



# Smart EPC

## NEXT GENERATION OF ENERGY PERFORMANCE CONTRACTING

EU projects clustering event  
SMART ENERGY SERVICES



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## Project scope General info

- **Call:** **H2020-LC-SC3-EE-2020-2**
- **Topic:** **LC-SC3-B4E-14-2020** Enabling next-generation of smart energy services valorizing energy efficiency and flexibility at demand-side
- **Type of action:** **Coordination and support action**
- **Duration:** **36 months (Feb 2022 – Jan 2025)**
- **Budget:** **1.998.396,25 EUR**





## Project scope Main objective

### To enable transition of local public authorities towards smart sustainable cities:

- by **utilizing existing energy efficiency services** as a key for unlocking potentials of new technologies/services,
- by creating **advanced and smart concepts** for modernization of public lighting,
- by enabling **large-scale energy efficiency programs**
- by **strengthening know-how** of regional/national key stakeholders.





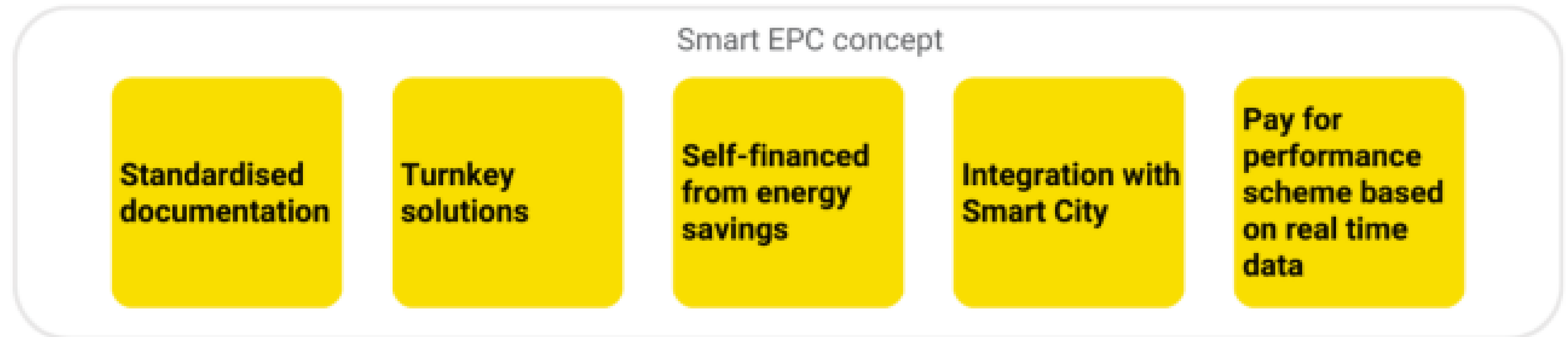
## Project scope

### Specific objectives

- to develop an **advanced Smart EPC concept** and **standardized documentation** for integration of energy and non-energy services in EPC
- to demonstrate **replication potential** of Smart EPC concept and documentation by piloting reconstruction of public lighting
- to initiate capacity building, replication and strong facilitation service of Smart EPC concept and standardized documentation for **triggering ESCO market** on EU level



- To enhance and refine successful EPC model by integration of energy and non-energy related services linked to public lighting infrastructure
- Modernization of public lighting infrastructure upgraded with additional services and streams of revenues for public authorities





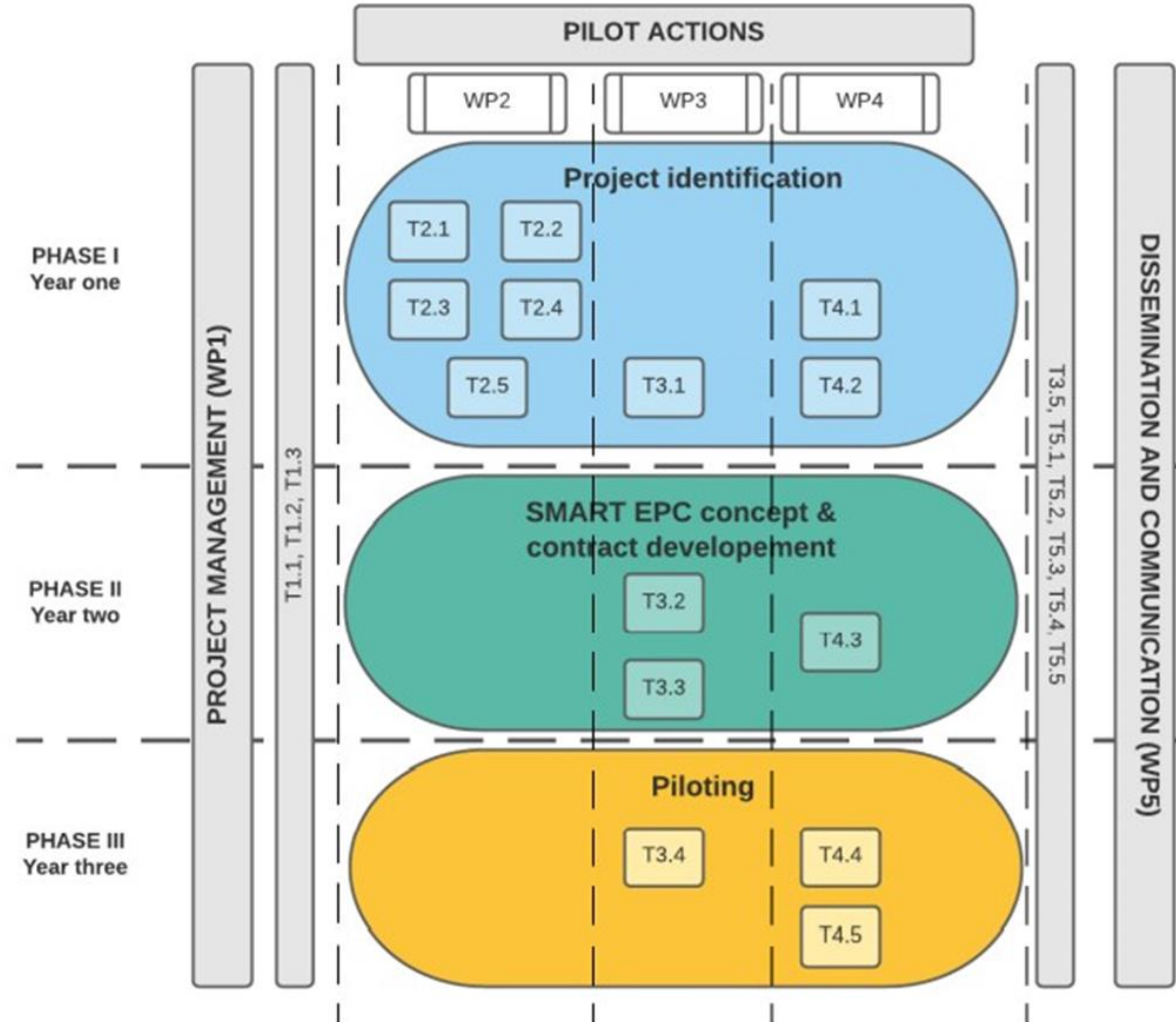
## Project scope Methodology

- The work programme is structured in 5 work packages
- WP2 and WP3 address the **enhancement of EPC concept**
- WP4 and WP5 stimulate **piloting and the amplification of Smart EPC concept** and schemes
- **Pilot actions** can be summarized by three phases:
  - Phase I - Project identification
  - Phase II - Smart EPC concept & contract development
  - Phase III - Piloting

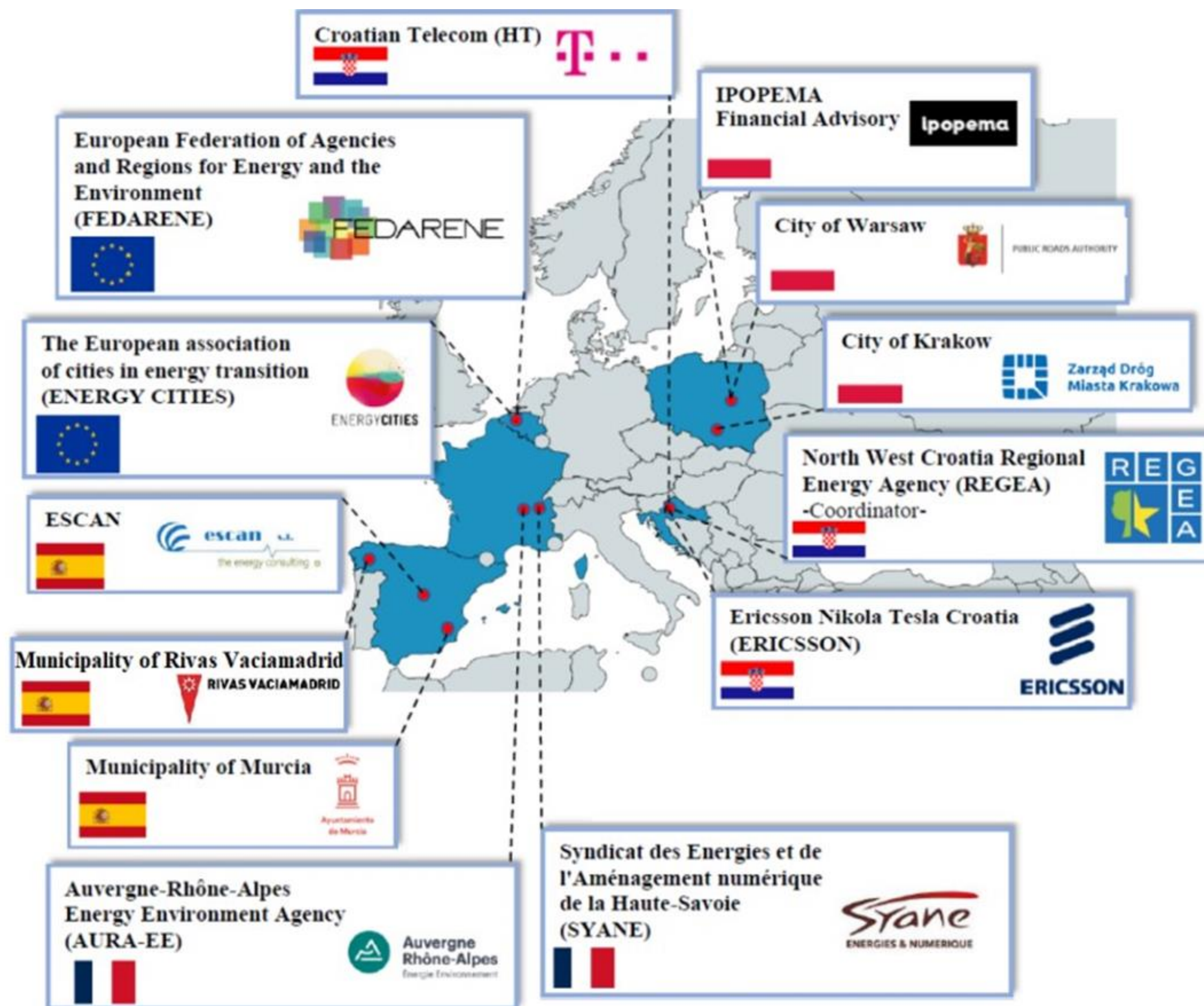




# Project scope Methodology







- Project coordinator: **North-west Croatia Regional Energy Agency (REGEA)**, Croatia
- ICT partners:
  - **Ericsson Nikola Tesla Croatia Inc. (ENT)** (with national subsidiaries in Spain, France and Poland)
  - **Croatian Telecom Inc. (HT)** (with national subsidiaries in Spain, France and Poland)
- Pilot projects:
  - **Municipality of Rivas Vaciamadrid (RIVAS)** and **Municipality of Murcia (MURCIA)**, Spain
  - **Syndicate of Energy and Digital Development of Haute-Savoie (SYANE)**, France
  - **Public Roads Authority in the City of Warsaw (WARSAW)** and **Local government unit of the City of Krakow (KRAKOW)**, Poland



## Project scope Consortium

- Facilitators:
  - **REGEA** overall consulting services and project management
  - **ESCAN** energy consulting, Spain
  - **IPOPEMA** financial consulting, Poland
  - **The Auvergne-Rhône-Alpes Energy Environment Agency (AURA-EE)** sustainability consulting, France
- Dissemination and communication - exploitation partners/aggregators:
  - **European Federation of Regions and Agencies for Energy and the Environment (FEDARENE)**, Belgium
  - **ENERGY CITIES**, France



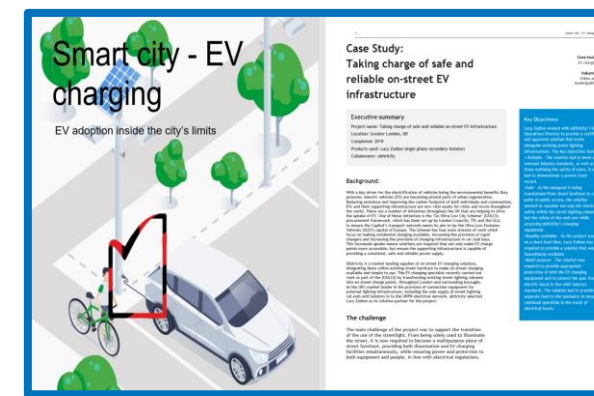


**Key results**  
Already available



### Factsheets (D2.1)

General info (in form of a teaser to catch initial interest of readers)



### Case studies (D2.2)

Examples of operating services-projects



### Handbook (D2.5)

Consolidation of all WP2 deliverables and guidelines on using SMART EPC documentation



### Market assessment (D2.3)

More detailed overview of services and market conditions



### ICT output specification (D2.4)

Functional and technical requirements of services and technology

### Annex to Smart EPC contract (D3.2)

Technical requirements for services





**Key results**  
Already available

- **Smart EPC Factsheets** (WP2 – D2.1)
  - insights on the different EPC models, demonstration projects and pilots primarily from H2020 and other similar project databases
  - analysis of types of technologies (energy and non energy) used and developed in relation to public lighting.
  - [Smart Energy Performance Contracting - Factsheets - Energy Cities \(energy-cities.eu\)](https://energy-cities.eu)





**Key results**  
Already available

- **Smart EPC Case studies** (WP2 – D2.2)
  - hands-on experience of technologies already in operation on markets as well as technologies that are about to hit the market in upcoming years
  - existing energy and non-energy related services and ICT technologies complementary to public lighting infrastructure
  - specific national and international examples as well as demonstration projects applied in other countries
  - [smart-epc-case-studies.pdf \(energy-cities.eu\)](https://energy-cities.eu/smart-epc-case-studies.pdf)



- **ICT technology and market assessment report** (WP2 – D2.3)
  - identified possible additional revenue streams from energy and non-energy related services and to determine their financial viability under EPC projects
  - the consolidation of findings and integration of knowledge from previous two tasks that is presented in a cross-country and trans-disciplinary comparison with SWOT analysis and lessons learned from qualitative data collection
  - elaborate on the different perspectives of stakeholders and targeted markets and also includes conclusions on the needs and suggestions for the scope of the ICT technology to be used in future EPC projects
  - [Smart-EPC\\_ICT\\_Technology\\_Market\\_Assessment\\_Report.pdf \(energy-cities.eu\)](#)



**Key results**  
Already available

- **ICT SMART EPC concept draft** (WP2 – D2.4)
  - technical specifications for identified ICT technologies as well as energy and non energy services, used in further development of Smart EPC standardized documentation together with minimal requirements for possibility of their use
  - output specifications of technologies and energy and non energy services to be used in Smart EPC contracts
  - stress out implementation mechanisms and specific pilot requirements for every technology and energy or non-energy service if it is to be used in specific Smart EPC contract/project
  - [Smart-EPC\\_ICT\\_output-specifications.pdf \(energy-cities.eu\)](https://energy-cities.eu/Smart-EPC_ICT_output-specifications.pdf)

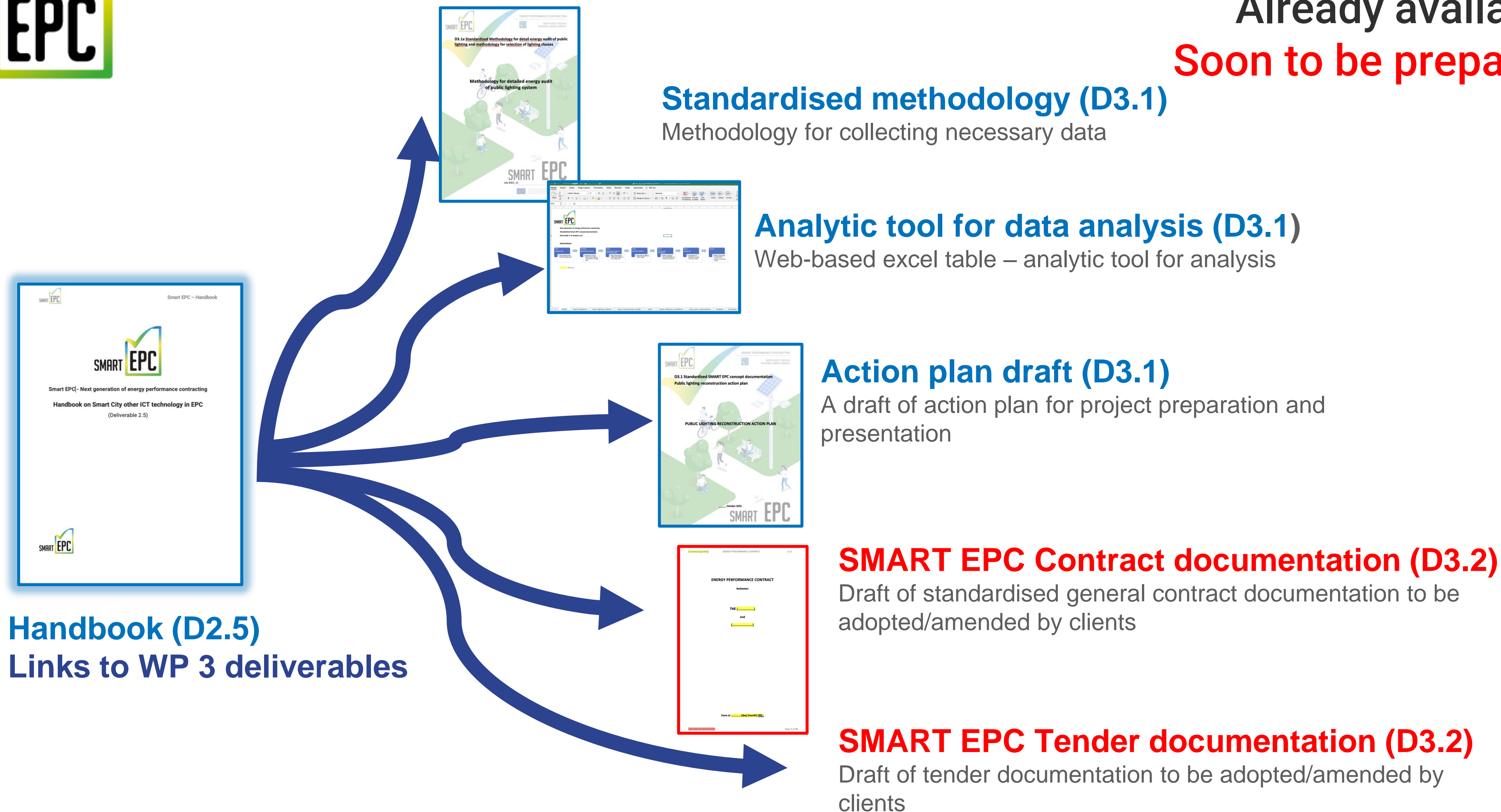




- **Handbook on Smart City other ICT technology in EPC** (WP2 – D2.5)
  - guidelines of best practice for structuring Smart EPC projects intended for interested parties
  - a compilation of findings from all previous tasks
  - bring to interested parties all the background and knowledge needed to analyze and decide on ICT and energy and non-energy services to be included in their respective projects
  - [Smart-EPC\\_Handbook-on-Smart-City-and-other-ICT-technology-in-EPC.pdf \(energy-cities.eu\)](https://energy-cities.eu/Smart-EPC_Handbook-on-Smart-City-and-other-ICT-technology-in-EPC.pdf)



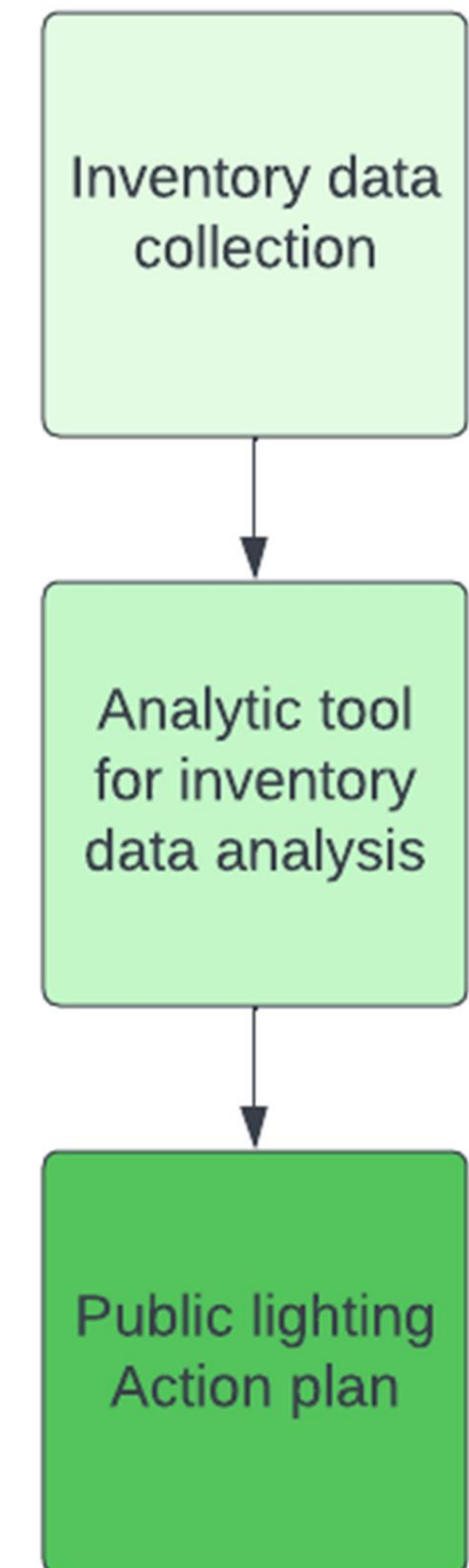
**Key results**  
**Already available**  
**Soon to be prepared**





## Key results Already available

- **Standardised Smart EPC concept documentation** (WP3 – D3.1)
  - a. **Standardized Methodology for inventory data collection (energy audit)**  
Procedure and instructions for collecting all the necessary inventory data
  - b. **Web based Analytic tool for inventory data analysis**  
Technical and financial analysis of collected data
  - c. **Public Lighting reconstruction Action plan draft**  
Tool for presenting the findings of the analysis to the decision makers (public lighting department, mayor, council)



- **Standardised Smart EPC contract and tender docs** (WP3 – D3.2)
  - can be used as an off-the shelf product for interested parties to customize it to their specific needs
  - structure, necessary general and specific stipulations and technical requirements in form of output specifications, as well as related payment mechanism which are relevant for energy and non-energy services (especially those that have potential to generate additional revenue).
  - customized and translated into national languages of the pilots, with special focus to implications on the balance sheet treatment of project in accordance with the Eurostat Accounting Rules.



**Key results**  
By January 2024

- **Adaptation of Smart EPC standardized documentation** (WP3 – D3.3)
  - adapted to specific pilot requirements, which exist in partner cities and municipalities, will be analyzed and gaps will be identified related to their application in Smart EPC concept/standardized documentation.



#### ● **Stakeholder workshops** (WP3 – D3.4)

- assess and test the Standardised EPC contract documentation on market by consultation with different stakeholder (financiers, technology and service providers as well as with facilitators)
- The workshops will cover:
  - a) a need assessment - encourage a better understanding of the mutual needs and perspectives;
  - b) co-creation of approaches on how to effectively apply other energy and non-energy related services and
  - c) encourage an assessment of the applicability and suitability of the Smart EPC concept and standardized documentation.
- two workshops per pilot country will be organized with 10-15 selected participants (core stakeholders). In addition, one workshop will take place at European level with international stakeholders.



## Key results By July 2023

- **Development of facilitation services** (WP3 – D3.5)

- standardized consultation services to foster and support use of Smart EPC contract documentation in pilots but also on wider European market
- The facilitation services may include, inter alia:
  - a) services related to due diligence of infrastructure and other requirements check;
  - b) applicability of Smart City and other ICT technologies;
  - c) business development services,
  - d) usage of standardized Smart EPC concept/documentation etc.





## Key results

### By July 2023

- **Training materials** (WP3 – D3.6)
  - in form of presentation slides and short learning videos.
  - focus on cities and facilitators covering the specifics of Smart EPC concept and markets, as well as the benefits of.
  - In English and will be available on the web portal together with a calendar, highlighting all capacity building activities on local, national and European level.





● **Physical training events and webinars** (WP3 – D3.7)

- transfer the knowledge and train stakeholders in developing and procuring Smart EPC projects.
- physical training events and webinars mostly for municipality/cities, facilitators and EES providers
- webinars will be organised by ENERGY CITIES and FEDERANE while training events will be organised by facilitators supported by REGEA and in cooperation with demonstration and pilot project representatives.
- training workshops will be at maximum three-hour events covering all developed instruments and tools (Smart EPC concept). The consortium partners are responsible for selection of the most suitable composition of target groups in their markets as well as for the arrangements of trainings

## ● WP4 activities

WP	Task start	end	Name / MONTH	Deliverable	TASK LEADER	
WP4 IPOPEMA	T4.1	6	12	<i>Identification of pilot applications</i>	Overview of pilot applications	REGEA
	T4.2	12	24	<i>Pilot applications inventory data collection</i>	Pilot application data analysis	REGEA
	T4.3	18	24	<i>Preparation of tender for Smart EPC piloting</i>	Smart EPC tender documentation – Action plan Smart EPC tender documentation - Tender documentation	IPOPEMA
	T4.4	24	33	<i>Real-life test of Smart EPC concept</i>	Report on open public consultation Report on Real-life test of Smart EPC concept	IPOPEMA
	T4.5	24	36	<i>Evaluation and adaptation report of Smart EPC concept</i>	Evaluation and adaptation report	REGEA

### ● Findings from literature review:

- A number of projects explored and tested technologies and services included in SMART EPC but there is no example of combining them all in one project under energy-performance contract
- There are numerous Smart city applications and services being tested/piloted and ready for operation, but they are mostly used to advance and provide quality public services with no or little direct commercial potential
- EV Charging service in lampposts is developing fast and shows commercial potential and applicability and usefulness, especially in highly urban areas.
- Different communication technologies are used for purpose of data transfers regarding smart city applications, equipment communication, and operation

### ● Findings from literature review:

- Lampposts present a focal point for technology installation and there are lampposts that deliver integrated solutions on the market.
- For the implementation of some of the services there will be a need for infrastructure upgrades (optical fibers, upgrade of electrical wires etc.).
- There are different practices regarding energy performance contracts in EU.
- According to EUROSTAT guidelines, only energy-related measures can be treated as off-balance investments. Additional non-energy services should be separately assessed



[More info](#)

- **Project website:** <https://energy-cities.eu/project/smart-epc> ; short link: [bit.ly/smartEPC](https://bit.ly/smartEPC)
- **Social media Official hashtag:** #EUsmartEPC
- **Newsletter subscription form:** <https://energy-cities.eu/project/smart-epc-newsletter-subscription> ; short link: [bit.ly/smartEPCnews](https://bit.ly/smartEPCnews)





Thank you!



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