

European Public Local Authorities' Network for driving the Energy Transition



D6.1 - Completed ePLANET M&V tools for ET (x4)

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Executive Summary

ePLANET project is a Coordination and Support Action cofounded by the European Commission through Horizon 2020 program. ePLANET aims to develop and implement a methodology to enhance and facilitate multi-level governance for energy transition in public authorities and the coordinated adoption of Energy Transition Measures for achieving the European sustainability targets.

The first step in the capitalisation process of the ePLANET project outcomes, ensuring their long-term sustainability beyond the project duration, is to review and evaluate the impact of the achieved outcomes, based on measurable KPIs (Key Performance Indicators). The suitable KPIs to be used are defined during Task 2.5 (“Procedure for monitoring and evaluation of ET progress”).

This report presents ePLANET’s project results through specific performance indicators foreseen by the project. These performance indicators are the following:

1. EI-1 Number of stakeholders active in delivering the Energy Transition.
The KPI values are collected from activities of WP2 (lead partner: ICAEN), WP4 (lead partner: 3’O’CLOCK), and WP5 (lead partner: FEDARENE).
2. EI-2 Number of institutionalised collaborations on Energy Transition between Public Authorities (signature of MoAs).
The KPI values are collected from activities of WP2 (lead partner: ICAEN), WP4 (lead partner: 3’O’CLOCK), and WP5 (lead partner: FEDARENE).
3. EI-3 Number of Public Authorities (PA) and Public Officers (PO) with improved capacity/skills in delivering the Energy Transition.
The KPIs values are collected from activities of WP4 (lead partner: 3’O’CLOCK)
4. EI-4 Number of policies influenced through the action.
The KPIs values are collected from activities of WP2 (lead partner: ICAEN), WP5 (lead partner: FEDARENE).

The KPIs EI1 - EI4 will be reached through communication, dissemination, training and capacity-building actions. These actions are summarised in the following objective: 24 capacity-building activities (8 by pilot), 3 site visits and 12 meetings of stakeholders’ forums (4 per year).

There are also KPIs EI-5, EI6, and EI-7 that are related to the development and update of energy transition plans of local and regional authorities through a collaborative approach that is mainly supported by WP3 activities. These performance indicators are the following:

5. EI-5 Final Energy Consumption, CO₂-eq emissions and Primary Energy Consumption savings triggered by the project
6. Renewable energy production (REP) triggered by the project - WP3 (CIMNE)
7. Investments in sustainable energy triggered by the project - WP3 (CIMNE)

This deliverable summarises the outcomes of impact analysis—evaluation of the project implementation—by collecting and processing data on all KPIs in each WP across all project territories from the beginning of the project until Month 30.



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Abbreviations and acronyms

ABBREVIATION OR ACRONYM	DESCRIPTION
CCR	Carbon Climate Registry
CDP	Carbon Disclosure Project (non-profit charity that runs the global disclosure system to manage environmental impacts)
CEMR	Council of European Municipalities and Regions
CETA	Clean Energy Transition Agenda
CIMNE	International Centre for Numerical Methods in Engineering
CRES	Centre for Renewable Energy Sources and Saving
CoM	Covenant of Mayors
DDGI	Girona Provincial Council
DSO	Distributor System Operator (Utility Company)
DL	Decree Law
EAZK	Energy Agency of the Zlín Region
EE	Energy Efficiency
EED	Energy Efficiency Directive
EFTA	European Free Trade Association
EPBD	Energy Performance of Buildings Directive
ERDF	European Regional Development Fund
ESCO	Energy Service Company
ET	Energy Transition
GCoM	Global Covenant of Mayors
ICAEN	Catalan Institute for Energy
ICT	Information and Communication Technologies
ISEAP	Island Sustainable Energy Plan
NECP	National Energy and Climate Plan(s)
NSRF	National Strategic Reference Framework
NZEB	Nearly Zero Energy Buildings
NUTS	Nomenclature of territorial units for statistics
PA	Public Authority(ies)
RAP	Regional Action Plan
RD	Royal Decree
RDFC	Regional Development Fund of Crete
RDL	Royal Decree Law
RES	Renewable Energy Sources
SAC	Strategic Advisory Committee
SE(C)AP	Sustainable Energy (and Climate) Action Plan
SMAP	Sustainable Mobility Action Plan



1 Introduction

The ePLANET project is a Coordination and Support Action cofounded by the European Commission through Horizon 2020 program. This project aims to deploy new clustering governance for an energy transition based on a digital framework to share harmonised information, facilitating the adoption of coordinated energy transition actions by the European public sector.

The development of ePLANET aims at deploying Energy Transition (ET) in the public sector. The main challenges are:

- Improving coordination between local authorities and regional governments,
- Enhancing the decision-making process in the deployment of ET projects,
- Providing coherence and consistency to the energy transition measures (ETM) to be implemented,
- Encouraging the digitalisation of measures and plans,
- Enabling an interoperable ecosystem of data and tools.

These targeted objectives will support the energy transition decision-making process and its practical implementation.



2 Data collection

The following sections provide short profiles of the project partners that provided requested data to an excel sheet to CRES and were the baseline for the preparation of this report:

PP03 - Centre for Renewable Energy Sources and Saving (CRES)

CRES is based in Athens, in the Region of Attica (Greece). It is the Greek national centre for Renewable Energy Sources (RES), Rational Use of Energy (RUE) and Energy Saving (ES). It is also appointed by Law as the National Coordinating Centre in Greece for supporting the implementation of national policy for improving energy efficiency, including energy-efficiency in buildings, and the promotion of RES. It offers technical support to the Ministry of Environment and Energy as well as to public entities at regional and local level, for developing and implementing energy renovation plans and projects for public buildings. CRES is also the National coordinator of the Covenant of Mayors for Climate & Energy, providing technical support to local authorities for developing and implementing their sustainable energy action plans.

Its main roles in the ePLANET project include: Coordination of Tasks 2.2, 3.5; Coordination of WP6; Technical support to the RDFC for WP3 pilot activities; Transferring activities at national level.

PP01 - International Centre for Numerical Methods in Engineering (CIMNE)

CIMNE is based in Barcelona, in the Region of Catalonia (Spain). It is a leading research and technological development institution with a proven ability to deliver big data management services in energy, building and environment fields.

In ePLANET, CIMNE is the project coordinator, technology provider and responsible for the ePLANET platform development. The EU project ePLANET is a logical progress of CIMNE BEE Group's dedicated department, providing innovative solutions for local public authorities to drive them in the Energy Transition.

Its main roles in the project include: Project coordinator; Responsible of WP1, WP3; Coordination of Tasks 2.3, 2.5.

PP02 - Catalan Institute for Energy (ICAEN)

ICAEN is based in Barcelona, in the Region of Catalonia (Spain). It is the entity of the Government of Catalonia responsible for developing and carrying out the Catalan energy policy, especially in the field of energy efficiency and renewable energies. ICAEN develops programs to promote RES and energy efficiency in all economic sectors: industry, transport, primary and buildings. ICAEN is in charge of buildings Energy Performance Certification in Catalonia and leads the Energy Efficiency Plan of the Catalan Government buildings. In addition, ICAEN is involved and works jointly with the local community in the development of energy efficiency actions in municipal buildings, public lighting and efficient mobility. Likewise, ICAEN collaborates with other Ministries of the Catalan Government to develop transversal actions such as the National Agreement for the Energy Transition of Catalonia, the Action Plan for Energy Efficiency in Industry, the Catalan Strategy for Energy Renovation of Buildings or the Biomass Strategy.

Its main roles in the ePLANET project include: Coordinator of WP2 (Governance); support to the rest of the tasks; Participation in Capacity building and training in Municipalities of Catalonia; Dissemination at a local level of project outputs.



PP04 - European Federation of Agencies and Regions for Energy and Environment (FEDARENE)

FEDARENE is based in Brussels (Belgium). FEDARENE is the premier European network of regional and local organisations which implement, co-ordinate and facilitate energy and environment policies. Regional and local agencies, regional governments and departments working in these fields, are represented in FEDARENE.

Its main roles in the ePLANET project include: EU wide replication; Organisation of stakeholder engagement activities; Coordination of WP5.

PP05 - ICLEI Local Governments for Sustainability (ICLEI EURO)

ICLEI is based in Freiburg im Breisgau, in Germany. It is a global network working with more than 2,500 local and regional governments committed to sustainable urban development. Active in 125+ countries, ICLEI influences sustainability policy and drives local action for low emission, nature-based, equitable, resilient and circular development. Its Members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for urban sustainability.

Its main roles in the ePLANET project include: Supporting continuous engagement, feedback and project EU-wide replication; Leading Task 6.2 and responsible for D6.3 and D6.4; Contributing to all WPs.

PP06 - Girona Provincial Council (DDGI)

Diputació de Girona (Girona Provincial Council) is based in Girona, in the Region of Catalonia (Spain). It is the public local authority for the Girona province and provides technical, financial and administrative support to all the 221 Municipalities within its operational area. It is a Covenant of Mayors for Climate and Energy Coordinator and one of their main stakeholders in the province of Girona. It supports all municipalities to sign, join and develop their own Sustainable Energy (and Climate) Action Plan.

Its main roles in the ePLANET project include: Coordination of the pilot application in the pilot region of Girona province; Contribution to all Work Packages, with a special focus on the multi-level regional governance (WP2) and the scaling-up to the whole region and replication activities (WP6).

PP07 - Regional Development Fund of Crete (RDFC)

RDFC is based in the city of Heraklion, in the Region of Crete (Greece). It is a public entity under private law, established in February 1998 and it was assumed an important role in the implementation of an innovative institution, aimed at supporting Regional Development of the elected (2011) Regional authorities and the process of decentralization in Greece. Under the RDFC, operates the Regional Energy Agency of Crete (REAC), established in 1994 by the Region of Crete and the European Commission as one of the first Energy Regional Agencies in Europe and the first at regional level in Greece.

REAC is the Regional Coordinator-for the whole island of Crete-of the EU Covenant of Mayors initiative and a member of the Covenant of Islands.

Its main roles in the ePLANET project include: Coordination of the pilot application in the pilot region of Crete; Contribution to the multi-level regional governance (WP2) as the regional coordinator of the CoM and to all other WPs of the project.



PP08 - Energy Agency of the Zlín Region (EAZK)

EAZK is based in the City of Zlín, in the Zlín Region (Czech Republic). It is a non-profit organisation. It is a regional energy agency established in 2006 and 100% owned by the Zlín Region. EAZK was primarily established as an implementing tool of the Zlín Region energy policy.

EAZK operates within the whole area of the Zlín Region which is identical with NUTS 3-CZ072 . The EAZK is a project partner with a great potential to address various target groups as the agency provides energy management for more than 150 organisations established both by the Zlín Region and particular municipalities.

Since 2014 EAZK has been Covenant of Mayors Supporter and takes action on territories of the Zlín Region in the field of energy to promote the Covenant of Mayors initiative and support municipalities in their effort to adapt their local level policy and goals to be in synergies with existing Covenant of Mayors goals.

Its main roles in the ePLANET project include: Representative of the Pilot Region (Zlín Region), coordinating the pilot implementation; Contribution to the Work Packages, with particular focus on the transferring activities (scaling up to the whole region, replication to other regions) but also on capacity building (user's empowerment, WP4), the definition and deployment of clustering groups and governance methodology, and the institutionalization of ePLANET outcomes.



3 EI-1 Number of active stakeholders in delivering ET

3.1 KPI EI-1 pilot site-by-pilot site basis - target values

The main ePLANET stakeholders will be:

- Local authorities
- Regional authorities
- Energy agencies
- Energy Transition facilitators (Urban planners, sustainability and Energy experts, ESCOs, investors and industry stakeholders).

To reach all these target groups, ePLANET carries out many communication, dissemination, training and capacity-building actions. These actions are summarized in the following objective: 24 capacity building activities (8 by pilot), 3 site visits and 12 meetings of stakeholders' forums (4 per year).

More specifically, for Phase 1, testing and pilot deployment, the main stakeholders are technicians and decision makers belonging to public authorities of pilot sites.

For Phase 2, transferring and expansion, ePLANET replication will be made in two steps: i) scaling up over pilot regions; ii) implementing the project in other EU regions. This second phase also aims at engaging other stakeholders beyond the PA. The hypotheses to sustain this KPI in this project stage are summarised below:

- The number of Local Authorities (LA) of the upper administrative levels capable of being active in ePLANET is defined by considering 20 % of all the municipalities of each upper level (Greece, Catalonia and Czech Republic) but excluding the pilot site regions. However, since the number of municipalities was too big in the Czech Republic, this percentage was reduced to 2%.
- The number of Regional Authorities (RA) of the upper administrative levels capable of being involved in ePLANET is defined as 1.5 RA per region. In the Czech Republic, the number is limited to 10.
- The number of PAs from other EU regions capable of being involved in ePLANET is obtained by assuming that 6 new EU regions will be involved in the project. Therefore, the overall figure estimates 17 municipalities per region and 17 regional authorities among these new EU regions.
- The number of other stakeholders beyond PA is assumed as **150**, which will be engaged through the stakeholders' forums.



3.1.1 Girona province pilot site and Catalonia Region

Table 3-1. Number of active PA (persons) in Girona

Phase 1 (number of persons)	
Administrative level	Girona province
Local authorities	67
Regional authorities	2
Phase 2 (number of persons)	
Administrative level	Catalonia
Local authorities	145
Regional authorities	6

3.1.2 Zlín region pilot site and the Czech Republic

Table 3-2. Number of active PA (persons) in Czech Republic

Phase 1	
Administrative level	Zlín Region
Local authorities	61
Regional authorities	2
Phase 2	
Administrative level	Czech Republic
Local authorities	119
Regional/municipal association authorities	10

3.1.1. Crete Island pilot site and Greece

Table 3-3. Number of active PA (persons) in Greece

Phase 1	
Administrative level	Crete Island
Local authorities	16
Regional authorities	2
Phase 2	
Administrative level	Greece
Local authorities	62
Regional authorities	9

3.1.2. Other EU regions

Table 3-4. Number of potential active PA (persons) in other EU regions from the GA

Other EU regions	Number of regions	N° of LA per region	TOTAL
Local Authorities (LA)	6	17	101
Regional authorities (RA)	6	-----	17



3.2 KPI EI-1 pilot site-by-pilot site basis - achieved values

For Phase 1, testing and pilot deployment, the main stakeholders are technicians and decision makers belonging to public authorities of pilot sites. For Phase 2, transferring and expansion, ePLANET replication is made by i) scaling up over pilot regions; ii) implementing the project in other EU regions. This second phase also aims at engaging other stakeholders beyond the PA. As Phase 2 is in progress, the values of EI-1 will be defined at the end of this phase.

3.2.1 Girona province pilot site and Catalonia Region

Table 3-5. Number of active PA (persons) in Girona

Phase 1 (number of persons)	
Administrative level	Girona province
Local authorities	10
Regional authorities	2
Phase 2 (number of persons)	
Administrative level	Catalonia
Local authorities	51
Regional authorities	5
ET facilitators	6

3.2.2 Zlín region pilot site and the Czech Republic

Table 3-6. Number of active PA (persons) in Czech Republic

Phase 1	
Administrative level	Zlín Region
Local authorities	70
Regional authorities	2
Phase 2	
Administrative level	Czech Republic
Local authorities	87
Regional/municipal association authorities	27
ET facilitators	33



3.2.3 Crete Island pilot site and Greece

Table 3-7. Number of active PA (persons) in Greece

Phase 1	
Administrative level	Crete Island
Local authorities	61
Regional authorities	1
Phase 2	
Administrative level	Greece
Local authorities	44
Regional authorities	2
ET facilitators	1

3.2.4 Other EU regions

Table 3-8. Number of potential active PA (persons) in other EU regions from the GA

Other EU regions	Number of regions	N° of LA per region	TOTAL
Local/ Regional/ Public Authorities/ Universities/ Networks			20



4 EI-2 Number of institutionalised collaborations on Energy Transition between Public Authorities (signature of MoAs)

4.1 KPI EI-2 pilot site-by-pilot site basis - target values

The ePLANET project institutionalises the collaboration on the energy transition between public authorities by signing a Memorandum of Adhesion (MoA) by each public authority involved in the project. By signing this MoA, the public authorities receive the support and tools of ePLANET to accelerate the implementation of the Energy Transition. The support received by ePLANET has a direct impact on ET plans at the different levels of organisation (local, intermediate, regional and national).

The same methodology as in KPI EI-1 is used to quantify this impact. In this manner, Table 4-1 presents the number of institutionalized collaborations that the project expects to achieve in each phase.

Table 4-1. Number of institutionalised collaborations on Energy Transition between Public Authorities (signature of MoAs) - target values

Phase 1						
Administrative level	Region of Crete	Province of Girona	Zlin Region	Sub-total	Other EU Regions	
Local authorities	16	67	61	144		144
Regional authorities	1	1	1	3		3
Phase 2						
Administrative level	Greece	Catalonia	Czech Republic	Sub-total	Other EU Regions	
Local authorities	60	145	119	326	101	427
Regional authorities	6	14	7	17	12	29

4.2 KPI EI-2 pilot site-by-pilot site basis - achieved values

Through the scheduled events, face to face meetings and ePLANET activities, the local and regional authorities receive support in adaptation and implementation of SECAPs and similar initiatives for horizon 2030. The ePLANET support is focused on adaptation and implementation of Energy transition and Climate Plans on the same horizon. This support at different administration levels, as well as the willingness of authorities to participate in ePLANET actions, is declared by the MoA signature.

In Table 4-2, the number of institutionalised collaborations that the project has achieved until now in each phase is presented. As Phase 2 is in progress, the values of EI-2 will be defined at the end of this phase.



Table 4-2. Number of institutionalized collaborations on Energy Transition between Public Authorities (signature of MoAs) - achieved values

Phase 1						
Administrative level	Region of Crete	Province of Girona	Zlin Region	Sub-total	Other EU Regions	
Local authorities	8	110	65	183		183
Regional authorities	0	0	2	2		2
Phase 2						
Administrative level	Greece	Catalonia	Czech Republic	Sub-total	Other EU Regions	
Local authorities	2	1	22	25	4	29
Regional authorities	0	0	0	0	1	1



5 EI-3 Number of Public Authorities (PA) and Public Officers (PO) with improved capacity / skills in delivering the Energy Transition

5.1 KPI EI-3 pilot site-by-pilot site basis - target values

The direct influence of the ePLANET project will reach a large number of public authorities and public officers. All these public officers and public authorities have access to the ePLANET platform (WP3) and to all the training and capacity building material that will be generated in the project (WP4).

ePLANET training and capacity building material addressing the whole set of requirements, expertise and needs will be produced and provided to all key actors in the public administration, including financing strategies for the ET, legal governance guidelines for ET implementation, public procurement strategies, funding possibilities, engagement strategies, etc.

Taking into account that ePLANET reaches 603 public administrations (including local and regional), it is expected that ePLANET will improve the capacity and skills in delivering Energy Transition to 904 public officers and public authorities.

Table 5-1. Number of Public Authorities (PA) and Public Officers (PO) with improved capacity/skills in delivering the Energy Transition - target values

Administrative level	Greece	Catalonia	Czech Republic	
	172	402	330	904

5.2 KPI EI-3 pilot site-by-pilot site basis - achieved values

The total number of public officers that participated in the training and capacity-building activities consists of the number of Public Authorities (PA) and Public Officers (PO) with improved capacity/skills in delivering the Energy Transition, which is presented in Table 5-2.

For Phase 1, testing and pilot deployment, the public officers belong to public authorities of pilot sites. For Phase 2, transferring and expansion, ePLANET replication is made by i) scaling up over pilot regions; ii) implementing the project in other EU regions. This second phase also aims at engaging other stakeholders beyond the PA. As the Phase 2 is in progress the values of EI-3 will be defined at the end of this phase.

Table 5-2. Number of Public Authorities (PA) and Public Officers (PO) with improved capacity / skills in delivering the Energy Transition - achieved values

Administrative level	Greece	Catalonia	Czech Republic	
	32	0	175	207



6 EI-4 Number of policies influenced through the action

The public administrations that have the capacity to develop policies related to the Energy transition are those at regional / state or national level. As mentioned in previous indicators (E-2), the ePLANET project envisages institutionalizing collaboration with at least **32** regional administrations. Therefore, the number of policies influenced through the ePLANET actions will be higher than 32.

This performance indicator is applicable to WP2, WP5 and WP6 of the project. The cumulative figures and Tables will be completed in next stages, as the assessment of this indicator is ongoing.



7 EI-5 Final Energy Consumption, CO₂-eq emissions and Primary Energy Consumption savings triggered by the project

7.1 KPI EI-5 pilot site-by-pilot site basis - target values

In accordance with deliverable D2.5 of ePLANET project, PEC and FEC savings are triggered based on the following Use Cases (UC) summarized in deliverable D.2.3.

UC1- Digitalization of SECAP drafting and monitoring process: This use case will be applied to Crete Island and Girona province. More specifically, 16 municipalities of Crete and 67 municipalities of Girona will be involved in this use case.

UC2- Analysis of the energy performance of the public building stock: This use case will be applied to the Zlín Region and Crete Island public buildings. More specifically, this use case will include around 380 public buildings belonging to 61 municipalities and the regional government of the Zlín region and 450 buildings belonging to the 16 municipalities of the Crete region.

The outcomes are recorded in two phases, Phase 1. Testing and pilot deployment and Phase 2. transferring and expansion and are presented in the tables below.

7.1.1 Phase 1: Testing and pilot deployment

UC1: Digitalization of SECAP drafting and monitoring process.

Table 7-1 Use case 1: revised FEC savings and CO₂-eq emissions reduction to be triggered by ePLANET in the involved pilot site regions

	FEC Savings	CO ₂ -eq		
Baseline Girona	5,600,179 MWh	1,808,869 tCO ₂ -eq		
Baseline Crete	5,662,068 MWh	2,510,549 tCO ₂ -eq		
	Objectives 2030 (9 years)		ePLANET-2024 (3 years)	
	FEC Savings	CO ₂ -eq emissions reduction	FEC Savings	CO ₂ -eq emissions reduction
Spain	36%	55%	5%	5%
Girona province (67 municipalities)	2,016,064.44 MWh	994,877.95 tCO ₂ -eq	33,601.07 MWh	16,581.30 tCO ₂ -eq
Greece	32.5%	40%	5%	5%
Crete Island (16 municipalities)	1,840,172.10 MWh	1,004,219.60 tCO ₂ -eq	30,669.54 MWh	16,736.99 tCO ₂ -eq
TOTAL PHASE 1-USE CASE 1			64,270.61 MWh	33,318.29 tCO ₂ -eq



Table 7-2 Use case 1: revised FEC and PEC triggered by ePLANET in the involved pilot site regions

	ePLANET FEC (3 years)	ePLANET PEC (3 years)
Girona province (67 municipalities)	33,601.07 MWh	46,705.49 MWh
Crete Island (16 municipalities)	30,669.54 MWh	41,097.18 MWh
TOTAL PHASE 1-USE CASE 1	64,270.61 MWh	87,802.67 MWh

UC2: Analysis of the energy performance of the public building stock

To translate the objectives of the EI-5 to this use case, we can't use exact figures since there is no historical data available on the energy consumption of the public buildings from the Zlín region and Crete Island. Therefore, we will define a relative percentage of FEC, PEC and CO_{2-eq} emissions reduction as the KPI to be achieved. Based on previous experiences, it is realistic to assume the following figures:

- Crete Island: To assume a 5 % reduction of FEC, 5 % reduction of PEC and a 5 % reduction of CO_{2-eq} emissions
- Zlín region: To assume a 5 % reduction of FEC, 5 % reduction of PEC and a 5 % reduction of CO_{2-eq} emissions

7.1.2 Phase 2: Transferring and expansion

UC1: Digitalization of SECAP drafting and monitoring process.

Table 7-3 Phase 2: Use case 1: revised FEC savings and CO_{2-eq} emissions reduction to be triggered by ePLANET in the upper level and other EU regions

	FEC	CO _{2-eq} emissions		
Baseline Girona	5,600,179 MWh	1,808,869 tCO _{2-eq}		
Baseline Crete	5,662,068 MWh	2,510,549 tCO _{2-eq}		
Average	5,631,123.50 MWh	2,159,709 tCO _{2-eq}		
Objectives 2030 (9 years)			ePLANET-2024 (3 years)	
	FEC Savings (MWh)	CO _{2-eq} emissions reduction (tCO _{2-eq})	FEC Savings (MWh)	CO _{2-eq} emissions reduction (tCO _{2-eq})
Spain	36%	55%		
Girona province (67 municipalities)	2,016,064.44 MWh	994,877.95 tCO _{2-eq}		
Generic region (county)	2/7 by 1 %	2/7 by 1 %	1,920.06 MWh	947.50 tCO _{2-eq}
Total Catalonia	6 counties	6 counties	11,520.37 MWh	5,685.02 tCO _{2-eq}
Greece	32.5%	40%		
Crete Island (16 municipalities)	1,840,172.10 MWh	1,004,219.60 tCO _{2-eq}		
Generic region	1%	1%	1,533.48 MWh	836.85 tCO _{2-eq}
Total Greece	9 regions	9 regions	13,801.29 MWh	7,531.65 tCO _{2-eq}
Other EU Regions	30%	55%		
Average	1,689,337.05 MWh	1,187,839.95 tCO _{2-eq}		
Generic follower region	1%	1%	5,631.12 MWh	3,959.47 tCO _{2-eq}
Total follower regions	7 regions/counties	7 regions/counties	39,417.86 MWh	27,716.27 tCO _{2-eq}
TOTAL PHASE 2-USE CASE 1			64,739.52 MWh	40,932.93 tCO_{2-eq}



Table 7-4 Phase 2: Use case 1: revised FEC and PEC triggered by ePLANET

	ePLANET FEC (3 years)	ePLANET PEC (3 years)
Catalonia	11,520.37 MWh	16,013.31 MWh
Greece	13,801.29 MWh	18,493.73 MWh
Follower regions	39,417.86 MWh	53,629.16 MWh
TOTAL PHASE 2-USE CASE 1	64,739.52 MWh	88,136.20 MWh

UC2: Analysis of the energy performance of the public building stock

As in the case of phase 1, the triggered savings in FEC and CO_{2-eq} emissions will be assessed by developing a specific building energy performance model for the public buildings to be provided by the engaged municipalities in the upper level of the pilot sites and the follower regions.

Furthermore, we will define a relative percentage of FEC and CO_{2-eq} emissions reduction as the KPI to be achieved. Based on previous experiences, it is realistic to assume the following figures:

- Greece: To consider a 2.5 % reduction of FEC and a 2.5 % reduction of CO_{2-eq} emissions.
- Czech Republic: To consider a 2.5 % reduction of FEC and a 2.5 % reduction of CO_{2-eq} emissions.
- Other EU regions: To consider a 1 % reduction of FEC and 1 % of CO_{2-eq} emissions.

7.2 KPI EI-5 pilot site-by-pilot site basis - achieved values

CIMNE in collaboration with the partners from the three pilot sites, captures the EI5 - EI7 indicators of the project. The updating/ collection of energy data (compared with the data that are submitted in the proposal phase) for the current situation -in particular, the final energy consumption, the CO₂ emissions, and the energy production from renewable energy sources- is a complex procedure. These data are collected from the technical services of the municipalities as well as from the databases of countries' electricity distribution network operators. The publication of these data is significantly delayed due to bureaucracy and complex public sector procedures.

CIMNE, in collaboration with ePLANET partners, is working on the estimation of KPIs in the current situation of local authorities in the pilot sites and on the quantification of the benefits of energy transition measures implemented in:

- The testing phase
- The transferring phase

The identification of key performance indicators EI5-EI7 is ongoing and will be completed at the end of the project.



8 EI-6 - Renewable energy production (REP) triggered by the project - WP3 (CIMNE)

8.1 KPI EI-6 pilot site-by-pilot site basis - target values

In accordance with deliverable D2.5 of ePLANET project, Renewable Energy Production are triggered based on the following Use Cases (UC) summarized in deliverable D.2.3.

- **UC1- Digitalization of SECAP drafting and monitoring process:** This use case will be applied to Crete Island and Girona province. More specifically, 16 municipalities of Crete and 67 municipalities of Girona will be involved in this use case.
- **UC2- Analysis of the energy performance of the public building stock:** This use case will be applied to the Zlín Region and Crete Island public buildings. More specifically, this use case will include around 380 public buildings belonging to 61 municipalities and the regional government of the Zlín region and 450 buildings belonging to the 16 municipalities of the Crete region.
- **UC3 - PV potential analysis for public buildings** applied for Zlin region.

The outcomes are recorded in two phases, Phase 1. Testing and pilot deployment and Phase 2. transferring and expansion and are presented in the tables below.

The percentage of increase in REP is coherent with the specific conditions of the pilot sites.

8.1.1 Phase 1: Testing and pilot deployment

Based on a methodology described in detail in Deliverable 2.5, the target values of renewable energy production (REP) triggered by the project are presented in Tables 7-1 for the testing and pilot deployment phase.

Table 8-1 REP - target values to be triggered by ePLANET in phase 1: involved pilot site regions

	REP increase	Percentage ePLANET	REP to be triggered by ePLANET
Girona province	20,303.40 MWh/year	5 %	1,015.17 MWh/year
Crete Island	4,903.00 MWh/year	5 %	245.15 MWh/year
Zlín region	10,452.29 MWh/year	5 %	522.61 MWh/year
TOTAL PHASE 1			2.601,03 MWh/year

8.1.2 Phase 2: Transferring and expansion

Based on a methodology described in detail in Deliverable 2.5, the target values of renewable energy production (REP) triggered by the project are presented in Table 7-2 the transferring and expansion phase.

In phase 2, the involved use cases (UC1, UC2 and UC3) will address other follower regions from the open call of WP5 (7 already selected) and from the regions or municipalities which will sign the Memorandum of Adhesion within the upper level of the three involved pilot sites. Following the figures defined in the EI-1, the potential number of regions/municipalities to be engaged are:



- Upper level:
 - Catalonia: 6 regions/counties
 - Greece: 9 regions
 - Czech Republic: 10 areas/counties/association of municipalities
- Other EU regions:
 - Follower regions: 7

Table 8-2 Phase 2: REP - target values in the upper level and other EU regions

Reference county Girona province	2,900.49 MWh/year
Reference Region unit of Crete Island	1,225.75 MWh/year
Reference group of towns of Zlín region	1,045.23 MWh/year
Average	1,723.82 MWh/year
Catalonia	REP
REP to trigger	1 % reference county
	29.00 MWh/year
Number of counties within ePLANET	6 counties
REP to trigger in Catalonia	174.03 MWh/year
Greece	REP
REP to trigger	1 % reference region
	12.26 MWh/year
Number of regions within ePLANET	9 regions
REP to trigger in Greece	110.32 MWh/year
Czech Republic	REP
REP to trigger	1 % baseline
	10.45 MWh/year
Number of groups of towns within ePLANET	10 counties/groups of towns
REP to trigger in Czech Rep.	104.52 MWh/year
Other EU regions	REP
REP to trigger	2.5 % average
	43.10 MWh/year
Total EU follower regions	7 regions/counties
REP to trigger other EU regions	301.67 MWh/year

8.2 KPI EI-6 pilot site-by-pilot site basis - achieved values

CIMNE, in collaboration with the partners from the three pilot sites, captures the project's EI5 - EI7 indicators. The updating/ collection of energy data (compared with the data that are submitted in the proposal phase) for the current situation -in particular, the final energy consumption, the CO2 emissions, and the energy production from renewable energy sources- is a complex procedure. These data are collected from the technical services of the municipalities as well as from the databases of countries' electricity distribution network operators. The publication of these data is significantly delayed due to bureaucracy and complex public sector procedures.

CIMNE, in collaboration with ePLANET partners, is working on the estimation of KPIs in the current situation of local authorities in the pilot sites and on the quantification of the benefits of energy transition measures implemented in:



- The testing phase
- The transferring phase

The identification of key performance indicators EI5-EI7 is ongoing and will be completed at the end of the project.



9 EI-7 Investments in sustainable energy triggered by the project - WP3 (CIMNE)

9.1 KPI EI-7 pilot site-by-pilot site basis - target values

9.1.1 Phase 1: Testing and pilot deployment

In the use cases defined in ePLANET, two main investment categories are envisaged:

- Investments in Energy Efficiency Measures linked to the SECAPs (UC-1) and the energy management of public buildings (UC-2)
- Investments in Renewable Energy Production (UC-3 and UC-4)

Since there are no historical data on investments related to EEM, to evaluate the investments to be triggered by ePLANET, only the figures pertaining to investments in new REP will be considered. Therefore, we will assume the hypothesis of the GA where an investment of 2 M€ per 1.400 MWh is considered. Table 9-1 summarises the estimated investments for the 3 pilot sites.

Table 9-1 Revised Investments to be triggered by ePLANET in phase 1: involved pilot site regions

	REP to trigger by ePLANET	Investments (M€/year)	ePLANET (M€) (2 years)
Girona province	1,015.17 MWh/year	1.45 M€/year	2.90 M€
Crete Island	245.15 MWh/year	0.35 M€/year	0.70 M€
Zlín Region	522.61 MWh/year	0.75 M€/year	1.49 M€
	Total	2.55 M€	5.09 M€

9.1.2 Phase 2: Transferring and expansion

In this phase, the same criteria for estimating the investments will be assumed. The REP figures will be obtained from EI-6. Table 9-2 shows the revised investments to be triggered in phase 2 of the ePLANET project.

Table 9-2 Revised Investments to be triggered by ePLANET in phase 2

	REP to trigger by ePLANET	Investments (M€/year)	ePLANET (M€) (2 years)
Catalonia	174.03 MWh/year	0.25 M€/year	0.50 M€
Greece	110.32 MWh/year	0.16 M€/year	0.32 M€
Czech Republic	104.52 MWh/year	0.15 M€/year	0.30 M€
EU follower regions	301.67 MWh/year	0.43 M€/year	0.86 M€
	Total	0.99 M€/year	1.97 M€



9.2 KPI EI-7 pilot site-by-pilot site basis - achieved values

CIMNE in collaboration with the partners from the three pilot sites, captures the EI5 - EI7 indicators of the project. The updating/ collection of energy data (compared with the data that are submitted in the proposal phase) for the current situation -in particular the final energy consumption, the CO₂ emissions, the energy production from renewable energy sources- is a complex procedure. These data are collected from the technical services of the municipalities as well as from the databases of countries' electricity distribution networks operators. The publication of these data is significantly delayed due to bureaucracy and complex public sector procedures.

CIMNE in collaboration with ePLANET partners is working on the estimation of KPIs in the current situation of local authorities in the pilot sites and on the quantification of the benefits of energy transition measures implemented in:

- The testing phase
- The transferring phase

The identification of key performance indicators EI5-EI7 is ongoing and will be completed at the end of the project.



10 Conclusions

Deliverable 6.1. is the first step in the capitalisation process of the ePLANET project outcomes, ensuring their long-term sustainability beyond the project duration.

The measurable KPIs (Key Performance Indicators), as they defined during Task 2.5 (“Procedure for monitoring and evaluation of ET progress”) are reported. CRES has coordinated the completion, collection and processing of the “ePLANET Monitoring and evaluation tools for Energy Transition (ET)” templates (xls forms) where information is filled in by the WP2-5 coordinators, summarising the activities and results achieved in each WP across all project territories. ePLANET Monitoring and evaluation tools for Energy Transition (ET)” templates (xls forms) are integral part of this deliverable.

The estimation of impacts over time is calculated in different phases. These phases are related to the forecast implementation of the ePLANET methodology over time, as specified in the project work plan. The phases that are considered are the following:

- Phase 1 (Testing and pilot deployment)

During the first year of the project the project is deployed in the three pilot / test regions (CRETE, GIRONA, ZLIN).

- Phase 2 (Transferring and expansion)

From the experience of National and regional pilot leaders project partners (CRES, ICAEN and EAZK) and the first contacts done (see project LoS), ePLANET consortium implements a smooth project replication in the upper administrative levels of pilot regions (GREECE, CATALONIA and CZECH REPUBLIC). Also, in other EU regions, with the support of the project's replication partners and their extensive and proven experience (ICLEI EURO and FEDARENE), the ePLANET project is spread significantly.

This deliverable (6.1) is submitted in Month 30, which is in the middle of the transferring phase. This means that the assessment of all KPIs is ongoing.

Table 10-1 summarises the achieved values of KPIs.



Table 10-1 Summary of the achieved values of KPIs of the ePLAET project

Impact Indic.	Description	Unit	Total	Phase 1- Pilot sites			Phase 2			
				Girona prov.	Crete Island	Zlín region	Catalonia	Greece	Czech Rep.	Other EU
EI-1	Number of active stakeholders	Persons belonging to PPA	442	10 towns 2 counties	61 persons from LA 1 reg. units	70 towns 2 reg.auth.	51 towns 5 counties 6 ET facilitators	44 persons from LA 2 reg. units 1 ET facilitators	87 towns 27 assoc. 33 ET facilitators	20 cities
EI-2	Number of institutionalized collaborations on ETM among PA	PPA with signed MoA	215	110 towns 0 county	8 cities 0 region	65 towns 2 assoc.	1 towns 0 counties	2 cities 0 regions	22 towns 0 assoc.	4 cities 1 regions
EI-3	Number of PA and PO with improved skills in ET	Persons belonging to PPA	207	-----	-----	-----	0	32	175	-----
EI-4	Number of policies influenced	Policies	32	-----	-----	-----				-----
EI-5	FEC and CO ₂ -eq savings triggered	FEC GWh (2024) tCO ₂ -eq (2024) PEC GWh (2024)	To be defined after the end of the transferring phase.							
EI-6	REP triggered	GWh/year	To be defined after the end of the transferring phase.							
EI-7	Investments in sustainable energy triggered	million EUR	To be defined after the end of the transferring phase.							

