZ implementation in 3 phases

C.H. Phase 1 up to 2025

Applied in the CC (incl. the Castle) & the University Campus
Time: April to October (07.00-23.00)
Vehicles: Euro 4 + (Euro 5+ for diesel)
Fines: YES
Exceptions: YES (incl. residents of the CC)



2025

40.000 (signage) + 100.000 (license plate recognition system and supply of cards/ app etc.)

C.H. Phase 2 up to 2028

Applied in the center (inc. neighborhoods, the CC) & the University Campus
Time: April to October for overall central area (07.00-23.00)
All-year and all day for CC & Campus
Vehicles: Euro 5 + (Euro 6+ for diesel)
Fines: YES
Exceptions: YES ++

2028

20.000 (signage)

C.H. Phase 3 up to 2030 – LEZ & ZEZ

ZEZ: Applied in the center (inc. neighborhoods, the CC) & the University Campus
LEZ: city boundaries
Time: All-year all day
Vehicles: Euro 5 + (Euro 6+ for diesel)
Fines: YES
Exceptions: YES ++

2030

40.000 (signage)

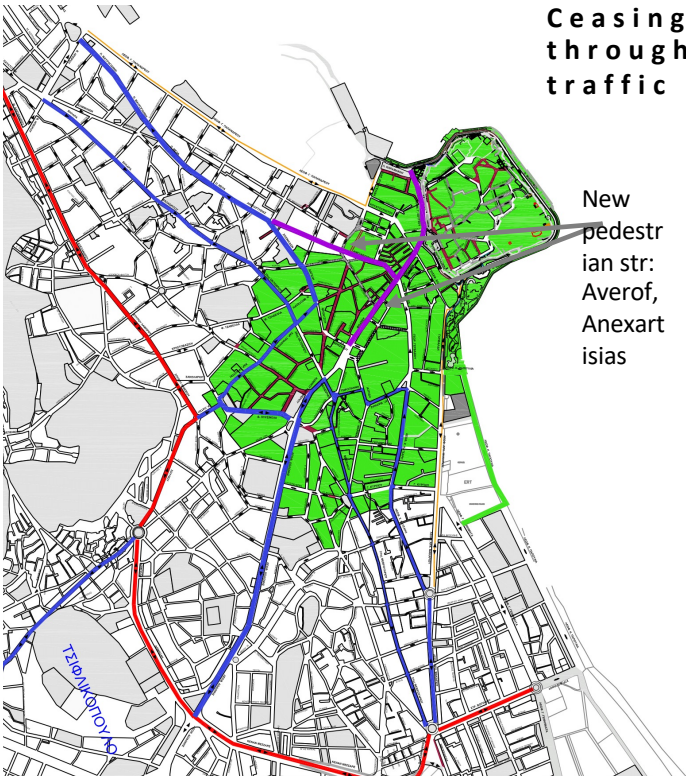
Implementation – estimation

- Direct reduction in emissions in two city areas
university campus -1.03 km² and CC-1.05km²
- AVG Emission reduction from ZEZ/ LEZ application
- We are expecting reductions on:
 - 10% on Private Sector (Fuel of Citizens Vehicles)
 - 15% on General Transportation In&Out Boundary emissions
 - 10% on Public Sector Diesel (Public Vehicles)
 - 10% on Public Sector Gasoline (Public Vehicles)
 - 10% on Private Sector Diesel (City Bus)

B-2.2: Individual action outlines // 4. Less cars- cleaner cars

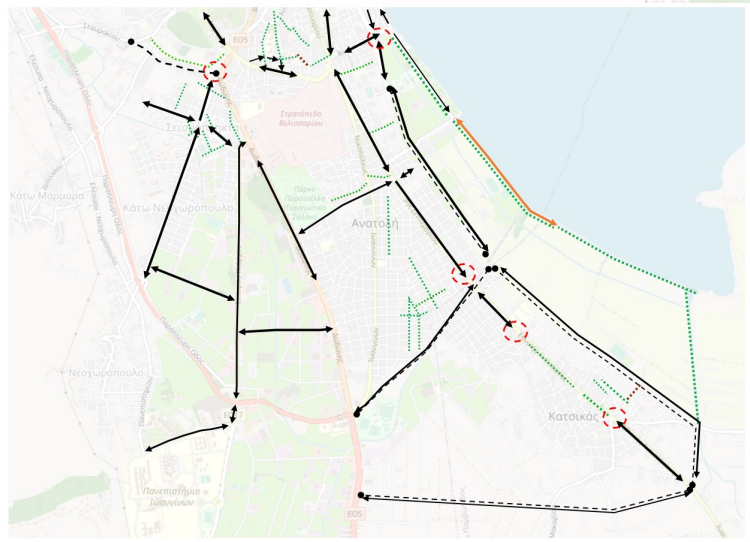
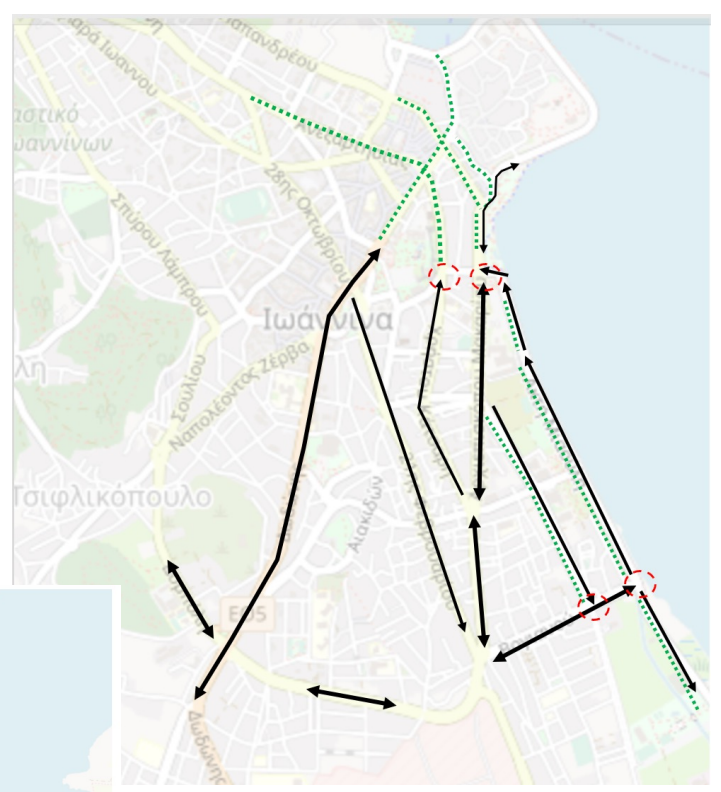
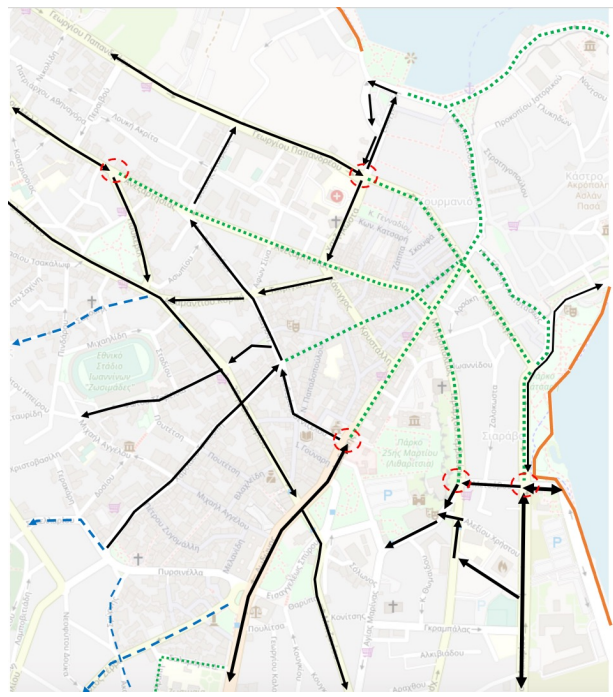
	Action name	4. Less cars- cleaner cars
	Action type	<p>Procurement of vehicle fleet</p> <p>Procurement and placement of EV Chargers</p> <p>New services</p> <p>Organisational and Governance Innovation</p>
	Action description	<p>This action is at the core of urban mobility strategy and aims to assist the overall urban redevelopment by limiting car presence and boosting e-mobility with a comprehensive and extended EV chargers’ network. The action takes into account the ‘avoid-shift-improve’ approach and deploys a new policy paradigm for the city. This network goes along with incentivizing private car users to minimize the use of conventional cars/ motorcycles and/ or replace their vehicles with cleaner ones that fully or partially run on electricity, such as battery electric vehicles or plug-in hybrid electric vehicles.</p> <p>The actions include a project for EV charging stations allocation scheme which provides 136 EV car chargers, 23 EV TAXI chargers, 3 EV chargers for trucks and lorries, 7 chargers for cars owned by disabled people, 2 chargers for tourist buses, 2 chargers for public buses (KTEL), 12 chargers for e-bikes and has a 2025 implementation time horizon. It is expected that the project will have secured financial implementation with the help of central government incentives’ scheme.</p> <p>Moreover the action deals with the replacement of city-owned fossil fuel vehicles fleet with green vehicles and other policies and practices that limit internal combustion engine vehicles’ circulation in the city.</p> <p>The overall strategy of the action is based on the approved SUMP strategy of the city. New street hierarchy, protected zones and new circulation plan are formally accepted but not yet realized by the wide public and the stakeholders.</p>
Reference to impact pathway	Field of action	
	Systemic lever	
	Outcome (according to module B-1.1)	<p>Reducing car travel share by 20%</p> <p>Reducing air and noise pollution from ICE vehicles etc.</p>
Implementation	Responsible bodies/person for implementation	MUNICIPALITY OF IOANNINA, EPIRUS REGION
	Action scale & addressed entities	<p>Scale: MUNICIPAL borders etc.</p> <p>Addressed entities: Residents , Visitors ...</p>
	Involved stakeholders	MUNICIPALITY OF IOANNINA, EPIRUS REGION etc.

Ceasing through traffic



New pedestrian str:
Averof,
Anexartias

CAR CIRCULATION

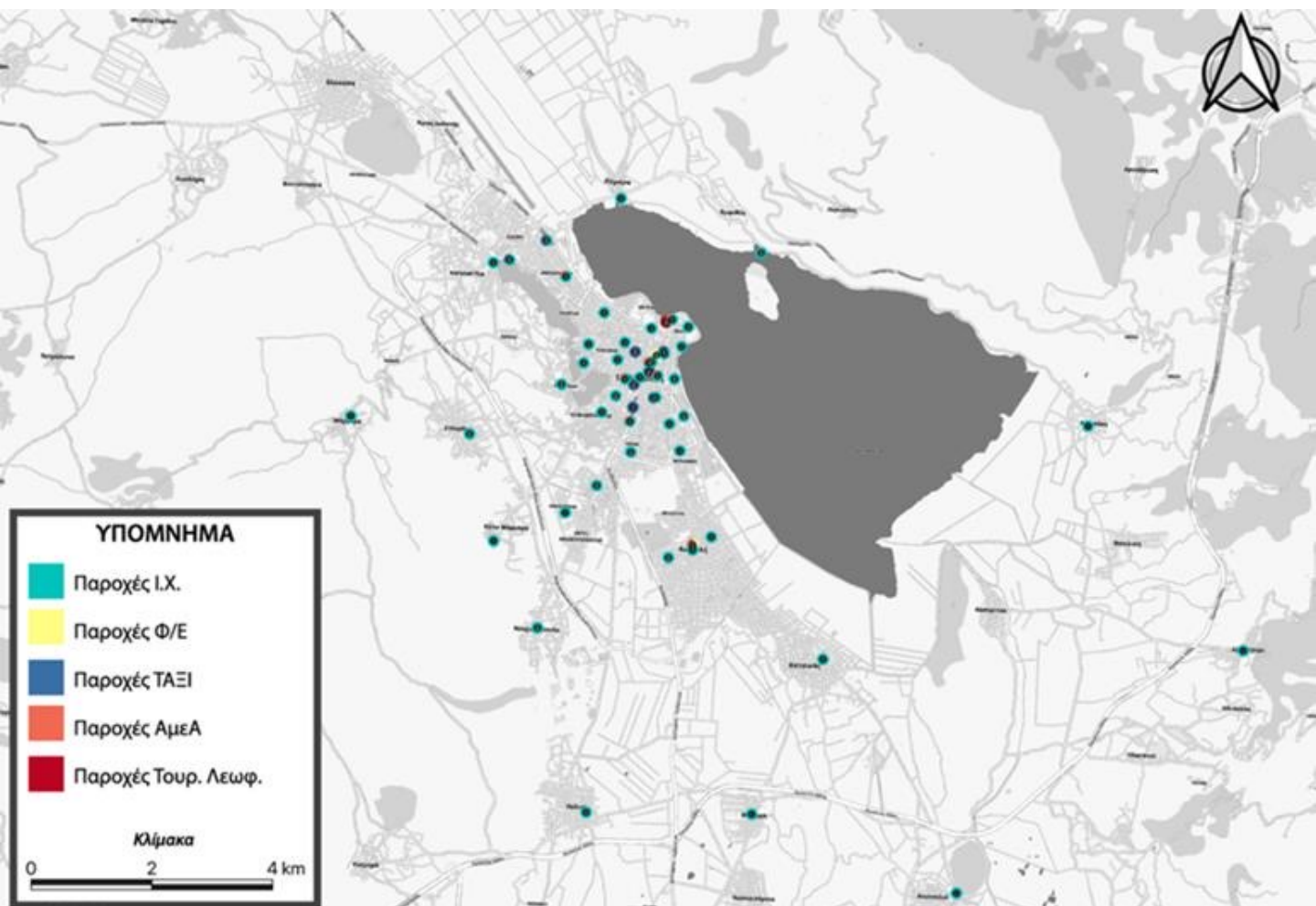


EV CHARGING STATIONS SCHEME

- 136 car chargers
- 23 TAXI chargers
- 3 chargers for trucks & lorries
- 7 chargers for cars (disabled)
- 2 chargers for tourist buses
- 2 chargers for bus (public transport)
- 12 chargers for e-bikes

Implementation time: **2025- 2030**

Implementation cost: 1.500.000





TAXI



4- Less cars- cleaner cars / HOW Projects

Mature & Programmed/ secure funding:

C.H.



2A. ii | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Προμήθεια ηλεκτροκίνητων οχημάτων Δήμου Ιωαννιτών // 10 οχήματα και 1 μεταφερόμενη υβριδική μονάδα ΑΠΕ

€

2024

980.000 * includes 2 EV Road cleaning Sweepers (small & big) & 1 EV Road Cleaning Washer & 2 Waste Collection EV)

C.H.



2A. iii | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Εγκατάσταση σταθμών ηλεκτροφόρτισης οχημάτων // 57 σημεία σε 173 θέσεις

1.500.000 * PPP

2024

C.H.



5.4 | **BAA** | Ανάπλαση κοινόχρηστων χωρών Δήμου Ιωαννιτών και μετατροπή τους σε πράσινους "αστικούς χώρους" **ΥΠ. 3 Δημιουργία πράσινων χώρων στάθμευσης με εφαρμογή των αρχών του βιοκλιματικού σχεδιασμο**

3.500.000

2025

C.H.

| **ΕΣΠΑ** | Supply of 7 EVs:

4 **100% electric four-wheel type vehicles tipper** (ανατρεπόμενου κάδου)
1 **100% electric four-wheel type vehicles boxcar** (ανατρεπόμενη κιβωτάμαξα)
& 1 4*4 semi-truck & 1 Tipper Truck 10tn (gross weight)

369.892 * **ΕΣΠΑ**

2024

TO BE PLANNED & implemented by 2030

€

2023- 2030

C.H.

Car replacement scheme with EVs

>> considering that 45.534 private cars are registered in the municipality (25.000 in the city of Ioannina) .

60% of the cars must be replaced and the rest 40% shall be evaporated ...

And the fact that 5.000 EUR can be given as incentive ...

136.600.000 * for 27320 vehicles

C.H.

Car sharing system



10.000 * for PPP

2024

C.H.


Park & Ride areas / parking zones as allocated by the SUMP



10.000 +++ * (as estimated in the SUMP Action Plan) for PPP ?

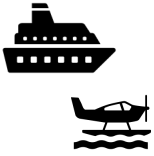
2025-2028

B-2.2: Individual action outlines // 5. Cleaning and strengthening waterborne transportation

	Action name	5. Cleaning and strengthening waterborne transportation
	Action type	Technical Intervention Infrastructure Organisational and Governance Innovation
	Action description	<p>This action aims to increase the role of waterborne transportation by adding services and ease the replacement of diesel boats serving currently the connection between the city and the island. Lake Pamvotis can become an extra transportation corridor for connecting different areas of the city and the overall Ioannina conurbation with currently limited access to public transit through clean, electric and fast taxi-boats.</p> <p>The actions includes projects such as; the diesel boat replacement with electric boats (14), the development of a new boat service (boat taxi) connecting 11 stops with an average distance of 22 km with the relevant regeneration in the proposed new docks.</p> <p>Needed changes include ;</p> <ul style="list-style-type: none"> - Structural changes for promoting waterborne transportation and boat taxis - National scale supported by local actions - strong Awareness raising for the new approach and the upcoming benefits for the retrofitted areas– both national and Local scale,
Reference to impact pathway	Field of action	
	Systemic lever	
	Outcome (according to module B-1.1)	<p>Decreasing water pollution from diesel boats,</p> <p>Reducing air and noise pollution from ICE vehicles (since a number of travels will be conducted via the new service),</p> <p>Enhancing public health and social cohesion,</p> <p>Developing new landscapes and lake corridors</p>
Implementation	Responsible bodies/person for implementation	Local boat owners , MUNICIPALITY OF IOANNINA, EPIRUS REGION etc.
	Action scale & addressed entities	<p>Lake-wide</p> <p>Island visitors</p> <p>Residents of Ioannina and Island's residents</p>
	Involved stakeholders	Local boat owners MUNICIPALITY OF IOANNINA, EPIRUS REGION ,
	Comments on implementation	<p>REQUIRES the close cooperation of local boat owners and Mol.</p> <p>Requires funding and a boat replacement scheme</p>

Fuel consumption of lake vessels >> current 70tn/y

24 routes daily



4. Cleaning and strengthening waterborne transportation HOW // projects

Mature & Programmed/ secure funding:

2B. i | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Υδατοδρόμιο λίμνης Παμβώτιδας

Υποδομές για την αναβάθμιση της λιμναίας συγκοινωνίας :
λιμενικές εγκαταστάσεις περιμετρικά της λίμνης +++ ?

Boat replacement scheme
είναι όλα 14 όπως λέει το ΣΔΒΕ;

OR
incentive of 30.000 for each boat?

New service route linking 11 stops// 22km average distance (current travel distance 1,2km)

€

500.000

2028

4.960.000 + 300.000* cost estimated by SUMP Action Plan

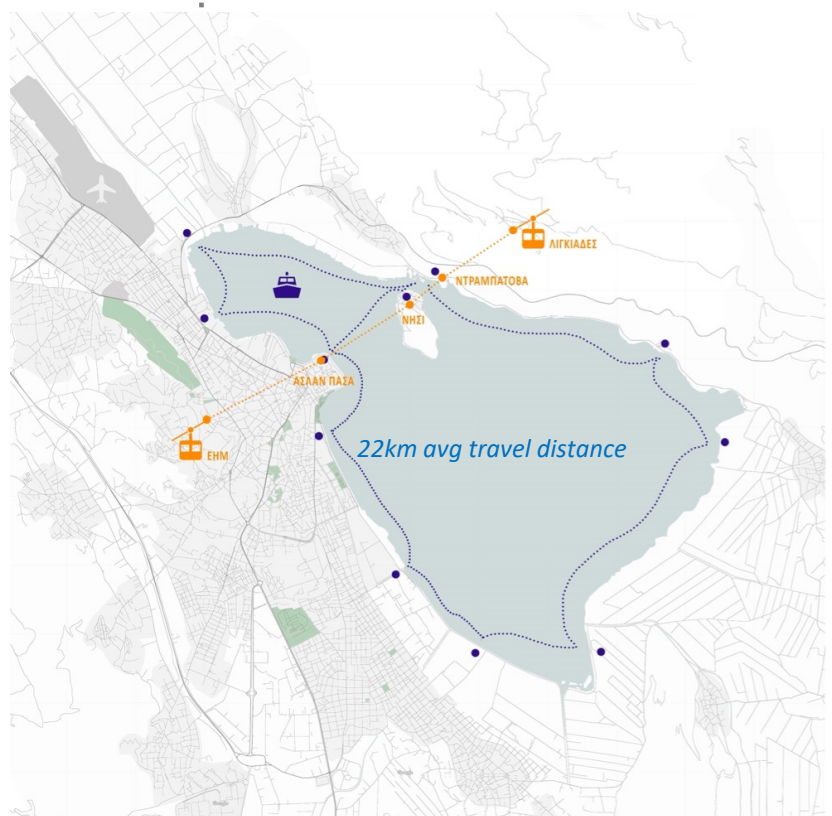
?

2025

4.200.000* one for 300.000

420.000* one for 300.000

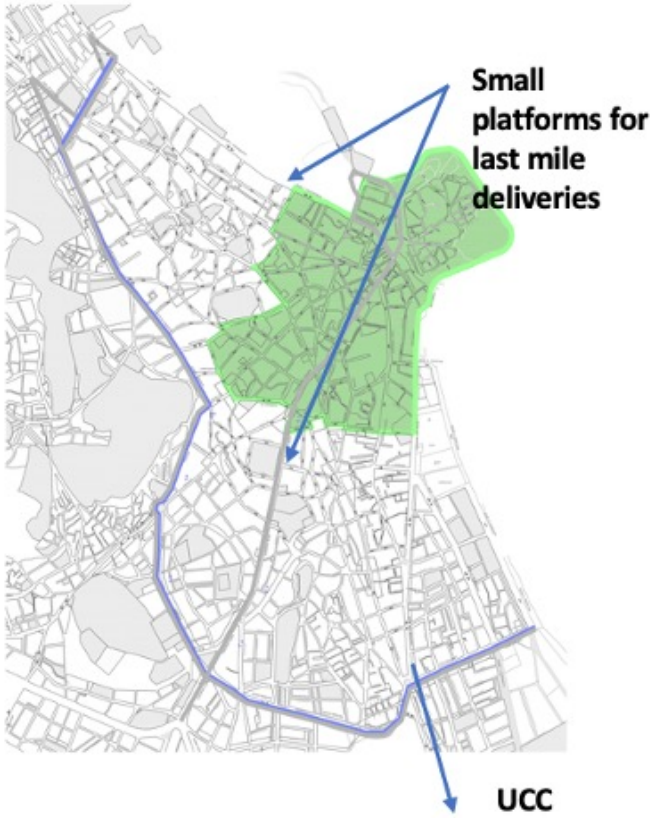
2028/ 2030



B-2.2: Individual action outlines // 6. Greening logistics. A new era in goods transportation

	Action outline	Action name	6. Greening logistics. A new era in goods transportation
		Action type	<p>Technical Intervention</p> <p>Infrastructure (UCC etc.)</p> <p>Organisational and Governance Innovation</p>
		Action description	<p>This action shall establish a new era in the local urban environment. Smaller, cleaner and quieter vehicles shall deliver goods in the conurbation of Ioannina. Replacing traditional fueled van and lorries entering the city will directly have an impact on local health and pollution, but also vehicles serving the overall logistics chain will allow for lowering emissions beyond our borders.</p>
Reference to impact pathway		Field of action	SOFT supporting actions & SUPPLY of new vehicles (replacement of existing)
		Systemic lever	regulation ++ governance & policy ++ local strategy
		Outcome (according to module B-1.1)	<p>Increasing air quality</p> <p>+++</p>
Implementation		Responsible bodies/person for implementation	BUSINESSES, MUNICIPALITY OF IOANNINA, EPIRUS REGION
		Action scale & addressed entities	MUNICIPAL borders
		Involved stakeholders	BUSINESSES, MUNICIPALITY OF IOANNINA, EPIRUS REGION etc.
		Comments on implementation	<p>Needed changes include ;</p> <ul style="list-style-type: none"> - Structural changes for obligatory UCC in large cities - National scale supported by local actions -Administrative changes for last- mile deliveries– both national and Local scale, - Bonus-malus schemes (tax-redemption, direct subsidies, purchase rebates, car/bike replacement rebates etc.) for incentivising truck -owners to replace trucks with EVs – NATIONAL scale supported by local actions

LOGISTICS

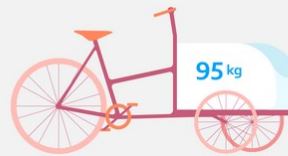


- 18262 trucks today registered within city boundaries
- UCC - city logistics north-west of Katsikas
- Replacing current trucks with // cleaner smaller trucks (Evs, hydrogen etc.)
- Replacing current deliveries (less than 90kg) with cargo bikes and other means of micromobility
- Night deliveries

Cargo Bikes 🚚 ⚡ 🛵

- ✓ Deliver ~60% faster than vans.
- ✓ Cut carbon emissions by 90%.
- ✓ Can replace up to 51% of all freight journeys in cities.

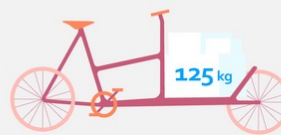
Cargo bike examples



Rickshaws cargo



Longtail cargo



Long cargo



Tricycle cargo



Electric cargo



Carrier cargo



5. Greening logistics. A new era in goods transportation / HOW Projects

TO BE PLANNED & implemented by 2030



2027

C.H. New UCC – north-west of Katsikas

400.000 * (PPP with the industry)

C.H. New logistics platforms/ loading platforms (2)

2026

100.000 * (PPP with the Union of Traders)

C.H. Truck replacement scheme
70% of private lorries will be replaced

2025/ 2030

3.195.000.000 * (for 12.780 EV trucks with avg cost of 250.000 EUR – potential PPP)

OR

Estimating a 10.000 EUR incentive for 70% of trucks

127.800.000 * (for 12.780 EV trucks – potential PPP)

C.H. E-Cargo bike
20% of private lorries/ mini vans will be replaced with e-cargo bikes

2025/ 2030

5.475.000* (for 3.650 vehicle replacement with e-cargo bikes – potential PPP)

OR

Estimating a 800 EUR incentive for 20% of trucks replaced with e-cargo bikes

2.920.000 * (for 3650 e-cargo bikes)

C.H. Smart logistics system:
a system to optimize processes of logistics ,
by using dynamic traffic management and
apply local rules for loading/ unloading in
the CC (incl. control enforcement with
technology)

2025

150.000 * (PPP with the Industry)




C.H. Signage system and enforcement system
includes signs for permitted timezones,
types of vehicles, license plate recognition
system

2025

50.000



B-2.2: Individual action outlines // 7. Improving waste collection

	Action name	7. Improving waste collection
	Action type	Organisational and Governance Innovation
	Action description	<p>This action aims to build on the existing waste strategy and rearrange waste collection with cleaner and smaller vehicles.</p> <p>The action includes projects such as smart waste collection system, supply of new waste collection vehicles (EVs) etc.</p> <p>Needed changes include;</p> <ul style="list-style-type: none"> - Structural changes for - National scale supported by local actions - Administrative changes for – both national and Local scale,
Reference to impact pathway	Field of action	Mobility & Transport
	Systemic lever	Local development strategies, Governance & Policy, Business models
	Outcome (according to module B-1.1)	<p>Reducing waste collection travel kms/time and emissions,</p> <p>Reducing air and noise pollution from ICE waste collection vehicles,</p> <p>Building new business models and realizing cost savings (for waste collection services), Enhancing public health and social cohesion, Building a new narrative for waste collection.</p>
Implementation	Responsible bodies/person for implementation	<p>MUNICIPALITY OF IOANNINA, EPIRUS REGION, Hellenic Recovery Recycling Corporation (HERRCO)</p> <p>Hellenic Recycling Agency (HRA/EOAN) etc.</p>
	Action scale & addressed entities	+
	Involved stakeholders	<p>Hellenic Recovery Recycling Corporation (HERRCO)</p> <p>Hellenic Recycling Agency (HRA/EOAN)</p> <p>P.K. Recycling North West Ltd</p> <p>Epirus Aeiforiki</p> <p>Association of Technical Companies of the Epirus Region (for ECDW)</p>
	Comments on implementation	<p>Direct reduction from km travelled</p> <p>We are expecting reductions on:</p> <p>40% on Transport of Municipal Waste within Boundaries (Diesel)</p> <p>40% on Transport of Municipal Waste outside Boundaries (Diesel)</p>



7. Improving waste collection / HOW Projects

Mature & Programmed/ secure funding:

2A. ii | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Προμήθεια ηλεκτροκίνητων οχημάτων Δήμου Ιωαννιτών // 10 οχήματα και 1 μεταφερόμενη υβριδική μονάδα ΑΠΕ

€

980.000

2024

2A. iii | **ΕΣΠΑ/ΠΕΠ/ INTERREG** | Εγκατάσταση σταθμών ηλεκτροφόρτισης οχημάτων // 57 σημεία σε 173 θέσεις

1.500.000 * PPP

2024

C.H. | **ΕΣΠΑ** | Supply of 4 EV Waste collection vehicles 16m3 EURO VI / REPLACEMENT SCHEME

630.000 * **ΕΣΠΑ**

2024

TO BE PLANNED & implemented by 2030

€

2024

Smart waste collection system:
a system to optimize processes of waste collection , by using dynamic traffic management and waste information (incl. control enforcement with technology)

50.000 * (PPP potential?)

C.H.



Small Evs for CC & Castle & University?
See Example from Chania



Climate City Contract

2030 Climate Neutrality Action Plan

2030 Climate Neutrality Action Plan of Municipality of IOANNINA

Appendix V: Indicator Metadata





Disclaimer

The content of this document reflects only the author's view. The European Commission is not responsible for any use of the information it contains.



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B-3.2: Indicator Metadata

1 Buildings Sector

1.1 BL_CO2_PR_EL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Electricity usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Electricity usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-



1.2 BL_MWh_PR_EL

B-3.2: Indicator Metadata	
Indicator Name	MWh/year from Private Sector Electricity usage
Indicator Unit	MWh/year
Definition	MWh from Private Sector Electricity usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

1.3 BL_CO2_PR_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Diesel usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory



Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

1.4 BL_CO2_PR_LPG

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector LPG usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector LPG usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (LPG usage)



Does the indicator measure indirect impacts (i.e. co- benefits)?	No
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	No
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-

1.5 BL_CO2_PR_NG

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Natural Gas usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Natural Gas usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (Natural Gas usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes



If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-

1.6 BL_CO2_PR_FR/PL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Firewood/Pellet usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Firewood/Pellet usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (Firewood/Pellet usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually



References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-

1.7 BL_CO2_PU_EL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Sector Electricity usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Sector Electricity usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emmissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-

1.8 BL_MWh_PU_EL

B-3.2: Indicator Metadata	
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Indicator Name	MWh from Public Sector Electricity usage
Indicator Unit	MWh/year
Definition	MWh from Public Sector Electricity usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	-
Other indicator systems using this indicator	-

1.9 BL_MWh_ML_EL

B-3.2: Indicator Metadata	
Indicator Name	MWh from Municipality Lightning Electricity usage
Indicator Unit	MWh/year
Definition	MWh from Municipality Lightning Electricity usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes



If yes, which emission source sectors does it impact?	Public Sector (Municipality Lightning Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emmissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

1.10 BL_CO2_ML_EL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Municipality Lightning Electricity usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Municipality Lightning Electricity usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Municipality Lightning Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emmissions



Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

1.11 BL_CO2_PU_DS

B-3.2: Indicator Metadata	
Indicator Name	CO ₂ emissions from Public Sector Diesel usage
Indicator Unit	t. CO ₂ equivalent / year
Definition	CO ₂ emissions from Public Sector Diesel usage in Buildings
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co-benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	-
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied



Other indicator systems using this indicator	-
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1.12 BL_CO2_SCH_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Schools Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Schools Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage for Schools)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	-
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2 Transport Sector



2.1 TS_CO2_PU_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Sector Diesel usage in Public Vehicles
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	-
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.2 TS_CO2_PU_GS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Sector Gasoline usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Sector Gasoline usage in Public Vehicles
Calculation	Based to GHG emissions Baseline Inventory



Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Gasoline usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.3 TS_CO2_PR_FU

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Fuel of Citizens usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Fuel of Citizens usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Fuel of Citizens usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no



If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.4 TS_CO2_ICB_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Intercity Bus Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Intercity Bus Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co-benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data	Municipality of Ioannina



source	
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.5 TS_CO2_CB_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from City Bus Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from City Bus Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.6 TS_CO2_LB_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Lake Boats Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Lake Boats Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

2.7 TS_CO2_IN/OUT_FUEL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from General Transportation In & Out Boundary Fuel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from General Transportation In & Out Boundary Fuel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	



Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private/Public Sector (Fuel of Vehicles)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

3 Waste Sector

3.1 WS_CO2_PU_DIS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Municipal Waste Disposal
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Municipal Waste Disposal
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Waste Disposal)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-



Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina, FODSA
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

3.2 WS_CO2_IN_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Municipal Waste Transportation within city Boundaries
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Municipal Waste Transportation within city Boundaries
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data	Municipality of Ioannina, FODSA



source	
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

3.3 WS_CO2_OUT_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Municipal Waste Transportation outside city Boundaries
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Municipal Waste Transportation outside city Boundaries
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina, FODSA
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-



3.4 WT_CO2_PU_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Sector Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina, DEIA
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

3.5 WT_CO2_PU_EL

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Public Sector Electricity usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Public Sector Electricity usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	



Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

3.6 WT_MWh_PU_EL

B-3.2: Indicator Metadata	
Indicator Name	MWh from Public Sector Electricity usage
Indicator Unit	MWh/year
Definition	MWh from Public Sector Electricity usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Public Sector (Electricity usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes



If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	Yes, Covenant of Mayors platforms
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

4 IPPU Sector

4.1 IP_CO2_PR_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co-benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions



Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

4.2 IP_CO2_PR_LPG

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector LPG usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector LPG usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (LPG usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied



Other indicator systems using this indicator	-
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4.3 IP_CO2_PR_CNG

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector CNG usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector CNG usage
Calculation	Based to GHG emission Baseline
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	yes
If yes, which emission source sectors does it impact?	Private Sector (CNG usage)
Does the indicator measure indirect impacts (i.e. co-benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	-
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

5 AFOLU Sector

5.1 AH_CO2_PR_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Diesel usage
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

5.2 AC_CO2_PR_DS

B-3.2: Indicator Metadata	
Indicator Name	CO2 emissions from Private Sector Diesel usage
Indicator Unit	t. CO2 equivalent / year
Definition	CO2 emissions from Private Sector Diesel usage



Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector (Diesel usage)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no
If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	Yes
If yes, which NZC impact pathway is it relevant for?	Reduced GHG emissions
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-

6 Renewable Energy Systems

6.1 RES_TOT_PROD

B-3.2: Indicator Metadata	
Indicator Name	RES MWh/year production
Indicator Unit	Mwh/year
Definition	MWh/year production from RES
Calculation	Based to GHG emissions Baseline Inventory
Indicator Context	
Does the indicator measure direct impacts (i.e. reduction in greenhouse gas emissions?)	Yes
If yes, which emission source sectors does it impact?	Private Sector and Public Sector (Generated Electricity)
Does the indicator measure indirect impacts (i.e. co- benefits)?	no



If yes, which co-benefit does it measure?	-
Can the indicator be used for monitoring impact pathways?	no
If yes, which NZC impact pathway is it relevant for?	-
Is the indicator captured by the existing CDP/ SCIS/ Covenant of Mayors platforms?	no
Data requirements	
Expected data source	Municipality of Ioannina, DEDDHE/ADMHE
Expected availability	Available annually
Suggested collection interval	Annually
References	
Deliverables describing the indicator	To be studied
Other indicator systems using this indicator	-



Climate City Contract

2030 Climate Neutrality Commitments

2030 Climate Neutrality Commitments of Municipality of Ioannina





The Commitments template is for guidance only. Cities are encouraged to adapt it to their circumstances, while remaining mindful of the CCC Checklist and guidance documents.



Disclaimer

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1 Introduction

Explain your city's motivation to join the EU Mission "100 climate-neutral and smart cities by 2030" and highlight your city's present commitments to climate action. You may also want to include the aims of this document.

Your text

The Municipality of Ioannina, a proud participant in the 100 Climate Neutral Cities initiative, is embarking on a transformative journey towards achieving climate neutrality by 2030. This Commitment Plan serves as a solemn pledge, outlining the strategic imperatives that will bridge the gap between our current greenhouse gas (GHG) emissions inventory and our ambitious 2030 climate neutrality target.

Ioannina, the jewel of northwestern Greece and the capital of the Epirus Region, is a city that embodies both historical richness and forward-thinking dynamism. With a population exceeding 110,000, it serves as a strategic nexus, situated at the intersection of two major highways—Egnatia and Ionia—and in close proximity to Albania and the international port of Igoumenitsa.

Nestled amidst verdant mountains and fast-flowing rivers, the city is further adorned by Lake Pamvotida and its unique inhabited island. This natural beauty, coupled with a multicultural tapestry woven from Christian, Muslim, and Jewish communities, makes Ioannina a city of diverse cultural and environmental assets.

In recent years, Ioannina has evolved into a vibrant hub of academic excellence, technological entrepreneurship, and civic engagement. Home to one of Greece's most significant university institutions, comprising 26 departments across 11 schools and over 20,000 students, the city is also the birthplace of the Epirus Science and Technology Park. This confluence of intellectual and technological capital positions Ioannina as a city ready to embrace the challenges and opportunities of sustainable development.

Our motivation for joining the EU Mission "100 climate-neutral and smart cities by 2030" is rooted in our commitment to leverage these assets for the betterment of our community and the world at large. We see this as a natural progression of our existing efforts to improve living conditions, protect our rich natural environment, and foster a sustainable future.

Over the past few years, Ioannina has become a burgeoning tourist destination, boasting both a robust hospitality sector and a high-quality business-tourism infrastructure. This growth has been paralleled by a focus on sustainability, as evidenced by our ongoing initiatives in renewable energy, sustainable transport, energy efficiency, and waste management. We are already in the process of implementing a range of climate actions, many of which align with the EU's climate neutrality goals.

The Municipality's commitment to climate neutrality is not a recent development. Since 2016, the Mayor signed the Covenant of Mayors, setting an optimistic target of reducing emissions by 40% by 2023 and committing to climate neutrality by 2050. The late Mayor Moses Elisaf, a visionary in his own right, took the optimistic decision to participate in the European Commission's invitation for the 100 European cities aspiring to become climate-neutral and smart cities by 2030. This decision was not made in isolation but was the result of collaborative efforts with academic institutions, private companies, and local stakeholder.

The journey towards climate neutrality for Ioannina is not a newfound ambition. Since 2016, our city has been a signatory to the Covenant of Mayors, initially setting an optimistic target of reducing emissions by 40% by 2023. The late Mayor Moses Elisaf, a visionary in sustainable urban development, further accelerated our efforts by leading the decision of the Economic Committee for the Municipality to join the European Commission's invitation for the 100 European cities aspiring to become climate-neutral by 2030. This Commitment Plan is a tribute to his legacy and a continuation of the work initiated under his leadership.



The Imperative for Action: The global climate crisis and the European Green Deal have heightened the urgency for a more proactive and targeted approach to climate action. The Municipality of Ioannina acknowledges this urgency and is committed to transcending traditional policy frameworks to adopt innovative methodologies and strategies that align with both local imperatives and global climate goals.

Methodological Framework: Inspired by the European Environment Agency's urban environment mapping and assessment, we have adopted the Climate Neutrality Zones (CNZs) methodology. This allows us to divide our territory into distinct zones, each with its unique environmental characteristics, thereby enabling tailored strategies for maximum effectiveness.

Institutional Mechanisms: To ensure systematic monitoring and implementation, we have established Climate Neutrality Offices (CNOs) and a Climate Neutrality Observatory. These institutions will work in close collaboration with the Technical Chamber of Greece (TEE) and other stakeholders to roll out comprehensive climate action initiatives.

Stakeholder Engagement: This Commitments Plan is a product of extensive multi-stakeholder engagement, involving academic institutions, local businesses, civil society, and citizens. It is a living document that will be periodically updated to reflect new commitments, stakeholder inputs, and advancements in climate science and policy.

Strategic Priorities: Our strategic priorities include decarbonizing the energy sector, promoting sustainable mobility, enhancing waste management, and fostering digital innovation for environmental monitoring. These priorities are aligned with our broader Sustainable Energy Management Plan, Local Waste Management Plan, and Sustainable Urban Mobility Plan.

Our journey towards climate neutrality is guided by a comprehensive set of commitments:

1. **Climate Neutrality:** Our primary goal is to achieve climate neutrality by 2030. This ambitious target is focused on stationary energy and transport, two sectors that are pivotal in our city's carbon footprint. We are investing in renewable energy sources and promoting energy efficiency in buildings to reduce our stationary energy emissions. In transport, we are encouraging the use of bicycles and electric cars, and envisioning a pedestrianized city center to reduce our reliance on fossil fuels.
2. **Co-Creation:** We believe in the power of collaboration and are working closely with academic institutions and local citizens to co-create a future Climate Neutral and smart City. This approach ensures that our climate action plans are rooted in the needs and aspirations of our community.
3. **Strategic Planning:** We have developed several strategic plans, including the Sustainable Energy Action Plan, Sustainable Urban Mobility Plan, Sustainable Urban Development Strategy, and Waste Management Plan. These plans provide a roadmap for our climate action efforts and are being implemented with the active participation of our community.
4. **Organizational Change:** Recognizing the need for dedicated resources, we intend to create a new administrative unit focusing on climate neutrality planning and monitoring. This unit will be responsible for coordinating our climate action efforts and ensuring that we stay on track to achieve our goals.
5. **Data Monitoring:** We are committed to data-driven decision making. To this end, we are renewing collected data, creating a tool for monitoring and reporting, evaluating the current situation, and proposing policies/actions for updating the existing plans.
6. **Nature-Based Solutions:** We are exploring nature-based solutions to address global societal challenges. This includes co-creating urban green infrastructure that not only enhances the beauty of our city but also contributes to our climate neutrality goals.
7. **Lake Pamvotis Waterway:** We are considering the development of a waterway on Lake Pamvotis. This project has the potential to provide a sustainable transport alternative and contribute to our climate neutrality goals.
8. **Waste Management:** We are improving waste management, with a focus on separate collection at Green Points, mobile Green Points, and municipal spaces. We are also



enhancing the separate collection of special waste streams. These efforts will not only reduce our carbon footprint but also contribute to a cleaner and healthier environment for our community.

9. **Awareness Campaign:** We are planning to implement an awareness campaign to sensitize and prevent waste generation. This campaign will educate our community about the importance of waste reduction and recycling, and encourage them to contribute to our climate neutrality goals.

The aim of this document is to detail these commitments and provide a roadmap for how the Municipality of Ioannina will maintain and enhance its climate neutrality status. This document serves as a testament to our dedication to the fight against climate change and a guide for our ongoing efforts.

Our approach is guided by key principles such as accountability, transparency, and innovation. We believe in co-creation, multi-actor and citizen engagement, and systemic and demand-driven actions. We are committed to thorough monitoring and joint learning, ensuring that our actions are effective and our progress is measurable.

We understand that the Climate City Contract is a living document and should be updated periodically to review its effectiveness, accountability to commitments, and to include new stakeholders and commitments in line with budgetary and monitoring cycles and citizen engagement processes.

Our commitments capture the outcomes of the co-creation process with local, regional, and national stakeholders, establishing new ways of working together to meet the 2030 climate neutrality challenge. Our overall priorities aim to bring about systemic change in the city as a whole, including in the sectors responsible for most emissions in the city.

We are committed to making meaningful changes that will have a profound impact on reducing GHG emissions in our city. We are setting ambitious objectives that will bring about real measurable change and radically reduce GHG emissions. We are providing a concrete timeline and monitorable targets for achieving these changes, as well as identifying which stakeholders need to be involved and how.

We, the undersigned, hereby commit to making the Municipality of Ioannina climate neutral by 2030. We agree on the joint vision and commitments, as formulated in the Municipality of Ioannina's Climate City Contract. We are dedicated to this mission and will work tirelessly to achieve our goals.

This Commitment Plan is not merely a document; it is a manifestation of our collective will, shared vision, and steadfast commitment to a sustainable and climate-neutral future. It sets the stage for a transformative journey that will not only make Ioannina a beacon of sustainability but also contribute to the global fight against climate change.

2 Goal: Climate neutrality by 2030

Articulate your 2030 climate neutrality ambition, as expressed and defined in your Cities Mission Expression of Interest (EoI). This should include your ambition and commitment to a 2030 horizon as a whole city, as well as describe any exclusion areas and summarise how these areas would be addressed beyond 2030. (A more detailed plan for exclusion areas should be included in the 2030 Climate Neutrality Action Plan.) Your 2030 ambition should be supported at a minimum by a Council decision, and it is recommended that it is also supported by a wider stakeholder group. We also recommend you to list other co-benefits you aim to achieve when working towards the climate neutrality goal, like well-being, health, equity, justice, financial savings.

Your text



The Municipality of Ioannina, with its unwavering commitment to climate neutrality by 2030, is driven by a sense of urgency and opportunity. This ambitious goal is not only a response to the global climate crisis but also a chance to foster a healthier, more sustainable, and equitable city for all its residents.

Our commitment to climate neutrality by 2030 is explicitly articulated in our Cities Mission Expression of Interest (EoI). This commitment encompasses the entirety of Ioannina and is backed by a Council decision (473/2023), as well as the support of a broad group of stakeholders, including local citizens, academic institutions, and businesses.

Our primary focus areas are stationary energy and transport. However, we acknowledge that there may be sectors that cannot be fully addressed by 2030. For these areas, we will formulate a comprehensive plan within our 2030 Climate Neutrality Action Plan, outlining strategies to address these sectors beyond 2030. This ensures that no area is overlooked in our pursuit of climate neutrality.

Our commitment to climate neutrality extends beyond the reduction of greenhouse gas emissions. We envision a city that is healthier, more sustainable, and equitable for all its residents. Our climate action efforts aim to yield several co-benefits, including:

- ✓ **Well-being:** By fostering a cleaner and healthier environment, we aim to enhance the overall well-being of our residents.
- ✓ **Health:** By mitigating air pollution and increasing access to green spaces, we aim to improve public health.
- ✓ **Equity:** By ensuring all residents are involved in our climate action efforts, we aim to distribute the benefits of climate action equitably.
- ✓ **Justice:** By actively addressing the climate crisis, we contribute to climate justice, ensuring future generations inherit a healthy and sustainable planet.
- ✓ **Financial Savings:** By endorsing energy efficiency and renewable energy, we aim to assist residents and businesses in reducing their energy costs.

In addition to these co-benefits, we are dedicated to transforming Ioannina into a smart city, leveraging technology and data to enhance the quality of life, sustainability, and efficiency of urban services.

Our commitment to climate neutrality by 2030 is a testament to our dedication to combating climate change and creating a brighter future for our city and our planet. We are eager to embark on this journey and are committed to working relentlessly to achieve our goals.

Our approach is underpinned by key principles such as accountability, transparency, and an innovative mindset. We believe in the power of co-creation, engaging multiple actors and citizens, and implementing systemic and demand-driven actions. We are committed to rigorous monitoring and joint learning, ensuring our actions yield measurable results and our progress is transparent.

In our journey towards climate neutrality, we are considering the creation of a new department focusing on planning and managing actions for climate neutrality - the Climate Crisis and Sustainable Development Unit. This unit, under the supervision of the Mayor, will target the development of a NetZero2030 plan, create a Task Team of experts, renew all collected data, create a new tool for monitoring and reporting, and propose policies/actions to reach the aim of climate neutrality. Closer engagement of the local community will also be a unit's aim. This innovative approach will ensure that our city is not only prepared for the challenges ahead but also poised to seize the opportunities that come with the transition to a climate-neutral future.

3 Key priorities and strategic interventions

This is the core section of the Commitments document that should summarise **at least 3 or 4 systemic strategic priorities** that need to be implemented for your city to become climate neutral by 2030. These



should be meaningful changes that will have a profound impact on reducing GHG emissions in your city, like decarbonising the heating system in the city or generating 100% energy from renewables. The individual commitments between your city and other stakeholders should address these key priorities and contribute to reaching them. The annexed 2030 Climate Neutrality Action Plan should describe the all interventions, including those to reach your priorities as well as all further actions, in detail and describe how your city plans to implement them.

Your text

The Municipality of Ioannina, in its journey towards climate neutrality by 2030, has identified several key priorities and strategic interventions that will have a profound impact on reducing GHG emissions in our city. These priorities are not only ambitious but also systemic, addressing the root causes of our city's emissions and paving the way for a sustainable future.

Key Priorities and Strategic Interventions

1. Promoting Renewable Energy Sources

- While we acknowledge that achieving 100% of our energy consumption from renewable energy sources (RES) immediately may not be feasible, we are committed to taking advantage of programs to install photovoltaic systems on the roofs of buildings as part of the net metering program. We will also seek the promotion of RES in all industrial, craft, and hotel facilities, both for energy and for heating and cooling. This gradual transition to renewable energy will not only reduce our emissions but also improve air quality and reduce energy costs for our residents.

Specific Actions in Energy Systems

- Action ES_1: Supply and Installation of Internal monitoring system for water network of Ioannina City
- Action ES_2: Supply and Installation of external monitoring system for water network of Ioannina City
- Action ES_3: Upgrade of Existing Wastewater Network Infrastructure
- Action ES_4: Installation of RES on Water Sector – 1 PV station
- Action ES_5: Installation of RES – 4 PV stations
- Action ES_6: Upgrade in the traffic light infrastructure of the Municipality of Ioannina
- Action ES_7: ICT Actions - Digital services and equipment e-governance in the Municipality of Ioannina
- Action ES_8: ICT Actions - Investments in infrastructure and SSC systems for a sustainable & green urban future
- Action ES_9: Public-private partnership for the upgrade of energy efficiency of road and urban lighting system and infrastructure with LED systems

2. Building Infrastructure for Sustainable Transport

- Our second priority is to build infrastructure for sustainable transport. We plan to invest in public transport, cycling and walking infrastructure, and electric vehicle charging stations. We also plan to explore innovative transport solutions, such as a waterway on Lake Pamvotis. By promoting sustainable transport, we aim to reduce emissions from the transport sector, improve air quality, and enhance the livability of our city.

Specific Actions in Mobility & Transport

- Action MT_1: Walking and cycling: a push towards a real sustainable modal shift



- Action MT_2: Greening the bus fleet and strengthening the public transport role
- Action MT_3: Low to zero emission zones: Thorough and JUST transition for pilot zones
- Action MT_4: Less cars- cleaner cars
- Action MT_5: Cleaning and strengthening waterborne transportation
- Action MT_6: Greening logistics. A new era in goods transportation
- Action MT_7: Using Sustainable Transportation on waste collection

3. **Enhancing Energy Efficiency**

- Our third priority is to enhance energy efficiency in buildings and industries. We plan to implement a range of measures, including energy audits, retrofitting programs, and energy management systems. By improving energy efficiency, we can reduce energy consumption, lower emissions, and save costs.

Specific Actions in Built Environment

- Action BE_1: Energy efficiency interventions in educational facilities of the Municipality of Ioannina
- Action BE_2: Replacement of lighting fixtures and installation of a control system in buildings of the Municipality of Ioannina
- Action BE_3: Energy efficiency interventions in buildings and infrastructure of the Municipality of Ioannina
- Action BE_4: Interventions for the energy upgrade of the Municipality's buildings
- Action BE_5: Installation of RES in existing municipal infrastructure
- Action BE_6: Organizing events and issuing guides, brochures and other forms in order to inform the citizens and visitors of the Municipality about the benefits and advantages of RES
- Action BE_7: Saving energy and increasing energy efficiency with energy upgrading of existing buildings
- Action BE_8: Home Energy Saving Program
- Action BE_9: Recycle-Change Water Heater
- Action BE_10: Energy Upgrade of the Municipality's Building Stock through ESCOs

4. **Implementing a Local Waste Management Plan**

- Our fourth priority is to implement a local waste management plan. This plan will focus on reducing waste generation, promoting recycling and composting, and improving waste management practices. By managing our waste more effectively, we can reduce emissions from the waste sector and contribute to a cleaner and healthier environment.

Specific Actions in Waste & Circular Economy

- Action WCE_1: Separate collection of paper & cardboard
- Action WCE_2: Brown bins (food and garden waste) and separate bio-waste collection
- Action WCE_3: Development of a household composting network
- Action WCE_4: Organization of separate waste collection in municipal buildings
- Action WCE_5: Strengthening of the present waste collection network, creating a network for separate collection, and organization of the collection waste management of specific types of waste
- Action WCE_6: Construction of Green Points
- Action WCE_7: Supply of Mobile Green Points
- Action WCE_8: Construction of Recycling Corners
- Action WCE_9: Establishment of a Center for Creative Reuse of Materials
- Action WCE_10: Digital transformation: applying digital tools to waste collection and management
- Action WCE_11: Information and awareness programs for citizens and visitors (Prevention, reuse, repair, proper recycling)
- Action WCE_12: Green Public Procurement



- Action WCE_13: Adoption of the circular economy in the sector of silver jewellery designers and makers
- Action WCE_14: Pilot implementation of circular economy and zero waste on Pamvotis Island
- Action WCE_15: Utilisation and distribution of surplus food from supermarkets, cafes, restaurants
- Action WCE_16: Support (inform, empower) private sector businesses to adopt circular production models
- Action WCE_17: Industrial symbiosis

These strategic interventions will be implemented in collaboration with a wide range of stakeholders, including local citizens, businesses, and academic institutions. We believe that this collaborative approach is key to achieving our climate neutrality goal. The detailed plan for these interventions, including timelines, targets, and stakeholder roles, as well as the actions that have been conducted during the development of the plans (Action - Investment - Commitment plans) are included in our 2030 Climate Neutrality Action Plan.

We understand that achieving climate neutrality by 2030 is a challenging task. However, we are committed to this goal and believe that it is not only achievable but also beneficial for our city. By reducing our emissions, we can improve air quality, enhance public health, create jobs, stimulate local innovation, and save costs. We are excited about this journey and look forward.

4 Principles and process

Highlight the key principles that will guide your city as it implements its Climate City Contract, like accountability, transparency, or an open attitude to new approaches. The process should encompass principles like **co-creation, innovation, multi-actor and citizen engagement**, and should be **systemic and demand-driven in nature**. It should also be based on **monitoring** and **joint learning**. The Commitments Guidance document provides more specific guidance on how integrate these principles into your own process.

Your text

As the Municipality of Ioannina advances on its ambitious path towards achieving climate neutrality by 2030, we are steadfastly guided by a set of core principles. These principles serve as both the bedrock of our strategy and the navigational compass steering us through the intricate landscape of challenges and opportunities that await.

Foundational Principles

- ✓ **Accountability:** Our commitment to accountability is unwavering. Recognizing its pivotal role in engendering stakeholder trust, we will consistently report on our progress and remain receptive to external scrutiny and feedback.
- ✓ **Transparency:** We uphold transparency as a cardinal principle, pledging to disseminate information in an open and honest manner. This ensures that our stakeholders are not only well-informed but also effectively engaged in our climate neutrality initiatives.
- ✓ **Openness to New Approaches:** Innovation is the linchpin of our strategy. We are open to pioneering ideas and methodologies that can accelerate our journey towards climate neutrality.
- ✓ **Co-creation:** We are advocates of the co-creation paradigm, working in close collaboration with local citizens, businesses, and academic institutions to formulate and execute our Climate City Contract.
- ✓ **Multi-Actor and Citizen Engagement:** Our approach is inclusive, involving a diverse array of actors ranging from local citizens to governmental agencies. We believe that collective action is instrumental in combating climate change.
- ✓ **Systemic and Demand-Driven Approach:** We adopt a holistic and demand-driven strategy, targeting the root causes of emissions in our city and crafting interventions that are both comprehensive and integrated.



- ✓ **Monitoring and Joint Learning:** We are committed to a culture of continuous improvement, facilitated by regular monitoring and a willingness to adapt. Learning is a two-way street; we will share our insights with other cities and assimilate their best practices.

Stakeholder Engagement and Communication

In alignment with these principles, we have instituted multiple platforms for stakeholder consultation and public engagement:

- ✓ **Consultation Platforms:** We have launched various consultation mechanisms, including questionnaires and a dedicated Municipality consultation platform, to gather valuable insights from our community.
- ✓ **Workshops:** A series of workshops have been conducted, serving as forums for collaborative dialogue and co-creation of solutions.
- ✓ **Information and Communication Campaign:** Our public engagement strategy employs a multi-faceted approach, leveraging both digital and traditional media channels to maximize reach and impact. Central to this effort is our specialized information portal, 2030.ioannina.gr, which serves as a comprehensive resource for educating and keeping the community updated on our climate initiatives. In addition to the portal, we have an active presence on various Social Media platforms, collectively referred to as SoMe, where we disseminate timely updates, educational content, and calls to action. To ensure a unified and recognizable brand identity across all communication channels, our campaign features its own distinct logo, as illustrated in the figure below:



- ✓ **Mission Friday for the Transition Team:** This internal initiative serves as a regular checkpoint for our Transition Team to review progress, strategize, and align their actions with our overarching goals.

All of our accomplishments in rallying pertinent stakeholders, as well as our comprehensive strategies for future engagement, are meticulously detailed in Chapter 2, titled "Work Process," of our Action Plan. This chapter serves as both a record of our past successes in mobilizing community actors and



a blueprint for how we intend to involve various stakeholders in upcoming iterations of our Climate City Contract (CCC).

Future Commitments

We intend to continue these consultation and workshop platforms, recognizing their invaluable contribution to our mission. Our partnerships with a multitude of agencies and organizations, including but not limited to the Energy Regulatory Authority, Industrial Area, and various academic institutions, underscore our collective commitment to this monumental task.



5 Signatories

Include a list of stakeholders who have committed to help your city achieve its goal to reach climate neutrality by 2030. Detailed commitments and agreements between individuals or groups of stakeholders should be appended to this Commitments document. This list will likely increase over time.

The table below enumerates the stakeholders who have formalized their commitment to Ioannina's climate objectives by signing the "Memorandum of Understanding and Cooperation (MoU) for Participation in the European Commission's '100 Climate-Neutral and Smart Cities' Program." Through this legally binding document, each stakeholder has pledged not only to support but also to actively engage in our collective endeavor. The MoU further delineates the specific actions that each signatory is responsible for, thereby providing a detailed roadmap for transforming Ioannina into a climate-neutral and smart city.

Name of the institution	Sector/Area	Legal form	Name of the responsible person	Position of the responsible person
Region of Epirus	Urban Planning – Buildings Transportation and Sustainable Mobility Circular Economy – Waste Management	Memorandum of Understanding and Cooperation	Alexandros Kachrimanis	District Governor
Panhellenic Union of Certified Public Works Contractors Engineers	-	Memorandum of Understanding and Cooperation	Georgios Ntatsis	President
Cooperative Bank of Epirus	Urban Planning – Buildings Transportation and Sustainable Mobility Circular Economy – Waste Management	Memorandum of Understanding and Cooperation	Ioannis Vougioukas Vasileios Tsoukanelis	CEO Designated Executive Advisor



Technical Chamber of Greece – Epirus Department	Urban Planning – Buildings Transportation and Sustainable Mobility	Memorandum of Understanding and Cooperation	Ioannis Tsigkros	President
Intercity transport operator of the Prefecture of Ioannina	Transportation and Sustainable Mobility	Memorandum of Understanding and Cooperation	Grigorios Gkikas	CEO
Urban transport operator of the Prefecture of Ioannina	Transportation and Sustainable Mobility	Memorandum of Understanding and Cooperation	Stefanos Moustaklis	CEO
Poultry Industry TH. NITSIKOS ABEE	Transportation and Sustainable Mobility Tree Planting	Memorandum of Understanding and Cooperation	-	-
Directorate of Secondary Education of Ioannina	Information and awareness programs	Memorandum of Understanding and Cooperation	Stamatoula Logotheti	Director
Union of Silversmiths of Ioannina	Waste & circular economy	Memorandum of Understanding and Cooperation	Konstantinos Zervas	CEO
Association of Cafes - Bars, Entertainment Centers & Related Professions of the Prefecture of Ioannina "Pamvotis"	Waste & circular economy Transportation and Sustainable Mobility	Memorandum of Understanding and Cooperation	Christos Tatsis	President
Federation of Professional Craft and Trade Associations of the Prefecture of Ioannina	Waste & circular economy	Memorandum of Understanding and Cooperation	Christos Tatsis	President



	Transportation and Sustainable Mobility			
General Hospital of Ioannina G. Chatzikosta	Energy Saving	Memorandum of Understanding and Cooperation	Spyridon Derdemezis	Hospital Manager
Ioannina Basin Water Supply Association	Energy Saving	Letter of Commitment	George Arletos	President
Directorate of Primary Education of Ioannina	Information and awareness programs	Memorandum of Understanding and Cooperation	Evangelia Giannakou	Director
Association of Hoteliers of the Prefecture of Ioannina	Waste & circular economy	Memorandum of Understanding and Cooperation	Spyridon Sourelis	President
University of Ioannina	Transportation and Sustainable Mobility Information and awareness programs Waste & circular economy Urban Planning – Buildings	Memorandum of Understanding and Cooperation	Anna Batistatou	Chancellor of the University
Ioannina Chamber	Urban Planning – Buildings Transportation and Sustainable Mobility Circular Economy – Waste Management	Memorandum of Understanding and Cooperation	Eythimios Chrisostomou	President



<p>Agricultural Poultry Cooperative Ioanninon "PINDOS"</p>	<p>Transportation and Sustainable Mobility</p> <p>Tree Planting</p> <p>Circular Economy – Waste Management</p>	<p>Memorandum of Understanding and Cooperation</p>	<p>Ioannis Patounas</p>	<p>Director of research, development and operations management</p>
<p>Municipal Water Supply and Sewerage Company of Ioannina</p>	<p>Energy Saving</p>	<p>Memorandum of Understanding and Cooperation</p>	<p>Aristeides Mpartzokas</p>	<p>President</p>



Appendix I: Individual Signatory Commitments

Specific agreements that articulate the details of the climate action(s) between the municipality and other stakeholders (individual or groups) can be added to the Commitments document appendix.

For achieving the milestones of climate neutrality, Ioannina Municipality received a number of support letters, such as by other political parties, by the Central Government, as well as by Educational Institutions, Chambers and Associations of the local Society and Private Sector Enterprises and Companies.

In addition, Ioannina proceeded to the signing of Memoranda of Cooperation (MoUs) with important supra-local bodies, all the neighbouring municipalities, as well as other municipalities in Greece and abroad that share the same goals and perspectives. Among them stand the Hellenic Network of Small Islands (ESIN), the Cities Network for Sustainable Development and Circular Economy “Sustainable City”, the UNESCO Chair in Northern Greece, the Network of Cities with Lakes, the Network of European Cities for Sustainable Development “Efxeini Poli”.

At the same time, as the goal of the green transition is supranational, Ioannina has signed memoranda of cooperation and understanding with the Municipalities of Limassol and Aradippou, the Municipality of Kiryat Ono in Israel, as well as the Spanish city of Valladolid.

These documents can be found on the Appendix and are listed below. They are also posted on our website: https://2030.ioannina.gr/?page_id=559

✓ **Laboratories and Universities**

- Laboratory of Climatology and Atmospheric Environment (LACAE) of the Department of Geology and Geoenvironment at the National and Kapodistrian University of Athens (NKUA)
- Sustainable Mobility Unit – National Technical University of Athens, School of Rural Surveying and Geoinformatics Engineering
- UNESCO Chair Con – E – Ect, International Hellenic University
- University of Ioannina

✓ **Greek Municipalities**

- Municipality of Dodoni
- Municipality of Zagori
- Municipality of Zitsa
- Municipality of Metsovo
- Municipality of Voria Tzoumerka
- Municipality of Konitsa
- Municipality of Pogoni

✓ **Foreign Municipalities**

- Kiryat Ono Municipality
- Municipality of Valladolid
- Municipality of Aradippou
- Lemesos (Limassol) Municipality

✓ **Greek Ministry of Environment and Energy**

- General Secretariat of Natural Environment and Water
- General Secretariat of Design & Urban Planning

✓ **Greek Ministry of Transport**

✓ **Local Stakeholders**

- Panhellenic Association of Certified Engineers of Public Works Contractors

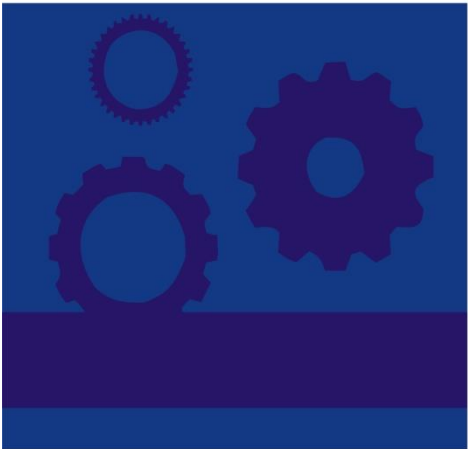


- Poultry Organization of Ioannina
 - Secretariat for Primary education of Ioannina
 - Secretariat of Secondary education of Ioannina
 - Regional federation of persons with disabilities of Epirus
 - Organization of urban transport of Ioannina
 - Organization of suburban transport of Ioannina
 - Police Station of Ioannina
 - Municipal Enterprise of Water & WasteWater of Ioannina
 - Bar Association of Ioannina
 - Economic Chamber of Ioannina
 - Hoteliers union of Epirus
 - Association of property owners of Ioannina City
 - Greek Water Airports
 - Transports Association of Ioannina City
 - Association of industry enterprises of Ioannina
 - Association café-Bar
 - Technical Chamber of Greece – Epirus Department
- ✓ **Cities Networks**
- Network of Cities with Lakes
 - Greek network of small islands
 - EOTC Efxini Poli
 - Sustainable Cities
- ✓ **Private Companies**
- ABB SA Greece
 - TERNA SA
 - ZAGORI Water
 - VIKOS Water
 - Nea Idea Metaforiki
 - Lakiotis Metaforiki
 - SIGFOX HELLAS



Appendix II: Sustainable Urban Development Plan Funding

Appendix III: Municipal Decision 437/2023 on CCC submission



Βιώσιμη Αστική Ανάπτυξη στο ΕΠ Ήπειρος 2021-2027

Ιωάννινα, 22 Δεκεμβρίου 2021



Στόχοι Πολιτικής

1: μια **Εξυπνότερη Ευρώπη**, μέσω της καινοτομίας, της ψηφιοποίησης, του οικονομικού μετασχηματισμού και της περιφερειακής ψηφιακής συνδεσιμότητας

2: μια **πιο Πράσινη Ευρώπη** χωρίς εκπομπές διοξειδίου του άνθρακα, που επενδύει στην ενεργειακή μετάβαση, στις ανανεώσιμες πηγές ενέργειας και στην καταπολέμηση της κλιματικής αλλαγής

3: μια **πιο Διασυνδεδεμένη Ευρώπη** μέσω της ενίσχυσης της κινητικότητας

4: μια **πιο Κοινωνική και χωρίς αποκλεισμούς Ευρώπη** μέσω της υλοποίησης του Ευρωπαϊκού Πυλώνα Κοινωνικών Δικαιωμάτων

5: μια **Ευρώπη πιο κοντά στους πολίτες** με τη στήριξη των αναπτυξιακών στρατηγικών σε τοπικό επίπεδο και της βιώσιμης αστικής ανάπτυξης σε όλη την ΕΕ

Κατανομή πόρων ΕΠ Ήπειρος 2021-2027

Άξονας	Στόχος Πολιτικής	Ταμείο	Π/Υ (€)	Π/Υ ΒΑΑ (€)
1: Ενίσχυση της περιφερειακής οικονομίας μέσω της αξιοποίησης της έρευνας και της καινοτομίας	ΣΠ1	ΕΤΠΑ	54.104.712	5.500.000
2Α: Προώθηση της αειφορίας και αντιμετώπιση της Κλιματικής Αλλαγής	ΣΠ2	ΕΤΠΑ	73.512.618	5.000.000
2Β: Προώθηση της βιώσιμης πολυτροπικής αστικής κινητικότητας	ΣΠ2	ΕΤΠΑ	12.500.000	10.000.000
3: Ενίσχυση της κινητικότητας	ΣΠ3	ΕΤΠΑ	37.714.257	
4Α: Ενίσχυση υποδομών στο πλαίσιο της κοινωνικής συνοχής	ΣΠ4	ΕΤΠΑ	55.928.513	
4Β: Ενίσχυση της κοινωνικής συνοχής και του ανθρώπινου δυναμικού	ΣΠ4	ΕΚΤ+	108.094.232	5.800.000
5: Στήριξη της βιώσιμης και ολοκληρωμένης χωρικής ανάπτυξης	ΣΠ5	ΕΤΠΑ	76.301.517	34.612.023
6: Τεχνική Βοήθεια ΕΚΤ+		ΕΚΤ+	2.287.172	
7: Τεχνική Βοήθεια ΕΤΠΑ		ΕΤΠΑ	5.622.879	
ΣΥΝΟΛΟ			426.065.900	60.912.023

Βιώσιμη Αστική Ανάπτυξη

4 αστικές περιοχές της Περιφέρειας:

- Δήμοι Αρταίων, Ιωαννιτών, Πρέβεζας και Ηγουμενίτσας

Αφορούν:

- Οικιστικές ενότητες (λειτουργικές περιοχές)
- Πόλεις που αναπτύσσονται σε μία ή περισσότερες Δημοτικές Ενότητες με πληθυσμό > 50.000 κατοίκων
- Πόλεις-έδρες Περιφερειακών Ενοτήτων.

Η Στρατηγική ΒΑΑ Δήμου Ιωαννιτών που εγκρίθηκε στο πλαίσιο της ΠΠ14-20 δύναται να συνεχιστεί και στην ΠΠ 2021-2027 με την κατάλληλη επικαιροποίηση της.

Οι παρεμβάσεις προβλέπεται να αντιμετωπίσουν:

- Περιβαλλοντικές προκλήσεις
- Αλλαγές από την κλιματική αλλαγή
- Λειτουργική οργάνωση των αστικών κέντρων, με κοινωνικές λειτουργίες και εξυπηρετήσεις, την αναβάθμιση του δημόσιου αστικού χώρου, καθώς και της σχέσης της με τον περιαστικό χώρο των αστικών κέντρων.

Σχέδιο Βιώσιμης Αστικής Ανάπτυξης

Χρηματοδότηση:

- Τεχνική Βοήθεια ΕΠ Ήπειρος 2014-2020

Αντικείμενο:

- Σχέδιο Βιώσιμης Αστικής Ανάπτυξης
- Υποστήριξη Αστικής Αρχής στην διαδικασία διαβούλευσης
- **Ο Δήμος υπεύθυνος για την διαμόρφωση της Στρατηγικής**
- **Διαβούλευση με Φορείς**

Στρατηγική:

- Ληφθούν υπόψη όλα τα επίπεδα σχεδιασμού
- Δομημένη με στόχευση σε αποτελέσματα
- Ευρύτερη & Ρεαλιστική

Σχέδιο:

- Παρουσίαση της περιοχής παρέμβασης
- Στόχοι της στρατηγικής
- Σχέδιο Δράσης & χρηματοδότησης (Κατάλογος των πράξεων)
- Υλοποίηση, παρακολούθηση & Σύστημα διακυβέρνησης
- Διαδικασίες διαβούλευσης

1: Ενίσχυση της περιφερειακής οικονομίας μέσω της αξιοποίησης της έρευνας και της καινοτομίας

	Δράση	Δικαιούχοι	Π/Υ (εκ€)	ΒΑΑ (εκ€)
1.ii.1	Ενίσχυση επιχειρήσεων για τον ψηφιακό μετασχηματισμό τους (υλικοτεχνική υποδομή, εξοπλισμός, λογισμικό κλπ.)	ΜΜΕ	4	2
1.ii.2	Ψηφιακές εφαρμογές όπως έξυπνων πόλεων	Αστικοί Δήμοι	1	1
1.iii.2	Ενίσχυση ίδρυσης και εκσυγχρονισμού ΜΜΕ σε περιοχές ΟΧΕ <ul style="list-style-type: none">- Τεχνολογικός εκσυγχρονισμός,- Υιοθέτηση διαδικασιών φιλικών προς το περιβάλλον και παραγωγικών καινοτομιών- Υιοθέτηση οργανωτικών καινοτομιών (π.χ. ανάπτυξη τμημάτων προώθησης προϊόντων)- Υιοθέτηση συστημάτων ποιότητας- Συμμετοχή σε δίκτυα, δράσεις εξωστρέφειας (εκθέσεις, διεθνείς συνεργασίες κλπ.)- Αναβάθμιση τουριστικού προϊόντος	ΜΜΕ	5	2,5

2Α: Προώθηση της αειφορίας και αντιμετώπιση της Κλιματικής Αλλαγής

	Δράση	Δικαιούχοι	Π/Υ (εκ€)	ΒΑΑ (εκ€)
2Α.ι.1	Υλοποίηση παρεμβάσεων που προβλέπονται στα Σχέδια Διαχείρισης Βιώσιμης Ενέργειας <ul style="list-style-type: none">- Δημοτικός φωτισμός και σηματοδότηση των αστικών κέντρων- Βελτίωση της ενεργειακής απόδοσης των αντλιοστασίων ύδρευσης και αποχέτευσης κα.	Αστικοί Δήμοι	10	5

Πιθανή μεταφορά ενταγμένων πράξεων των προσκλήσεων 81/2019 και 102/2020 για την μείωση της υπερδέσμευσης του ΕΠ Ήπειρος 2014-2020.

2B: Προώθηση της βιώσιμης πολυτροπικής αστικής κινητικότητας

	Δράση	Δικαιούχοι	Π/Υ (εκ€)	ΒΑΑ (εκ€)
2B.viii .1	Παρεμβάσεις που συμβάλλουν στην βελτίωση της αστικής κινητικότητας - Ολοκληρωμένες παρεμβάσεις που συνδυάζουν δίκτυα ποδηλατοδρόμων με πεζοδρόμια ή/και δρόμους ήπιας κυκλοφορίας.	Αστικοί Δήμοι	12,5	10

Πιθανή μεταφορά ενταγμένων πράξεων της πρόσκλησης 102/2020 για την μείωση της υπερδέσμευσης του ΕΠ Ήπειρος 2014-2020.

4B: Ενίσχυση της κοινωνικής συνοχής και του ανθρώπινου δυναμικού

Δράση		Δικαιούχοι	Π/Υ (εκ€)	ΒΑΑ (εκ€)
4B.α. 1	Ενεργητικές Πολιτικές Απασχόλησης - Ενίσχυση ΜΜΕ για δημιουργία Νέων Θέσεων Εργασίας (ΝΘΕ).	ΜΜΕ	8	5
	- Ενίσχυση της αυταπασχόλησης (ΝΕΕ)	Ελεύθεροι επαγγελματίες	2	0,8

5: Στήριξη της βιώσιμης και ολοκληρωμένης χωρικής ανάπτυξης

Δράση		Δικαιούχοι	Π/Υ (εκ€)	ΒΑΑ (εκ€)
5.i.1	Χρηματοδότηση ΟΧΕ για Βιώσιμη Αστική Ανάπτυξη.	Φορείς Δημοσίου	34,6	34,6

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.ι.1: Δράσεις Αναβάθμισης και Εξοικονόμησης ενέργειας δημόσιων υποδομών

Δικαιούχοι: Δημόσιοι Φορείς

Π/Υ: 10.037.311€

- Έργα ενεργειακής αναβάθμισης δημόσιων κτιρίων με δυνατότητα ενσωμάτωσης έξυπνων συστημάτων διαχείρισης ενέργειας και αξιοποίησης ΑΠΕ. Προτεραιότητα θα δοθεί σε κτίρια με χαμηλή ενεργειακή απόδοση, στα οποία υπάρχει μεγάλο δυναμικό εξοικονόμησης ενέργειας (π.χ. σχολικά κτίρια, νοσοκομεία δυναμικότητας έως 450 κλίνες, αθλητικά κέντρα, κλπ), σε συνδυασμό με τον επιδεικτικό χαρακτήρα των ίδιων των κτιρίων και των συστημάτων που θα εφαρμοσθούν, ώστε να συμβάλουν στην ευαισθητοποίηση του πληθυσμού
- Έργα ενεργειακής αναβάθμισης και δημιουργικής επανάχρησης αναξιοποίητου δημόσιου κτιριακού αποθέματος

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.ii.1: Υποστήριξη της σύστασης Ενεργειακών Κοινοτήτων (Ε.Κοιν.)

Δικαιούχοι: Ενεργειακές Κοινότητες

Π/Υ: 1.500.000€

- Πιλοτική δράση υποστήριξη της σύστασης Ενεργειακών Κοινοτήτων για εκμετάλλευση ηλιακής ενέργειας.

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.iv.1: Έργα προστασίας από την κλιματική αλλαγή και διαχείρισης καταστροφών

Δικαιούχοι: Δημόσιοι Φορείς

Π/Υ: 17.947.307€

- Έργα αντιπλημμυρικής προστασίας (διευθέτηση οριοθετημένων ρεμάτων – χειμάρρων για την αύξηση της παροχετευτικότητας, την προστασία της κοίτης και τη ρύθμιση της ροής τους) στις Ζώνες Δυνητικά Υψηλού Κινδύνου του Υδατικού Διαμερίσματος.
- Έργα κατασκευής νέων και αναβάθμισης υφιστάμενων δικτύων αποχέτευσης όμβριων υδάτων στις Ζώνες Δυνητικά Υψηλού Κινδύνου του Υδατικού Διαμερίσματος Ηπείρου.
- Μελέτες και έργα για την προστασία από διάβρωση ακτών και κατάκλισης περιοχών από θαλάσσια ύδατα.
- Μελέτες και έργα για την προστασία από κατολισθητικά φαινόμενα.
- Προμήθεια εξοπλισμού για την ενίσχυση των δομών πολιτικής προστασίας.
- Μελέτες και παρεμβάσεις ενίσχυσης για την αντισεισμική προστασία σε δημόσια κτίρια υψηλής συνάθροισης κοινού (δημόσια κτίρια διοίκησης, εκπαίδευσης, παροχής υπηρεσιών υγείας και κοινωνικών υπηρεσιών, αθλητικοί χώροι κ.λ.π.)

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.ν.1: Υλοποίηση δράσεων του Διαχειριστικού Σχεδίου Λεκανών Απορροής

Δικαιούχοι: ΟΤΑ Α βαθμού (και επιχειρήσεις αυτών)

Π/Υ: 1.000.000€

- Προστασία υδροληπτικών έργων επιφανειακών υδάτων για ύδρευση
- Υλοποίηση Σχεδίων Ασφάλειας Νερού

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.ν.2: Δράσεις ενίσχυσης υδρευτικών αναγκών & μείωσης απωλειών ύδατος

Δικαιούχοι: ΟΤΑ Α βαθμού (και επιχειρήσεις αυτών)

Π/Υ: 11.000.000€

- Κάλυψη οικισμών που όλο το χρόνο (κατά προτεραιότητα) ή εποχικά δεν έχουν επάρκεια πόσιμου νερού, σε συνάρτηση με τον πληθυσμό τους, με έργα υδροληψίας και εξωτερικά ή/και εσωτερικά δίκτυα (νέα δίκτυα ή/και αντικατάσταση υφισταμένων) Αντιμετώπιση επειγόντων προβλημάτων ποιότητας (καταρχήν σύμφωνα με τις δεσμευτικές και δευτερευόντως με τις ενδεικτικές παραμέτρους της Οδηγίας για το πόσιμο νερό) με νέες εγκαταστάσεις επεξεργασίας ή αναβάθμιση υφισταμένων εγκαταστάσεων ή/και νέες πηγές υδροληψίας.
- Αντικατάσταση δικτύων ύδρευσης από μόλυβδο, παλαιών (άνω της 30ετίας) δικτύων ύδρευσης από αμίαντο ή χάλυβα, παλαιών (άνω 30ετίας) δικτύων με μεγάλες διαρροές.
- Έργα αντικατάστασης δικτύων ύδρευσης που συνοδεύονται από εγκατάσταση συστημάτων τηλεμετρίας, τηλε-ελέγχου.

Λοιπές Δράσεις αρμοδιότητας Δήμων

2Α.ν.3: Επενδύσεις στη διαχείριση λυμάτων

Δικαιούχοι: ΟΤΑ Α βαθμού (και επιχειρήσεις αυτών)

Π/Υ: 20.000.000€

- Κατασκευή, αναβάθμιση και επέκταση εγκαταστάσεων επεξεργασίας λυμάτων και δικτύων αποχέτευσης.

2Α.νι.1: Συμπλήρωση υποδομών του ΠΕΣΔΑ

Δικαιούχοι: ΟΤΑ Α βαθμού (και επιχειρήσεις αυτών)

Π/Υ: 2.000.000€

- Ολοκλήρωση των Πράσινων Σημείων σύμφωνα με τον αναθεωρημένο ΠΕΣΔΑ (αφορά τους μικρότερους πληθυσμιακά Δήμους της Περιφέρειας.
- Δράσεις και έργα μικρής κλίμακας ή τοπικού ενδιαφέροντος, σύμφωνα με τα επικαιροποιημένα Τοπικά Σχέδια Διαχείρισης Απορριμμάτων.

Λοιπές Δράσεις αρμοδιότητας Δήμων

3.ii.2: Δράσεις οδικής ασφάλειας

Δικαιούχοι: ΟΤΑ Α & Β βαθμού

Π/Υ: 1.000.000€

- Αναβάθμιση οδικού δικτύου (εθνικό, επαρχιακό, τοπικό δίκτυο) και βελτίωση της οδικής υποδομής και του εξοπλισμού της.
- Εγκατάσταση συστημάτων παροχής πληροφόρησης προς τους χρήστες του οδικού δικτύου (επαρχιακό και τοπικό δίκτυο).
- Προμήθεια εξοπλισμού για την πρόληψη των κινδύνων οδικής ασφάλειας και τη διαχείριση των οδικών ατυχημάτων
- Προμήθεια εξοπλισμού για την εφαρμογή δράσεων ενεργητικής οδικής ασφάλειας

Λοιπές Δράσεις αρμοδιότητας Δήμων

4Α.ii.1: Εκσυγχρονισμός και βελτίωση δικτύου Υποδομών προσχολικής Εκπαίδευσης και νηπιακής - παιδικής φροντίδας

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 2.500.000€

- Δημιουργία νέων δομών προσχολικής εκπαίδευσης και φροντίδας
- Εκσυγχρονισμός και αναβάθμιση των υφιστάμενων δομών παιδικής φροντίδας
- Δράσεις εκσυγχρονισμού υφιστάμενων κτιριακών μονάδων και προσαρμογής τους στις νέες συνθήκες που δημιουργήθηκαν από την υγειονομική κρίση.

Λοιπές Δράσεις αρμοδιότητας Δήμων

4Α.ii.2: Εκσυγχρονισμός και βελτίωση υλικοτεχνικής υποδομής και κτιριακών εγκαταστάσεων Α & Β βάρθμιας Εκπαίδευσησ

Δικαιούχοι: ΟΤΑ Α βάρθμου

Π/Υ: 12.500.000€

- Δημιουργία νέων δομών εγκαταστάσεων Α & Β βάρθμιας Εκπαίδευσησ
- Εκσυγχρονισμόσ και η αναβάρθμιση των υφιστάμενων δομών Α & Β βάρθμιας Εκπαίδευσησ
- Δράσεισ εκσυγχρονισμού υφιστάμενων κτιριακών μονάδων και προσαρμογήσ τουσ στισ νέεσ συνθήκεσ που δημιουργήθηκαν από την υγειονομική κρίση

Λοιπές Δράσεις αρμοδιότητας Δήμων

4A.iii.1: Ολοκληρωμένες παρεμβάσεις για την βελτίωση της προσβασιμότητας των ΑμεΑ

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 1.000.000€

- Ολοκληρωμένες παρεμβάσεις για την βελτίωση της προσβασιμότητας των ατόμων με αναπηρίες σε δημόσια κτίρια, σε σημεία τοπικού ενδιαφέροντος, σε κοινόχρηστους χώρους αναψυχής (πάρκα, πλατείες κλπ.), σε δομές πολιτισμού, αθλητισμού κλπ.

4A.iii.2: Υποδομές για Ρομά

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 1.000.000€

- Βελτίωση υποδομών ή δημιουργία νέων για περιθωριοποιημένες κοινότητες όπως Ρομά κλπ.

Λοιπές Δράσεις αρμοδιότητας Δήμων

4Α.ν.2: Υποδομές Φροντίδας και Κοινωνικής Πρόνοιας για Ευπαθείς Κοινωνικά Ομάδες και ΑμεΑ

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 5.000.000€

- Δημιουργία νέων και εκσυγχρονισμός - αναβάθμιση των υφιστάμενων δομών Φροντίδας και Κοινωνικής Πρόνοιας για Ευπαθείς Κοινωνικά Ομάδες και ΑμεΑ
- Δράσεις εκσυγχρονισμού υφιστάμενων κτιριακών μονάδων και προσαρμογής τους στις νέες συνθήκες που δημιουργήθηκαν από την υγειονομική κρίση

Λοιπές Δράσεις αρμοδιότητας Δήμων

4B.ι.1: Παρεμβάσεις για την προώθηση της ενεργού ένταξης των Ρομά

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 350.000€

- Δράσεις υποστήριξης των Ρομά για βελτίωση των συνθηκών διαβίωσης (διαχείριση χώρων μετεγκατάστασης, βελτίωση συνθηκών διαβίωσης)

4B.ια.1: Κέντρα Κοινότητας

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 8.000.000€

- Κέντρα Κοινότητας με παραρτήματα Ρομά, Κέντρα Ένταξης Μεταναστών (ΚΕΜ), Κινητές Μονάδες, Προώθηση Διαπολιτισμικής Διαμεσολάβησης στα Κέντρα Κοινότητας / ΚΕΜ

Λοιπές Δράσεις αρμοδιότητας Δήμων

4B.ια.2: Δομές Παροχής Βασικών Αγαθών

Δικαιούχοι: ΟΤΑ Α βαθμού

Π/Υ: 4.500.000€

- Δομές Παροχής Βασικών Αγαθών όπως Κοινωνικά Παντοπωλεία & Παροχής Συσιτίου, Κοινωνικά Φαρμακεία

4B.ια.3: Παροχή υπηρεσιών φροντίδας σε επίπεδο οικογενειών και τοπικών κοινοτήτων

Δικαιούχοι: Φορείς Δημοσίου

Π/Υ: 11.000.000€

- Κέντρα Δημέρευσης και Ημερήσιας Φροντίδας ΑμεΑ (ΚΔΗΦ)
- Στέγες Υποστηριζόμενης Διαβίωσης (ΣΥΔ) για ΑμεΑ, Μετανάστες ΑμεΑ, Εφήβους
- Κέντρα Ημερήσιας Φροντίδας Ηλικιωμένων (ΚΗΦΗ)

Λοιπές Δράσεις αρμοδιότητας Δήμων

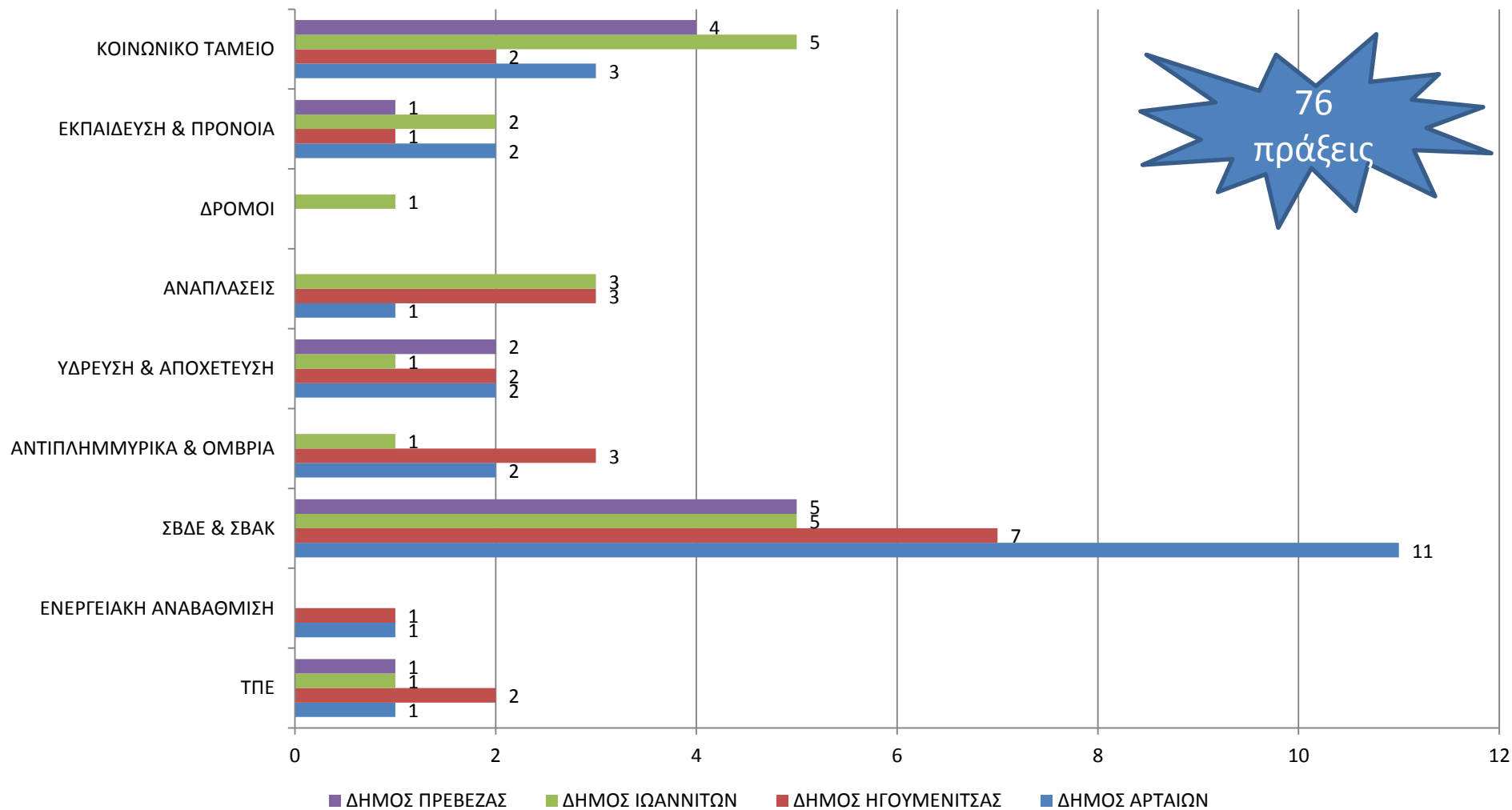
4B.ιβ.1: Παρεμβάσεις για την αντιμετώπιση της φτώχειας και του κοινωνικού αποκλεισμού

Δικαιούχοι: ΟΤΑ Α βαθμού

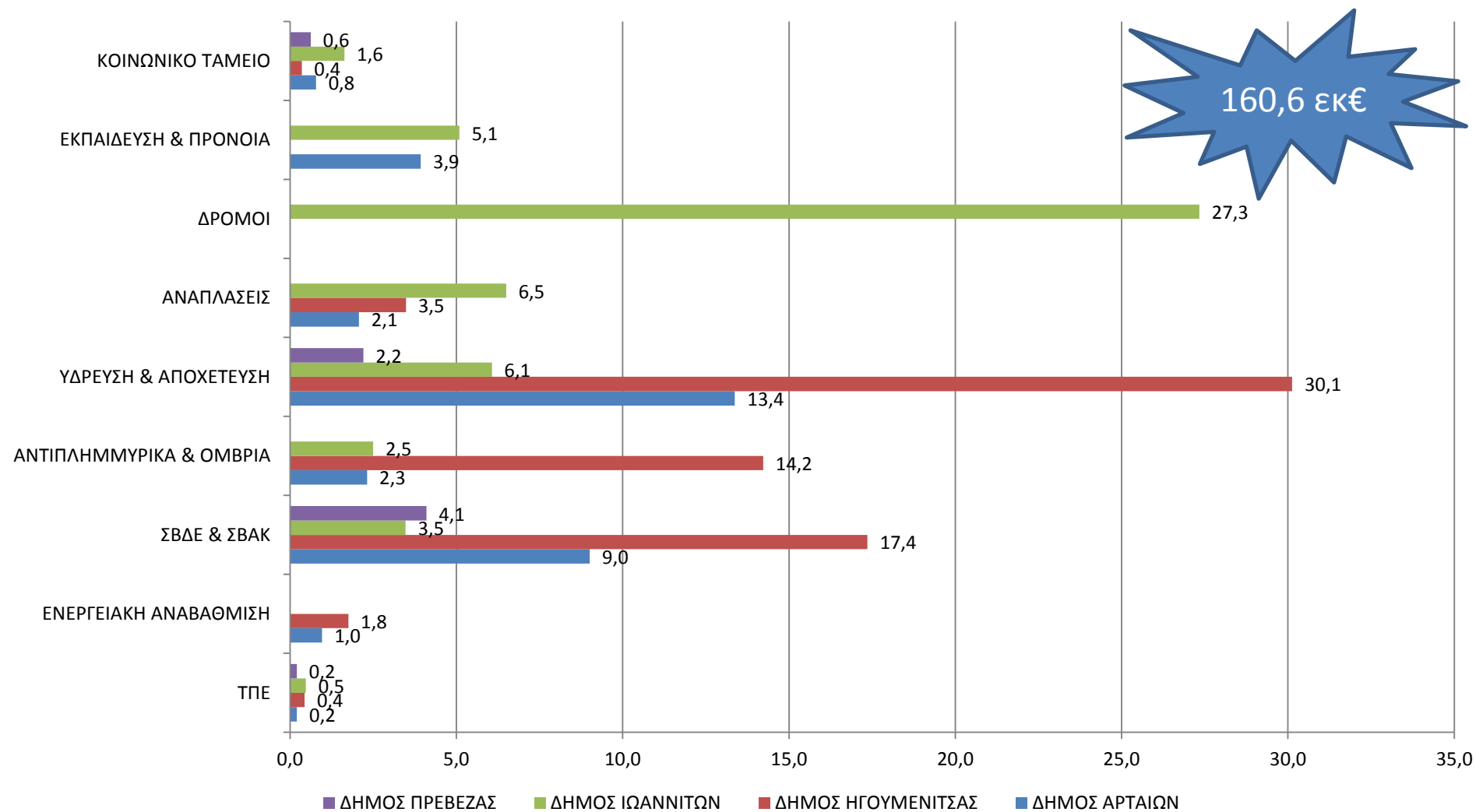
Π/Υ: 1.000.000€

- Δομές φιλοξενίας αστέγων – Κέντρα Ημέρας & Υπνωτήρια

ΕΠ Ήπειρος 2014-2020



ΕΠ Ήπειρος 2014-2020



**ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΔΗΜΟΣ ΙΩΑΝΝΙΝΩΝ
ΑΥΤΟΤΕΛΕΣ ΤΜΗΜΑ ΔΙΟΙΚΗΤΙΚΗΣ ΥΠΟΣΤΗΡΙΞΗΣ ΠΟΛΙΤΙΚΩΝ ΟΡΓΑΝΩΝ
(ΔΗΜΟΤΙΚΟ ΣΥΜΒΟΥΛΙΟ)**

Απόφαση Δημοτικού Συμβουλίου: 437/2023

ΘΕΜΑ: «Έγκριση της υποβολής του κλιματικού συμφώνου της πόλης των Ιωάννινων στο πλαίσιο της Ευρωπαϊκής αποστολής «100 κλιματικά ουδέτερες και έξυπνες πόλεις έως το 2030»».

Α Π Ο Σ Π Α Σ Μ Α

Από το Πρακτικό 26/2023 της, διά ζώσης, Συνεδρίασης του Δημοτικού Συμβουλίου.

Στα Ιωάννινα, σήμερα την 13η.09.2023, ημέρα Τετάρτη και ώρα 19:00, το Δημοτικό Συμβούλιο του Δήμου Ιωαννιτών συνήλθε σε, διά ζώσης, συνεδρίαση σύμφωνα με την υπ' Αριθμ. Πρωτ. 99600/08.09.2023 πρόσκληση της Προέδρου του, που δημοσιεύθηκε στον ειδικό χώρο ανακοινώσεων του Δήμου και επιδόθηκε με αποδεικτικό στους Συμβούλους αυτού, (Άρθρα 67, 65 του Ν. 3852/2010 (Πρόγραμμα Καλλικράτης), όπως ισχύει σήμερα, άρθρα 95, 96 και 159 του Ν. 3463/2006 ΦΕΚ 114/Α/08.06.2006, όπως τροποποιήθηκαν και ισχύουν, άρθρο 31 του Ν. 5013/2023 (ΦΕΚ 12/19.01.2023 τεύχος Α'), άρθρα 3 και 6 του Κανονισμού Λειτουργίας του Δημοτικού Συμβουλίου (απόφ. 104/29.02.2012), η υπ' αριθμ. 375/39167/02.06.2022 εγκύκλιος του Υπουργείου Εσωτερικών και η υπ' αριθμ. 46197/18.06.2019 εγκύκλιος του Υπουργείου Εσωτερικών, όπως τροποποιήθηκαν και ισχύουν) για τη συζήτηση και λήψη αποφάσεων στα θέματα της ημερήσιας διάταξης.

Ο κ. Δήμαρχος είναι παρών.

Πριν από τη συζήτηση των θεμάτων της ημερήσιας διάταξης η Πρόεδρος διαπίστωσε ότι σε σύνολο σαράντα πέντε (45) Δημοτικών Συμβούλων, ήταν:

ΠΑΡΟΝΤΕΣ

1. Ακονίδου Ελένη	Πρόεδρος	18. Μπέγκας Θωμάς
2. Σιούτης Ευστάθιος (Στάθης)	Γραμματέας	19. Γιωτίτσας Θωμάς
3. Πήχας Ευάγγελος	Αντιδήμαρχος	20. Μπέγκα Αλεξάνδρα
4. Βάββας Φώτιος	»	21. Νάστος Δημήτριος
5. Αρλέτος Γεώργιος	»	22. Λιόντος Ιωάννης
6. Παππάς Αριστείδης	»	23. Σίντος Στέφανος
7. Λώλης Γεώργιος	»	24. Μέγα Βασιλική (Βάσω)
8. Αϊβατίδης Ιωάννης	»	25. Τσίλη Παρασκευή
9. Σιορόκας Νικόλαος	»	26. Γιώτη Γεωργία (Γωγώ)
10. Κωτσαντή Χριστίνα	»	27. Καλογιάννη Θεοδώρα (Τατιάνα)
11. Μάντζιος Στέφανος	Δημοτικός Σύμβουλος	28. Κοσμάς Βασίλειος
12. Τσόλης Νικόλαος	»	29. Ευαγγέλου Φίλιππος
13. Βλέτσας Βασίλειος	»	30. Λαδιάς Γεώργιος
14. Μπαρτζώκας Αριστείδης (Άρης)	»	31. Γκίζας Σπυρίδων
15. Πάνου Δημήτριος	»	32. Νάτσης Λάζαρος
16. Λυκογιώργος Ιωάννης	»	33. Παπαχρήστος Βλάσιος
17. Τύρου-Ούζα Αναστασία (Νατάσα)	»	34. Πατσούρας Χρήστος

ΑΠΟΝΤΕΣ

1. Βίνης Γεώργιος	2. Μαμακή-Αθανασίου Γιαννούλα	3. Τσίμαρης Ιωάννης
4. Δολιώτης Χαράλαμπος (Χάρης)	5. Γκόντας Νικόλαος	6. Ζούμπας Στέφανος
7. Αρλέτος Ηλίας	8. Χρυσοστόμου Ευθύμιος (Μάκης)	9. Μαρούλα Σοφία
10. Αργύρης-Σπούρης Βασίλειος	11. Τσουμάνη Όλγα (Όλυ)	

Στη συνεδρίαση παρευρέθηκε και ο Χρήστος Βαγγελής, υπάλληλος του Δήμου με βαθμό Α', για την τήρηση των πρακτικών.

Μετά την έναρξη της συνεδρίασης του Δημοτικού Συμβουλίου και τη διαπίστωση της απαρτίας, κατά την προ ημερησίας συζήτηση διαφόρων θεμάτων του Δήμου, προσήλθαν στην συνεδρίαση του Δημοτικού Συμβουλίου οι Δημοτικοί Σύμβουλοι κ.κ. Γκόντας Νικόλαος, Μαμακή-Αθανασίου Γιαννούλα και Δολιώτης Χαράλαμπος (Χάρης).

Πριν από τη συζήτηση του ανωτέρω θέματος της ημερήσιας διάταξης αποχώρησε από την αίθουσα συνεδριάσεων του Δημοτικού συμβουλίου ο Δημοτικός Σύμβουλος κ. Βασιλείος Βλέτσας.

Πριν από τη συζήτηση του ανωτέρω θέματος της ημερήσιας διάταξης το Δημοτικό Συμβούλιο αποφάσισε ομόφωνα για το κατεπείγον συζήτησης του θέματος, σύμφωνα με τις διατάξεις του άρθρου 74 παρ. 5 του Ν. 4555/2018 και την υπ' αριθμ. 46197/18.06.2019 εγκύκλιο του Υπουργείου Εσωτερικών.

Η Πρόεδρος του Δημοτικού Συμβουλίου κ. Ελένη Ακονίδου στο θέμα της ημερήσιας διάταξης με τίτλο: **«Έγκριση της υποβολής του κλιματικού συμφώνου της πόλης των Ιωάννινων στο πλαίσιο της Ευρωπαϊκής αποστολής «100 κλιματικά ουδέτερες και έξυπνες πόλεις έως το 2030»»** ενημερώνει το θέμα ότι πρέπει να προταχθεί η συζήτηση του ανωτέρω θέματος της ημερήσιας διάταξης διότι στη συνεδρίαση παρίστανται για την ενημέρωση του σώματος οι μελετητές. Το σώμα ομόφωνα αποδέχθηκε την πρόταση της κ. Προέδρου.

Στη συνέχεια η Πρόεδρος του Δημοτικού Συμβουλίου δίνει το λόγο στον Αντιδήμαρχο κ. Γεώργιο Αρλέτο, ο οποίος εισηγείται το θέμα και μεταξύ άλλων λέει: Κύριοι Σύμβουλοι, θέτω υπόψη του σώματος την υπ' Αριθμ. Πρωτ. 93487/23.08.2023 εισήγησή μου, η οποία σας διανεμήθηκε προκειμένου να λάβετε γνώση και έχει ως κατωτέρω: *«Ο Δήμος Ιωαννιτών, εναρμονισμένος με τις πρωτοβουλίες της Ευρωπαϊκής Επιτροπής, δεσμεύεται στην αντιμετώπιση της κλιματικής αλλαγής, ανταποκρινόμενος στις προκλήσεις και επιπτώσεις που αυτή επιφέρει στην κοινότητά μας. Με την ένταξή μας τον Απρίλιο του 2022 στην Ευρωπαϊκή Αποστολή «100 Κλιματικά Ουδέτερες και Έξυπνες Πόλεις έως το 2030», αναλαμβάνουμε τον ρόλο του πρωτοπόρου, επιδιώκοντας να καταστεί η πόλη μας ένα παράδειγμα καινοτομίας. Στόχος μας είναι να προβάλλουμε βέλτιστες πρακτικές και να υλοποιούμε επενδύσεις που θα συμβάλλουν στην επίτευξη της κλιματικής ουδετερότητας έως το 2030.*

Ο Δήμος μας παρουσιάζει ετησίως περίπου 377.000 τόνους ισοδύναμου CO₂ ανά έτος (με έτος αναφοράς μετρήσεων το 2019).

Οι εκπομπές εντοπίζονται στους παρακάτω άξονες:

- Κτιριακά: *περίπου 190.000 τόνοι CO₂*
- Κινητικότητα: *περίπου 160.000 τόνοι CO₂*
- Διαχείριση απορριμμάτων: *περίπου 9.000 τόνοι CO₂*
- Διαχείριση νερού/λυμάτων: *περίπου 15.000 τόνοι CO₂*
- Βιομηχανία: *περίπου 2.000 τόνοι CO₂*
- Χρήσεις Γης: *περίπου 900 τόνοι CO₂*

Οι δράσεις που έχουν σχεδιαστεί έχουν ενσωματωθεί στους ακόλουθους άξονες: Ενεργειακά Συστήματα, Μεταφορές και Κινητικότητα, Απορρίμματα και Κυκλική Οικονομία, Πράσινες υποδομές και λύσεις βασισμένες στη φύση σε δασικές/αγροτικές και αστικές περιοχές καθώς και σε περιοχές ειδικού ενδιαφέροντος, παρεμβάσεις πολεοδομικού και αστικού σχεδιασμού και Δομημένο Περιβάλλον.

Ο σχεδιασμός αποσκοπεί στη μείωση κατά 80-90% των ανθρακικών εκπομπών έως το 2030 σε σχέση με την υφιστάμενη κατάσταση του Δήμου Ιωαννιτών.

Οι προτεινόμενες/υπό υλοποίηση δράσεις ανά άξονα είναι:

Άξονες	Προτεινόμενες Δράσεις / Δράσεις υπό υλοποίηση	
	Δράσεις	Περιγραφή
Ενεργειακά Συστήματα	Προμήθεια και εγκατάσταση συστήματος εσωτερικής παρακολούθησης για το δίκτυο ύδρευσης της πόλης των Ιωαννίνων	Η δράση περιλαμβάνει 11.900 έξυπνους μετρητές νερού για οικιακή κατανάλωση, για την παρακολούθηση των δεδομένων σε καθημερινή βάση από απόσταση, για το εσωτερικό δίκτυο ύδρευσης της πόλης των Ιωαννίνων. Σήμερα το ποσοστό των διαρροών για το δίκτυο ύδρευσης εκτιμάται σε πάνω από 60%. Με την προτεινόμενη δράση το ποσοστό διαρροών θα μειωθεί κάτω του 50% (εκτιμώμενη εξοικονόμηση πάνω από 20%), όπου θα υπάρξει εξοικονόμηση και από την τηλεπαρακολούθηση, η οποία μπορεί να εκτιμηθεί σε 10% εξοικονόμηση ενέργειας στην κύρια υποδομή.
	Προμήθεια και εγκατάσταση συστήματος εξωτερικής παρακολούθησης για το δίκτυο ύδρευσης της πόλης των Ιωαννίνων	Η δράση περιλαμβάνει 50 σταθμούς παρακολούθησης για το εξωτερικό δίκτυο ύδρευσης της πόλης των Ιωαννίνων και αναβάθμιση του υπάρχοντος εξοπλισμού στις γεωτρήσεις. Η προτεινόμενη δράση θα συμβάλει στην εξοικονόμηση τουλάχιστον 15% του νερού και γενικά στην εξοικονόμηση ενέργειας κατά 25%.
	Αναβάθμιση των υφιστάμενων υποδομών του δικτύου αποχέτευσης	Η δράση περιλαμβάνει την πλήρη αναβάθμιση της υφιστάμενης υποδομής του δικτύου αποχέτευσης. Εκτιμάται ότι η δράση θα συμβάλει στην εξοικονόμηση ενέργειας κατά τουλάχιστον 15%.
	Εγκατάσταση ΑΠΕ στον Τομέα Υδάτων – 1 Φ/Β σταθμός	Η δράση περιλαμβάνει την προμήθεια και εγκατάσταση 1 Φ/Β σταθμού 999,54 kW, για net metering στον Τομέα Ύδρευσης και Αποχέτευσης (Δημοτική Επιχείρηση Ύδρευσης και Αποχέτευσης).
	Εγκατάσταση ΑΠΕ – 4 Φ/Β σταθμοί	Η δράση περιλαμβάνει την προμήθεια και εγκατάσταση 4 Φ/Β σταθμών 999,54 kW κάθε ένας, το οποίο θα μοιραστεί με την Ενεργειακή Κοινότητα Δήμου Ιωαννιτών. Οι Φ/Β σταθμοί θα χρηματοδοτηθούν από κεφάλαια του Δήμου ή χρηματοδότηση του ΥΠΕΝ.
	Ολοκληρωμένη παρέμβαση στην υποδομή των φωτεινών σηματοδοτών του Δήμου Ιωαννιτών	Η δράση περιλαμβάνει την αναβάθμιση των περισσότερων φωτεινών σηματοδοτών στη γενική μητροπολιτική περιοχή της πόλης των Ιωαννίνων με νεότερα τύπου LED.
Μεταφορές & κινητικότητα	Περπάτημα και ποδηλασία: μια πραγματικά βιώσιμη μετατόπιση του τρόπου μετακίνησης	Η δράση αποσκοπεί στην αύξηση των υποδομών ήπιας κινητικότητας και στην ενίσχυση του περπατήματος και της ποδηλασίας ως τρόπων μετακίνησης. Η αύξηση των πεζοδρομίων στο κέντρο της πόλης και στις γειτονιές, η αύξηση των πεζοδρομίων της πόλης σε μεγάλους δρόμους, οι ποδηλατόδρομοι και οι δρόμοι ήπιας κυκλοφορίας θα αποτελέσουν τον πυρήνα της νέας εικόνας της πόλης. Η μείωση των μετακινήσεων με το αυτοκίνητο κατά 20% θα επιτευχθεί με επενδύσεις σε νέες υποδομές και πολιτικές ήπιας κινητικότητας, αυστηροποίηση των πολιτικών και ελευθεριών για το αυτοκίνητο κ.λπ. Η δράση αυτή περιλαμβάνει διάφορα έργα, τόσο κοινές υποδομές ανάπλασης όσο και μέτρα ήπιας και σκληρής πολιτικής. Ο βασικός στόχος είναι η δημιουργία ενός κέντρου χωρίς αυτοκίνητα και ζωντανών γειτονιών που περιορίζουν την παρουσία και τη ρύπανση των αυτοκινήτων. Οι φιλικοί προς τους ποδηλάτες και τους πεζούς δρόμοι και οι συμπληρωματικές υποδομές και πολιτικές που προωθούν την ήπια κινητικότητα θα λειτουργήσουν ως κινητήριοι μοχλοί για την αλλαγή των συνηθειών κινητικότητας.
	Πράσινοι στόλος λεωφορείων και ενίσχυση	Η δράση περιλαμβάνει την αναβάθμιση του σημερινού στόλου λεωφορείων με καθαρότερα οχήματα (ηλεκτρικά, υδρογόνου κ.λπ.) και την αναβάθμιση του συνολικού

	του ρόλου των δημόσιων μεταφορών	<p>επιπέδου εξυπηρέτησης των δημόσιων μεταφορών. Υπηρεσίες μεταφοράς κατά παραγγελία, νέα σχέδια κυκλοφορίας λεωφορείων, υπηρεσίες μίνι λεωφορείων για το αστικό κέντρο. Το ΚΤΕΛ Ιωαννίνων (μοναδικός φορέας δημόσιας συγκοινωνίας) είναι ο βασικός εταίρος για την εφαρμογή των απαιτούμενων αλλαγών σύμφωνα με τις ανάγκες της πόλης.</p> <p>Η δράση αυτή περιλαμβάνει επιμέρους έργα - όπως εξετάστηκαν και εγκρίθηκαν διεξοδικά μέσω του Σχεδίου Βιώσιμης Αστικής Κινητικότητας (ΣΒΑΚ) των Ιωαννίνων - όπως η επαναδρομολόγηση των λεωφορειακών γραμμών με τρεις (3) κεντρικούς άξονες και οκτώ (8) δρομολόγια που εξυπηρετούν το πυκνοδομημένο αστικό κέντρο και τις γύρω αστικές περιοχές. Περιλαμβάνει επίσης την αντικατάσταση του στόλου με ένα τοπικό σχέδιο για λεωφορεία και φορτιστές ηλεκτρικών οχημάτων για γρήγορη φόρτιση στην πόλη.</p> <p>Ένα έργο-ορόσημο που επίσης υιοθετείται είναι η ανάπτυξη μιας νέας υπηρεσίας τελεφερίκ που συνδέει έως τώρα ασύνδετες μεταξύ τους περιοχές.</p>
	<p>Ζώνες χαμηλών έως μηδενικών εκπομπών: Ολοκληρωμένη και δίκαιη μετάβαση στις πιλοτικές ζώνες</p>	<p>Η παρούσα δράση καθορίζει τα βασικά βήματα για τη σταδιακή εφαρμογή ενός σχήματος LEZ/ ZEZ (ζώνες χαμηλών εκπομπών/ζώνες μηδενικών εκπομπών) σε τρεις πιλοτικές ζώνες της πόλης. Το κέντρο της πόλης, το νησί και η πανεπιστημιούπολη θα πρωτοστατήσουν και μέχρι το 2025 θα παρουσιάσουν επαναλαμβανόμενα αποτελέσματα στην υπόλοιπη πόλη. Μέχρι το 2028 και το 2030 όλο και περισσότερες περιοχές εφαρμόζουν περιορισμούς που σχετίζονται με τις εκπομπές αερίων του θερμοκηπίου και την κυκλοφορία των αυτοκινήτων. Έμφαση δίνεται στις πολιτικές που διασφαλίζουν μια δίκαιη μετάβαση, ενώ παράλληλα αναπτύσσεται ένα μεσοπρόθεσμο σχέδιο για την απαγόρευση των πετρελαιοκίνητων οχημάτων και όλων των οχημάτων εσωτερικής καύσης στην πόλη. Τα προτεινόμενα συστήματα UVAR (Κανονισμοί Πρόσβασης Οχημάτων σε Αστικές Περιοχές) είναι σύμφωνα με τη συνολική στρατηγική του ΣΒΑΚ για ένα κέντρο χωρίς αυτοκίνητα και μια πράσινη πανεπιστημιούπολη, ενώ εστιάζει επίσης στην αλλαγή των κανόνων στις περιοχές υψηλής και μεσαίας πυκνότητας δόμησης της πόλης.</p>
	<p>Λιγότερα αυτοκίνητα - καθαρότερα αυτοκίνητα</p>	<p>Η δράση αυτή βρίσκεται στο επίκεντρο της στρατηγικής για την αστική κινητικότητα και αποσκοπεί στην υποβοήθηση της συνολικής αστικής ανάπτυξης με τον περιορισμό της παρουσίας των αυτοκινήτων και την ενίσχυση της ηλεκτροκίνησης με ένα ολοκληρωμένο και εκτεταμένο δίκτυο φορτιστών ηλεκτρικών αυτοκινήτων. Η δράση λαμβάνει υπόψη την προσέγγιση "αποφυγή-μετατόπιση-βελτίωση" και αναπτύσσει ένα νέο πρότυπο πολιτικής για την πόλη. Το δίκτυο αυτό συμβαδίζει με την παροχή κινήτρων στους χρήστες ιδιωτικών αυτοκινήτων για την ελαχιστοποίηση της χρήσης συμβατικών αυτοκινήτων/μοτοσικλετών ή/και την αντικατάσταση των οχημάτων τους με καθαρότερα οχήματα που λειτουργούν πλήρως ή εν μέρει με ηλεκτρική ενέργεια, όπως τα ηλεκτρικά οχήματα με μπαταρία ή τα υβριδικά ηλεκτρικά οχήματα plug-in.</p> <p>Επιπλέον, η δράση αφορά την αντικατάσταση του στόλου βενζινοκίνητων και πετρελαιοκίνητων οχημάτων της πόλης με πράσινα οχήματα και άλλες πολιτικές και πρακτικές που περιορίζουν την κυκλοφορία οχημάτων με κινητήρα εσωτερικής καύσης στην πόλη.</p>

	Καθαρισμός και ενίσχυση των πλωτών μεταφορών	Η δράση αυτή αποσκοπεί στην αναβάθμιση του ρόλου των πλωτών μεταφορών με την προσθήκη υπηρεσιών και την ευκολότερη αντικατάσταση των πετρελαιοκίνητων σκαφών που εξυπηρετούν σήμερα τη σύνδεση μεταξύ της πόλης και του νησιού. Η λίμνη Παμβώτιδα μπορεί να γίνει ένας επιπλέον συγκοινωνιακός δίαυλος για τη διασύνδεση διαφόρων περιοχών της πόλης και του συνολικού πολεοδομικού συγκροτήματος των Ιωαννίνων, με περιορισμένη σήμερα πρόσβαση σε δημόσια μέσα μεταφοράς μέσω καθαρών, ηλεκτρικών και γρήγορων ταξι- σκαφών
	Πράσινη διαχείριση της εφοδιαστικής. Μια νέα εποχή στη μεταφορά εμπορευμάτων	Η δράση αυτή αποσκοπεί στη μείωση των εκπομπών των αστικών εμπορευματικών μεταφορών μέσω κανονιστικών συστημάτων που προωθούν σαφή χρονοδιαγράμματα, ενθαρρύνουν τα καθαρά οχήματα, προωθούν τα ποδήλατα μεταφοράς εμπορευμάτων (cargo bikes) και τις υποδομές που επιτρέπουν αυτή τη μετάβαση. Μικρότερα, καθαρότερα και πιο ήσυχα οχήματα θα παραδίδουν αγαθά στο πολεοδομικό συγκρότημα των Ιωαννίνων με την υποστήριξη των Κέντρων Αστικής Εφοδιαστικής και των πλατφορμών φόρτωσης/εκφόρτωσης. Η αντικατάσταση των βαν εσωτερικής καύσης και των φορτηγών που εισέρχονται στην πόλη θα έχει άμεσο αντίκτυπο στην τοπική υγεία και τη ρύπανση, ενώ παράλληλα και για τα οχήματα που εξυπηρετούν τη συνολική αλυσίδα logistics, η οποία θα επιτρέψει τη μείωση των εκπομπών πέρα από τα σύνορά μας.
	Βελτίωση (ή "καθαρισμός") της συλλογής αποβλήτων	Η δράση αυτή αποσκοπεί στην αξιοποίηση της υφιστάμενης στρατηγικής για τα απόβλητα και στην αναδιοργάνωση της συλλογής απορριμμάτων με καθαρότερα και μικρότερα οχήματα.
Απορρίμματα και Κυκλική Οικονομία	Ξεχωριστή συλλογή χαρτιού & χαρτονιού	Σχεδιασμός, ωρίμανση και ανάπτυξη δικτύου χωριστής συλλογής χαρτιού
	Καφέ κάδοι (απόβλητα τροφίμων και κήπου) και χωριστή συλλογή βιοαποβλήτων	Σχεδιασμός και ωρίμανση ενός ξεχωριστού δικτύου συλλογής βιοαποβλήτων Διαλογή στην πηγή από τα νοικοκυριά και τους μεγάλους παραγωγούς Ανάπτυξη του δικτύου χωριστής συλλογής βιοαποβλήτων με 2.186 καφέ κάδους και 2 φορτηγά στο 1ο στάδιο και αξιοποίηση χρηματοδοτικών εργαλείων για την κάλυψη όλων των αναγκών σε εξοπλισμό στο 2ο στάδιο Χωρητικότητα: 5.127 τόνοι οικιακών βιοαποβλήτων
	Ανάπτυξη δικτύου οικιακής κομποστοποίησης	Προμήθεια 950 οικιακών κομποστοποιητών χωρητικότητας 300 lt (190 tn οικιακών βιοαποβλήτων) και 20 κομποστοποιητών σε σχολεία. Μηχανισμός παρακολούθησης και ελέγχου της λειτουργίας των οικιακών κομποστοποιητών και εφαρμογή συστήματος καθοδήγησης για τα συμμετέχοντα νοικοκυριά και σχολεία
	Οργάνωση χωριστής συλλογής αποβλήτων σε δημοτικά κτίρια	Ξεχωριστή συλλογή χαρτιού, πλαστικού, γυαλιού, μετάλλων και άλλων ρευμάτων αποβλήτων σε αθλητικές εγκαταστάσεις, παιδικές χαρές, παιδικούς σταθμούς και άλλες δημοτικές εγκαταστάσεις Προμήθεια 100 συστοιχιών κάδων ανακύκλωσης για χαρτί, πλαστικό, γυαλί, μέταλλο
	α) Ενίσχυση του υφιστάμενου δικτύου συλλογής αποβλήτων, β) δημιουργία δικτύου χωριστής συλλογής,	Τύποι αποβλήτων: - ρούχα και υποδήματα - κλωστοϋφαντουργικά προϊόντα - ογκώδη απόβλητα - χαλιά - στρώματα

	<p>γ) οργάνωση της διαχείρισης της συλλογής αποβλήτων, συγκεκριμένων τύπων αποβλήτων</p>	<ul style="list-style-type: none"> - έπιπλα και ξύλο - βρώσιμα έλαια και λίπη - λιπαντικά έλαια - γυαλί - ηλεκτρικές και ηλεκτρονικές συσκευές και εξοπλισμός (ΑΗΗΕ) και ηλιακά πάνελ - ηλεκτρικές στήλες και συσσωρευτές - απόβλητα εκσκαφών, κατασκευών και κατεδαφίσεων (ΑΕΚΚ) - ελαστικά - οχήματα στο τέλος του κύκλου ζωής τους - φαρμακευτικά προϊόντα που προορίζονται για οικιακή χρήση - Μικρές ποσότητες επικίνδυνων αποβλήτων (εντομοαπωθητικά και φυτοφάρμακα, καθαριστικά/συντηρητικά/ βερνίκια ξύλου, κόλλες/ ρητίνες, μελάνια, χρώματα, βερνίκια, διαλύτες, προϊόντα καθαρισμού και απολυμαντικά) - πλαστικά θερμοκηπίου - σωλήνες άρδευσης - ηλεκτρικά σκούτερ και ηλεκτρικά ποδήλατα - παιχνίδια - βιβλία <p>Ενίσχυση της συνεργασίας των υφιστάμενων Συλλογικών Συστημάτων Εναλλακτικής Διαχείρισης Αποβλήτων Σύμβαση με αντίστοιχο Συλλογικό Σύστημα Εναλλακτικής Διαχείρισης εφόσον αυτό θα υπάρχει στο μέλλον ή εναλλακτικά με νόμιμα αδειοδοτημένους ανακυκλωτές Δημιουργία κατάλληλης υποδομής για τη συλλογή στις Γωνιές Ανακύκλωσης, στα Πράσινα Σημεία, στο Κέντρο Δημιουργικής Επαναχρησιμοποίησης Υλικών ή σε άλλους διαθέσιμους χώρους</p>
	Κατασκευή πράσινων σημείων	Κατασκευή 1 Πράσινου Σημείου για τη χωριστή συλλογή ογκωδών απορριμμάτων (έπιπλα, ηλεκτρικές συσκευές, χαλιά κ.λπ.) δυναμικότητας 7.695,6 t/έτος.
	Παροχή κινητών πράσινων σημείων	Προμήθεια κινητού πράσινου σημείου για την εξυπηρέτηση απομακρυσμένων οικισμών του Δήμου. Μέσω αυτού ενισχύεται η χωριστή συλλογή, καθώς και η ενημέρωση και ευαισθητοποίηση των πολιτών σε πιο δυσπρόσιτες περιοχές.
	Κατασκευή γωνιών ανακύκλωσης	Κατασκευή 11 γωνιών ανακύκλωσης για τη χωριστή συλλογή υλικών όπως: χαρτί, μέταλλο, πλαστικό, γυαλί, μικτές συσκευασίες, βρώσιμα λίπη και έλαια, απόβλητα ηλεκτρικού και ηλεκτρονικού εξοπλισμού (ΑΗΗΕ) μικρού μεγέθους και άλλα.
	Ίδρυση Κέντρου Δημιουργικής Επαναχρησιμοποίησης Υλικών	Ένας οργανωμένος χώρος εντός μιας κτιριακής υποδομής, ο οποίος είναι κατάλληλα διαμορφωμένος, ώστε οι πολίτες να μπορούν να εναποθέτουν, να επισκευάζουν και να επαναχρησιμοποιούν μεταχειρισμένα αντικείμενα, όπως ηλεκτρικές και ηλεκτρονικές συσκευές, παιχνίδια, έπιπλα, ποδήλατα, βιβλία, υφάσματα, συσκευές, χαλιά κ.λπ. Είτε μπορεί να χρησιμοποιηθεί υφιστάμενο κτίριο με τις απαραίτητες τροποποιήσεις/διαμορφώσεις είτε να κατασκευαστεί νέο, καθώς μπορεί να επιλεγεί και η εγκατάστασή του στην περιοχή του Πράσινου Σημείου του Δήμου.
	Ψηφιακός μετασχηματισμός: εφαρμογή ψηφιακών εργαλείων στη συλλογή και διαχείριση αποβλήτων	Ολοκληρωμένη εφαρμογή παρακολούθησης της πληρότητας των κάδων απορριμμάτων. Εφαρμογή για τη συλλογή και διαχείριση περιβαλλοντικών δεδομένων μέσω αισθητήρων. Ευφυές σύστημα παρακολούθησης απορριμματοφόρων.

		Βελτιστοποίηση των διαδρομών μεταφοράς για τη μείωση των διαδρομών και τη βελτίωση της υπηρεσίας αποκομιδής απορριμμάτων
	Προγράμματα ενημέρωσης και ευαισθητοποίησης των πολιτών και των επισκεπτών (πρόληψη, επαναχρησιμοποίηση, επισκευή, ορθή ανακύκλωση)	Εκστρατείες ευαισθητοποίησης σχετικά με την πρόληψη της δημιουργίας αποβλήτων, την επαναχρησιμοποίηση, την επισκευή και τη σωστή ανακύκλωση Πληροφορίες για τα σημεία ανακύκλωσης
	Πράσινες δημόσιες συμβάσεις	Προμήθεια αγαθών, υπηρεσιών και έργων με χαμηλότερο περιβαλλοντικό αποτύπωμα καθ' όλη τη διάρκεια του κύκλου ζωής τους σύμφωνα με τις πολιτικές και τη νομοθεσία της ΕΕ και το Εθνικό Σχέδιο Δράσης για τις Πράσινες Δημόσιες Συμβάσεις. Εκπαίδευση των υπαλλήλων του Δήμου σχετικά με την ενσωμάτωση περιβαλλοντικών κριτηρίων στις προμήθειες
	Υιοθέτηση της κυκλικής οικονομίας στον τομέα των σχεδιαστών και κατασκευαστών ασημένιων κοσμημάτων	Εκπαίδευση των αργυροχρυσοκόων για την υιοθέτηση της κυκλικής οικονομίας στον τομέα τους
	Πιλοτική εφαρμογή της κυκλικής οικονομίας και των μηδενικών αποβλήτων στο νησί της λίμνης Παμβώτιδας	Δέσμευση νοικοκυριών και επιχειρήσεων του νησιού για τη διαλογή των απορριμμάτων τους σε ανακυκλώσιμα (για όλα τα ρεύματα απορριμμάτων), οργανικά και μη ανακυκλώσιμα. Ξεχωριστή συλλογή απορριμμάτων από πόρτα σε πόρτα. Εκτρέπονται όλα τα υπολειμματικά απόβλητα μακριά από τους χώρους υγειονομικής ταφής. Κίνητρα για τους κατοίκους, τους επισκέπτες και τις επιχειρήσεις για τη μείωση των απορριμμάτων και τη σωστή ταξινόμηση των απορριμμάτων.
	Αξιοποίηση και διανομή των πλεοναζόντων τροφίμων από σουπερ μάρκετ, καφετέριες, εστιατόρια	Εφαρμογή ενός τοπικού προγράμματος μείωσης των αποβλήτων τροφίμων Οργάνωση της διανομής τροφίμων και ευαισθητοποίηση σχετικά με τα περισσευούμενα τρόφιμα
	Υποστήριξη (ενημέρωση, ενδυνάμωση) των επιχειρήσεων του ιδιωτικού τομέα για την υιοθέτηση κυκλικών μοντέλων παραγωγής	Κυκλικός σχεδιασμός, ανακαίνιση, ανακατασκευή
	Βιομηχανική συμβίωση	Ανάπτυξη ηλεκτρονικής πλατφόρμας για την ενίσχυση της αξιοποίησης των υπολειμμάτων και υποπροϊόντων των βιομηχανιών και του γεωργικού, κτηνοτροφικού και αλιευτικού τομέα στην ευρύτερη περιοχή (π.χ. τυροκομεία, πτηνοτροφεία, ελαιοτριβεία, βιομηχανίες τροφίμων) για ζωτροφές, παραγωγή ενέργειας, κομπόστ, πρώτες ύλες κ.ά.
Πράσινες υποδομές & λύσεις με βάση τη φύση Τομέας Α - Δάση & αγροτικές περιοχές	Εναλλακτική χρήση δασικών εκτάσεων ως χώρων αναψυχής	Συγκεκριμένες δασικές περιοχές προτείνεται να χρησιμοποιηθούν ως χώροι αναψυχής. Οι παρεμβάσεις αυτές θα ακολουθούν τις οδηγίες προστασίας κάθε περιοχής (μελέτη περίπτωσης - αστικό δάσος της Γορίτσας - τοποθεσία Ζευγάρια)
	Εκπαίδευση και ευαισθητοποίηση (προγράμματα κατάρτισης)	Προγράμματα κατάρτισης για αγρότες σε βιώσιμες γεωργικές πρακτικές - βιολογική γεωργία, αγροδοασκομία, μόνιμη καλλιέργεια. Εργαστήρια ενημέρωσης/ευαισθητοποίησης για τους επισκέπτες και τις τοπικές κοινότητες
Πράσινες υποδομές &	Δημιουργία 5 κλιματικά ουδέτερων ζωνών	Διαχωρισμός πέντε (5) ζωνών στην πόλη των Ιωαννίνων με βάση συγκεκριμένα χαρακτηριστικά. Η δράση αυτή θα

<p>λύσεις με βάση τη φύση Τομέας Β - Αστικές περιοχές</p>		<p>υλοποιηθεί σε 2 φάσεις και θα περιλαμβάνει τη δράση LEZ (ζώνες χαμηλών εκπομπών): Η πρώτη φάση θα υλοποιηθεί στις εξής περιοχές</p> <ul style="list-style-type: none"> - Κάστρο -Από το Τζαμί Καλούτσιανη έως την πλατεία Σαπουντζάκη (οδός Κα' Φεβρουαρίου και κάποιες κάθετες σε αυτήν) -Από το Άλσος έως το Γηροκομείο Ιωαννίνων <p>Δεύτερη φάση: θα επιβεβαιωθεί</p>
	<p>Δημιουργία κλιματικά ουδέτερων γραφείων (CNOs) και κλιματικά ουδέτερου παρατηρητηρίου</p>	<p>Δημιουργία 5 CNOs - ένα για κάθε επιλεγμένη πιλοτική περιοχή. Κάθε γραφείο θα είναι υπεύθυνο για τη δημοσιότητα, την ενημέρωση και την ευαισθητοποίηση για δράσεις και ενεργειακή συμπεριφορά, την προώθηση των ΑΠΕ και την υλοποίηση των παρεμβάσεων.</p> <p>Δημιουργία 1 Παρατηρητηρίου Κλιματικής Ουδετερότητας στο Δήμο που θα συγκεντρώνει, θα συντονίζει και θα παρακολουθεί τα αποτελέσματα των δράσεων.</p>
	<p>Δημιουργία κλιματικά ουδέτερων χώρων πρασίνου</p>	<p>Επανασχεδιασμός μεγάλων αστικών χώρων πρασίνου στην πόλη των Ιωαννίνων με βάση βιοκλιματικούς άξονες. Αυτό θα εφαρμοστεί σε περιοχές όπως το πάρκο Πυρσινέλλα, το πάρκο Κατσαρή</p>
	<p>Εξασφάλιση κοινόχρηστων και κοινοτικών χώρων μέσω προγραμμάτων χρηματοδότησης</p>	<p>Στρατηγικό σχέδιο δράσης για τη διασφάλιση των δημόσιων και κοινόχρηστων χώρων (ΕΣΕΚΚ)</p>
	<p>Ανακαίνιση-ανασχεδιασμός και ανάδειξη συγκεκριμένων χώρων πρασίνου μεσαίου μεγέθους</p>	<p>Ανακαίνιση-ανασχεδιασμός και ανάδειξη συγκεκριμένων χώρων πρασίνου τοπικής σημασίας σε αστικές περιοχές όπως Καρδαμίτσια, Μπιζάνι, Ιωάννινα, περιοχή Ανατολής - Μαγλαραϊκά, Περίβλεπτος, πλατεία Πύρρου</p>
	<p>Επαναχρησιμοποίηση μικρών δημόσιων χώρων και αναβάθμισή τους σε πάρκα τσέπης</p>	<p>Αναβάθμιση μικρών αχρησιμοποίητων ή κακομεταχειρισμένων δημόσιων χώρων σε πάρκα τσέπης</p>
	<p>Βελτίωση και αναβάθμιση των σχολικών αυλών</p>	<p>Αισθητικές παρεμβάσεις σε σχολικές αυλές με τη χρήση βιοκλιματικών υλικών, ενίσχυση των φυτεύσεων κ.λπ.</p>
<p>Πράσινες υποδομές & λύσεις με βάση τη φύση Τομέας Γ - Περιοχές ειδικού ενδιαφέροντος</p>	<p>Βιοκλιματικός σχεδιασμός και ανάδειξη του περιβάλλοντος χώρου</p>	<p>Μελέτη και εφαρμογή του βιοκλιματικού σχεδιασμού και της ανάδειξης του περιβάλλοντος χώρου του Πανεπιστημίου Ιωαννίνων και του Πανεπιστημιακού Γενικού Νοσοκομείου Ιωαννίνων</p>
	<p>Επαναοριοθέτηση της λίμνης Παμβώτιδας</p>	<p>Επαναχάραξη της λίμνης Παμβώτιδας, συμπεριλαμβανομένων των περιοδικά κατακλυζόμενων περιοχών της, με βάση ορθοφωτοχάρτες της δεκαετίας του 1960 στο πλαίσιο της συνεχιζόμενης Ειδικής Περιβαλλοντικής Μελέτης της λίμνης.</p>
	<p>Αποκατάσταση της λίμνης Παμβώτιδας</p>	<p>Μελέτη και εφαρμογή που περιλαμβάνει μόνιμη βιοπαρακολούθηση της κατάστασης των πληθυσμών και την προστασία τους, καθαρισμό του πυθμένα κ.λπ.</p>
	<p>Παρακολούθηση της πλημμυρικής κατάστασης της λίμνης Παμβώτιδας</p>	<p>Δημιουργία βάσης δεδομένων, παρακολούθηση με τηλεσκοπικά μέσα με τη χρήση ορθοφωτοχαρτών ή με τη χρήση drone σε μηνιαία βάση</p>
<p>Μελέτη και εφαρμογή της αποκατάστασης ζωνών εξόρυξης (π.χ. λατομεία)</p>	<p>Μελέτες αποκατάστασης των ζωνών εξόρυξης που διευκολύνουν εναλλακτικές χρήσεις των περιοχών, φυτεύσεις κ.λπ.</p> <p>Οι εγκαταλελειμμένες ζώνες εξόρυξης είναι οι ακόλουθες:</p> <ul style="list-style-type: none"> -A2-101 / τοποθεσία Αγία Παρασκευή (16.500 m²) -A2-102/ τοποθεσία Περιοχή Κοινωνικής Κατοικίας (87.000 m²) -A2-AN1 / θέση γήπεδο Μπάφρα (5.000 m²) - A2-AN2 / τοποθεσία Χερσόλιβαδο (4.000 m²) - A2 - AN3/ τοποθεσία Βρισόκα (58.000 m²) 	

		-A2-B11/ τοποθεσία Κασταλάτα (46.000 m ²) - G3-16 / (80.000 m ²)
	Διαχείριση και συστηματοποίηση της διαδικασίας αναβάθμισης των νεότερων μνημείων	Με δεδομένο ότι τα ακίνητα μνημεία, ακόμη και τα νεότερα, αποτελούν δημιουργήματα μιας άλλης εποχής, τα υλικά και η τεχνολογία δόμησής τους θεωρούνται σήμερα αρκετά παρωχημένα με αποτέλεσμα οι κατασκευές αυτές να είναι εν πολλοίς ανεπαρκείς να εξασφαλίσουν ποιοτικές συνθήκες ζωής στους ιδιοκτήτες τους και να συμβάλλουν στην αποτελεσματική προστασία του περιβάλλοντος, ενώ παρουσιάζουν υψηλό βαθμό εκπομπών αερίων θερμοκηπίου μέσω υψηλών καταναλώσεων ρεύματος και θέρμανσης. Είναι βέβαια δεδομένο, πως για τα κτίρια αυτά, εξαιτίας της ιδιαιτερότητάς τους, δεν θα είναι εφικτή η πλήρης πράσινη μετάβασή τους, αυτό όμως δεν θα έπρεπε να συνεπάγεται τον κατ' απόλυτο τρόπο αποκλεισμό τους από τα μέτρα που εκπληρώνουν τους στόχους της κλιματικής ουδετερότητας, αλλά την προσπάθεια ένταξής τους όσο το δυνατόν περισσότερο σε αυτά με την δημιουργία νέων αρχών, μέτρων και τεχνικών. Είναι, λοιπόν, απαραίτητη η δημιουργία μιας νέας, πιο επίκαιρης μεθοδολογίας για την διαχείριση των νεότερων μνημείων, η οποία θα τοποθετεί την ενσωμάτωση της πολιτιστικής κληρονομιάς στις απαιτήσεις της κλιματικής αλλαγής μεταξύ των ουσιαστικών της στόχων
Πράσινες υποδομές & λύσεις με βάση τη φύση Τομέας Δ - Αστικός σχεδιασμός	Αστικοί δρόμοι πρασίνου: Πόλη-Λίμνη: Εγκάρσιες συνδέσεις	Ο ακανόνιστος και πυκνός αστικός ιστός των Ιωαννίνων εμποδίζει την αντιληπτική, οπτική και φυσική σύνδεση με τη λίμνη. Προτείνονται δύο υποδειγματικοί αστικοί άξονες-πρασίνου: α. Ο πολιτιστικός άξονας που συνδέει σημαντικά τοπόσημα της πόλης (πρώην Παιδαγωγική Ακαδημία, τζαμί Καλούτσιανη, παραλίμνιο Κέντρο Παραδοσιακής Βιοτεχνίας Ιωαννίνων κ.ά.). β. Ο λειτουργικός άξονας που συνδέει την Αλβανία, τις επαρχίες Ζαγορίου, το αεροδρόμιο και τον τερματικό σταθμό λεωφορείων με το κέντρο και το παραλίμνιο πάρκο Κατσάρη.
	Κάθετες συνδέσεις : Δημόσιες σκάλες - Δημόσιοι ανελκυστήρες	Τα Ιωάννινα έχουν σχετικά απότομο ανάγλυφο που δημιουργεί προβλήματα προσβασιμότητας και συνδεσιμότητας. Προτείνεται μια σειρά από κατακόρυφες συνδέσεις με τη μορφή δημόσιων κλιμάκων ή/και δημόσιων ανελκυστήρων που ενισχύουν την προσβασιμότητα και λειτουργούν ως αστικά ορόσημα και σημεία θέασης. Αρχικά προτείνονται τρεις ανελκυστήρες: στο βόρειο τμήμα του Κάστρου (Τζαμί Ασλάν Πασά), στο ανατολικό τμήμα του Κάστρου (Ιτς Καλέ) και στο πάρκο Λιθαρίτσια (πρώην προμαχώνας).
	Πράσινο περιδέραιο	Οι περιαστικές λοφώδεις δασικές περιοχές δυτικά των Ιωαννίνων αποτελούν τη σημαντικότερη περιοχή πρασίνου. Αυτά τα πευκοδάση περιλαμβάνουν μονοπάτια που σήμερα υστερούν σε σχεδιασμό, άνεση και ασφάλεια. Προβλέπεται η αναδάσωση, ο εμπλουτισμός της χλωρίδας και της πανίδας και η κατασκευή μονοπατιών για πεζοπορία, ορεινό τρέξιμο και ποδηλασία. Θα προβλεφθούν δημόσιες συγκοινωνίες, συνδέσεις (ηλεκτρικών) ποδηλάτων και πεζών με τις κατοικημένες περιοχές. Παρόμοια σχέδια θα εφαρμοστούν και στο ιστορικό άλσος της Νήσου.
	Παραλίμνια διαδρομή περιπάτου	Το περιβάλλον της λίμνης Παμβώτιδας αποτελείται από αστικές, αγροτικές και προστατευόμενες φυσικές περιοχές, συμπεριλαμβανομένων τουριστικών σημείων και αθλητικών εγκαταστάσεων, που είναι μόνο εν μέρει προσβάσιμες με τα πόδια και το ποδήλατο. Προτείνεται ένας συνεχής παραλίμνιος περίπατος που θα περιλαμβάνει χώρους

		εκπαίδευσης, ανάπαυσης και περιουλογοής. Οι περιοχές αυτές, συμπεριλαμβανομένου του ιστορικού οικισμού του Νησιού, θα διασυνδεθούν μεταξύ τους μέσω του προτεινόμενου συστήματος δημόσιων μεταφορών στη λίμνη. Μέρος της παραλίμνιας διαδρομής θα είναι η περιμετρική διαδρομή του Κάστρου
	Βιώσιμα δίκτυα αστικών μεταφορών	Λιμναία δημόσια συγκοινωνία: Η λίμνη Παμβώτιδα είναι το κύριο φυσικό στοιχείο των Ιωαννίνων και ο κύριος τροφοδότης της ταυτότητάς τους. Προτείνεται ένα δίκτυο λιμναίων δημόσιων συγκοινωνιών με τοπικά πλοία και πλοία ταχείας μεταφοράς που θα συνδέει την πόλη των Ιωαννίνων με διάφορα σημεία κατά μήκος του παραλίμνιου περιπάτου και του ιστορικού οικισμού του Νησιού. Οι μεταφορές θα πραγματοποιούνται αποκλειστικά από σκάφη με μηδενικό ενεργειακό αποτύπωμα και μηδενικές εκπομπές. Δίκτυο τελεφερίκ : Το δίκτυο τελεφερίκ θα συνδέει το περιαστικό δάσος, το Κάστρο, το Νησί και τις παραλίμνιες περιοχές απέναντι από τα Ιωάννινα, επιλύοντας τα ζητήματα συνδεσιμότητας της πόλης
	Θεματικές ενότητες	<u>Εμπορικές διαδρομές:</u> Η πόλη των Ιωαννίνων είναι μια από τις τελευταίες μεγάλες πόλεις στην Ελλάδα, που διατηρεί ενεργά εργαστήρια της τοπικής βιοτεχνικής παράδοσης στο κέντρο της. Η δράση περιλαμβάνει ένα δίκτυο πεζοδρόμων που θα συνδέει τις περιοχές του κέντρου με τα εργαστήρια. <u>Θρησκευτικές διαδρομές:</u> Η δράση περιλαμβάνει την αποκατάσταση του κτιρίου του Δημαρχείου, την ανακατασκευή της δημοτικής αγοράς και τη σύνδεσή της με το Δημοτικό Ωδείο και τη γειτονική πλατεία. Επίσης, την ανάπλαση του περιβάλλοντος χώρου του Μητροπολιτικού Ναού και την ανακατασκευή της οδού Αγίας Μαρίας και της οδού Κυργίου.
Δομημένο Περιβάλλον	Παρεμβάσεις ενεργειακής απόδοσης σε εκπαιδευτικές εγκαταστάσεις του Δήμου Ιωαννιτών	Η ενεργειακή αναβάθμιση των εκπαιδευτικών εγκαταστάσεων αναμένεται να μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και το ενεργειακό κόστος.
	Αντικατάσταση φωτιστικών σωμάτων και εγκατάσταση συστήματος ελέγχου σε κτίρια του Δήμου Ιωαννιτών	Φώτα LED και έξυπνη διαχείριση του φωτισμού, ώστε να μειωθεί σημαντικά η κατανάλωση ηλεκτρικής ενέργειας.
	Παρεμβάσεις ενεργειακής απόδοσης σε κτίρια και υποδομές του Δήμου Ιωαννιτών	Η ενεργειακή αναβάθμιση των δημοτικών κτιρίων και υποδομών αναμένεται να μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και το ενεργειακό κόστος.
	Παρεμβάσεις για την ενεργειακή αναβάθμιση των κτιρίων του Δήμου	Η ενεργειακή αναβάθμιση των κτιρίων του Δήμου αναμένεται να μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και το ενεργειακό κόστος.
	Εγκατάσταση ΑΠΕ σε υφιστάμενες δημοτικές υποδομές	Η εισαγωγή μεγάλου αριθμού φωτοβολταϊκών και θερμικών ηλιακών συστημάτων σε υφιστάμενα κτίρια θα οδηγήσει σε μείωση των εκπομπών.
	Εκστρατεία ενημέρωσης και προώθησης εθνικών προγραμμάτων	Ο Δήμος Ιωαννιτών θα επιδιώξει μέσω δράσεων ενημέρωσης και προώθησης, την προβολή εθνικών προγραμμάτων, όπως το «ΕΞΟΙΚΟΝΟΜΩ», καθώς και προγράμματα για δράσεις Εξοικονόμησης Ενέργειας Επιχειρήσεων
	Διοργάνωση εκδηλώσεων και έκδοση οδηγιών, φυλλαδίων και άλλων εντύπων για την ενημέρωση των πολιτών και των επισκεπτών του Δήμου	Η ενημέρωση των πολιτών και επισκεπτών του Δήμου για τις ΑΠΕ, θα συνδράμει στην ευαισθητοποίησή τους για δράσεις μετριασμού των εκπομπών CO ₂ .

	σχετικά με τα οφέλη και τα πλεονεκτήματα των ΑΠΕ	
	Εξοικονόμηση ενέργειας και αύξηση της ενεργειακής απόδοσης με την ενεργειακή αναβάθμιση υφιστάμενων κτιρίων	Η ενεργειακή αναβάθμιση των υφιστάμενων κτιρίων αναμένεται να μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και το ενεργειακό κόστος.
	Πρόγραμμα εξοικονόμησης ενέργειας στο σπίτι	Η ενεργειακή αναβάθμιση των κατοικιών θα μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και θα μειώσει αποτελεσματικά το ενεργειακό κόστος για τους πολίτες.
	«ΑΝΑΚΥΚΛΩΝΩ-ΑΛΛΑΖΩ ΘΕΡΜΟΣΙΦΩΝΑ»	Η αλλαγή του θερμοσίφωνα θα συμβάλει επίσης στην ενεργειακή αναβάθμιση των κατοικιών και αναμένεται επίσης να μειώσει τη ζήτηση ενέργειας, τις εκπομπές CO ₂ και να μειώσει αποτελεσματικά το ενεργειακό κόστος για τους πολίτες.
	Πρόγραμμα ΥΠΕΝ «Διατηρώ»	Αντικείμενο του προγράμματος είναι η προστασία και η ανάδειξη της υλικής πολιτιστικής κληρονομιάς και πιο συγκεκριμένα των ιστορικών και αξιόλογων κτηρίων μέσω ενός χρηματοδοτικού εργαλείου που θα απευθύνεται στους ιδιοκτήτες ή άμεσα επωφελούμενους των εν λόγω ακινήτων, με κύριο στόχο την εξοικονόμηση ενέργειας και μείωση εκπομπών αερίων θερμοκηπίου, διατηρώντας την πολιτισμική κληρονομιά των κτιρίων
	Πρόγραμμα ΥΠΕΝ «ΗΛΕΚΤΡΑ»	Το πρόγραμμα αφορά την χρηματοδότηση Δήμων για τη βελτίωση ενεργειακής απόδοσης των εν λειτουργία Κτιριακών Υποδομών, με βασικό σκοπό την αξιοποίηση του δυναμικού εξοικονόμησης ενέργειας και βελτίωσης της ενεργειακής αποδοτικότητας στον κτιριακό τομέα
	Ενεργειακή αναβάθμιση του κτιριακού αποθέματος του Δήμου μέσω ESCOs	Η ενσωμάτωση ενεργειακά αποδοτικών αναβαθμίσεων και ανανεώσιμων πηγών ενέργειας στο κτιριακό απόθεμα του Δήμου λειτουργεί ως συστημικός μοχλός. Δίνοντας προτεραιότητα στην ενεργειακή απόδοση και τη βιωσιμότητα, η δράση αυτή όχι μόνο μειώνει άμεσα την κατανάλωση ενέργειας και τις εκπομπές, αλλά δημιουργεί επίσης ένα προηγούμενο για τη βιώσιμη αστική ανάπτυξη
Απορροφήσεις	Η υπάρχουσα απορρόφηση των φυτεμένων δέντρων στη ευρύτερη περιοχή των Ιωαννίνων	Η δράση αυτή περιλαμβάνει την αναλυτική καταγραφή των υφιστάμενων φυτεμένων δέντρων στην ευρύτερη περιοχή των Ιωαννίνων, τα οποία υποστηρίζουν την απορρόφηση CO ₂
	Νέες δενδροφυτεύσεις	Η δράση αυτή περιλαμβάνει την πρόταση για νέες δενδροφυτεύσεις στην ευρύτερη περιοχή των Ιωαννίνων, με σκοπό την ενίσχυση της απορρόφησης CO ₂

Η κοστολόγηση των δράσεων θα γίνει σε συνεργασία με την Ομάδα Μετάβασης στην Κλιματική Ουδετερότητα και το Υπουργείο Περιβάλλοντος. Το συνολικό κόστος για την μετάβαση στην Κλιματική Ουδετερότητα για την πόλη των Ιωαννίνων αναμένεται να ξεπεράσει το 1 δις σε επενδύσεις από ιδιωτικούς και ευρωπαϊκούς/κρατικούς πόρους.

Ο Δήμος Ιωαννιτών βρίσκεται σε μια καθοριστική στιγμή, όπου μπορεί να αναδειχθεί ως πρωτοπόρος στην προσπάθεια για κλιματική ουδετερότητα, προωθώντας ταυτόχρονα την ευημερία και την ποιότητα ζωής των κατοίκων του.

Καλούμε το Δημοτικό Συμβούλιο να υποστηρίξει αυτήν την προσπάθεια, εγκρίνοντας την ανάπτυξη και την υλοποίηση του προτεινόμενου Σχεδίου Δράσης, με την έγκριση της υποβολής του Κλιματικού Συμφώνου της Πόλης μας (Climate City Contract).

Επιλέγοντας να ακολουθήσουμε αυτήν την κατεύθυνση, δεν ανταποκρινόμαστε απλώς στην παγκόσμια κλήση για δράση κατά της κλιματικής αλλαγής, αλλά θέτουμε τις βάσεις για ένα βιώσιμο, προοδευτικό και ανθεκτικό μέλλον για την πόλη και τους κατοίκους των Ιωαννίνων.

Η υποβολή θα πραγματοποιηθεί βάσει των καθορισμένων χρονοδιαγραμμάτων, μέχρι τις 15.09.2023 στην πλατφόρμα της NetZeroCities που είναι ο επίσημος Φορέας της Ευρωπαϊκής Αποστολής και ακολούθως στην Ευρωπαϊκή Επιτροπή αφού θα έχουν ενσωματωθεί ενδεχόμενες παρατηρήσεις»

Παρακαλώ το σώμα να προβεί σε έκφραση γνώμης και στη λήψη απόφασης.

Ακολούθησε διαλογική συζήτηση μεταξύ των κ.κ. Δημοτικών Συμβούλων κατά τη διάρκεια της οποίας από το Προεδρείο του Δημοτικού Συμβουλίου ο λόγος δόθηκε:

❖ Στον. κ. Κωνσταντίνο Καρατσώλη, Δικηγόρος Παρ' Αρείω Πάγο - Δίκαιο Περιβάλλοντος και Πολεοδομίας, Συντονιστής της Επιστημονικής Ομάδας, ο οποίος ενημέρωσε διεξοδικά το σώμα και απάντησε στα υποβληθέντα ερωτήματα των Δημοτικών Συμβούλων.

❖ Στους Δημοτικούς Συμβούλους και στους εισηγητές των παρατάξεων του Δημοτικού Συμβουλίου οι οποίοι έθεσαν ερωτήματα, προβληματισμούς και ζήτησαν εξηγήσεις οι οποίες εδόθησαν από τον Συντονιστή της Επιστημονικής Ομάδας και από την δημοτική αρχή.

Στη συνέχεια αφού ολοκληρώθηκε η διαδικασία των τοποθετήσεων και απαντήσεων από τη δημοτική αρχή όπως φαίνεται στο απομαγνητοφωνημένο 26 πρακτικό της 13.09.2023 συνεδρίασης η Πρόεδρος του Δημοτικού Συμβουλίου έθεσε σε ψηφοφορία και έγκριση την διατυπωθείσα εισήγηση.

Από τη διεξαχθείσα ψηφοφορία προκύπτει ότι:

✚ Ο Δημοτικός Σύμβουλος κ. Πατσούρας Χρήστος δήλωσε ότι παρέχει λευκή ψήφο στην εισήγηση για τους λόγους που έχουν καταγραφεί στα απομαγνητοφωνημένα πρακτικά της συνεδρίασης.

✚ Με τη διατυπωθείσα εισήγηση τάχθηκαν όλοι οι υπόλοιποι παρόντες Δημοτικοί Σύμβουλοι με την παρατήρηση των Δημοτικών Συμβούλων της παράταξης «ΓΙΑΝΝΕΝΑ ΠΟΛΙΤΕΣ ΓΙΑ ΤΗΝ ΑΝΑΤΡΟΠΗ» κ.κ. 1. Νάτση Λάζαρου, 2. Παπαχρήστου Βλάσιου για την ένταξη συγκεκριμένων δράσεων στο Σύμφωνο, ήτοι την:

- Ίδρυση εναλλακτικού παρόχου ενέργειας από την Ενεργειακή Κοινότητα του Δήμου σύμφωνα και με την κείμενη νομοθεσία.
- Πρόκριση του virtual net metering για τα ευάλωτα νοικοκυριά της πόλης μέσω της Ενεργειακής Κοινότητας του Δήμου.
- Δημιουργία χρηματοδοτικών εργαλείων, τοπικό ΕΞΟΙΚΟΝΟΜΩ ΙΩΑΝΝΙΝΑ με κοινοτικούς, εθνικούς και δημοτικούς πόρους, συνεργασία με τοπικό τραπεζικό σύστημα για μικρομεσαία νοικοκυριά και επιχειρήσεις.

Το Δημοτικό Συμβούλιο αφού άκουσε τα παραπάνω και είδε τις διατάξεις του άρθρου 65 του Ν. 3852/2010,

ΑΠΟΦΑΣΙΖΕΙ ομόφωνα

1. Εγκρίνει την υποβολή του κλιματικού συμφώνου της πόλης των Ιωάννινων (Climate City Contract) στο πλαίσιο της Ευρωπαϊκής αποστολής «100 κλιματικά ουδέτερες και έξυπνες πόλεις έως το 2030».

2. Η υποβολή θα πραγματοποιηθεί βάσει των καθορισμένων χρονοδιαγραμμάτων, μέχρι τις 15.09.2023 στην πλατφόρμα της NetZeroCities που είναι ο επίσημος Φορέας της Ευρωπαϊκής Αποστολής και ακολούθως στην Ευρωπαϊκή Επιτροπή αφού θα έχουν ενσωματωθεί ενδεχόμενες παρατηρήσεις.

Κατά της παραπάνω απόφασης χωρεί ειδική διοικητική προσφυγή για λόγους νομιμότητας κατ' άρθρο 227 του Ν. 3852/2010 (όπως τροποποιήθηκε με το άρθρο 118 του Ν. 4555/2018) μέσα σε προθεσμία δεκαπέντε (15) ημερών από την επίδοση της απόφασης καθώς και δυνατότητα άσκησης αίτησης θεραπείας.

Η απόφαση αυτή έλαβε αύξοντα αριθμό 437/2023.
Αφού αναγνώσθηκε το πρακτικό αυτό υπογράφεται ως ακολούθως.

**ΤΟ ΔΗΜΟΤΙΚΟ ΣΥΜΒΟΥΛΙΟ
(Ακολουθούν υπογραφές)**

**Η ΠΡΟΕΔΡΟΣ
ΤΟΥ ΔΗΜΟΤΙΚΟΥ ΣΥΜΒΟΥΛΙΟΥ**

Ακριβές Αντίγραφο

ΕΛΕΝΗ ΑΚΟΝΙΔΟΥ