SINLOC

Step-WISE

Call for applications
Expert support for CET Planning

LIFE22-CET-Step-WISE

Sustainable Islands 2025

Naples, 28th May 2025

Alessandra Montanelli, SINLOC spa

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Step-WISE in a nutshell

A tailored and dynamic capacity building programme to transform local and regional authorities into autonomous early adopters of digitised, integrated, and ambitious Clean Energy Transition plans

Project acronym	LIFE22-CET-Step-WISE
Call	LIFE-2022-CET-LOCAL
Action type	LIFE Project Grants
Start	1° December 2023
End	31° May 2026
Duration	30 months (2,5 years)
Consortium	IES R&D (Coordinator) SINLOC Spa R2M Solutions Energy Agency of Plovdiv CERES Frederick University Cyprus Energy Agency

Step-WISE CO2

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Project concept

STRATEGY

Promote energy transition by building and **increasing the local and regional authorities' skills and capacities** to deliver, implement and monitor their **energy plans** for their **local context**

METHODOLOGY

A **use-case based approach** to develop a **digital toolkit** for **training** of Replicators of the toolkit and the **application** of the toolkit by **Use case adopters**

Step-WISE toolkit
development

↓

2-wave
Capacity building programme

↓

Training and support to
Local and Regional Authorities (LRAs)

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Geographical coverage

UC1 Bulgaria

- Small municipalities without SECAP with energy efficiency and renewable energy strategy and action plan

UC2 Spain

- Isolated residential areas and carbon-intensive regions (steel industry in northern Spain) without SECAP

UC3 Cyprus

- Rural and/or mountain areas through joint SECAPs

UC4 Mediterranean Islands

- Small to medium-sized islands with a main economic vocation in tourism and services

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Mediterranean Islands common features

CHALLENGES

- Strong seasonality in the consumptions
- Lack of technical, procedural, financial skills and competencies
- Governance instability
- Local councils do not have sufficient autonomy, resources and external support to enable their successful participation in the CoM initiative
- Need to attract finance (project fragmentation, lack of tailored funds, higher costs, ..)
- Physical constraints and remoteness

OPPORTUNITIES

- Willingness to promote energy self-reliance of islands & reduce dependency on fossil fuel imports
- Need for short, medium and long-term planning (coordination between LRAs and projects, limited availability of areas, ..)
- Clean energy as a means to acquiring a competitive advantage and attracting "premium tourism" - visitors looking for a high level of sustainability
- Many LRAs in the islands have already developed acquaintance with Clean Energy Transition planning opportunities (when not directly developed their own plans)

The Step-WISE toolkit

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Why the Step-wise Toolkit?

1. **One platform** to evaluate the relationships between **different sectors**
2. **Holistic and robust overview** of their energy **baseline**
3. **Easy-to-use** interfaces and dashboards
4. Build **models** or rely on **archetypes**
5. Not only energy, but also **socio-economic indicators**
6. **Dynamic** reports

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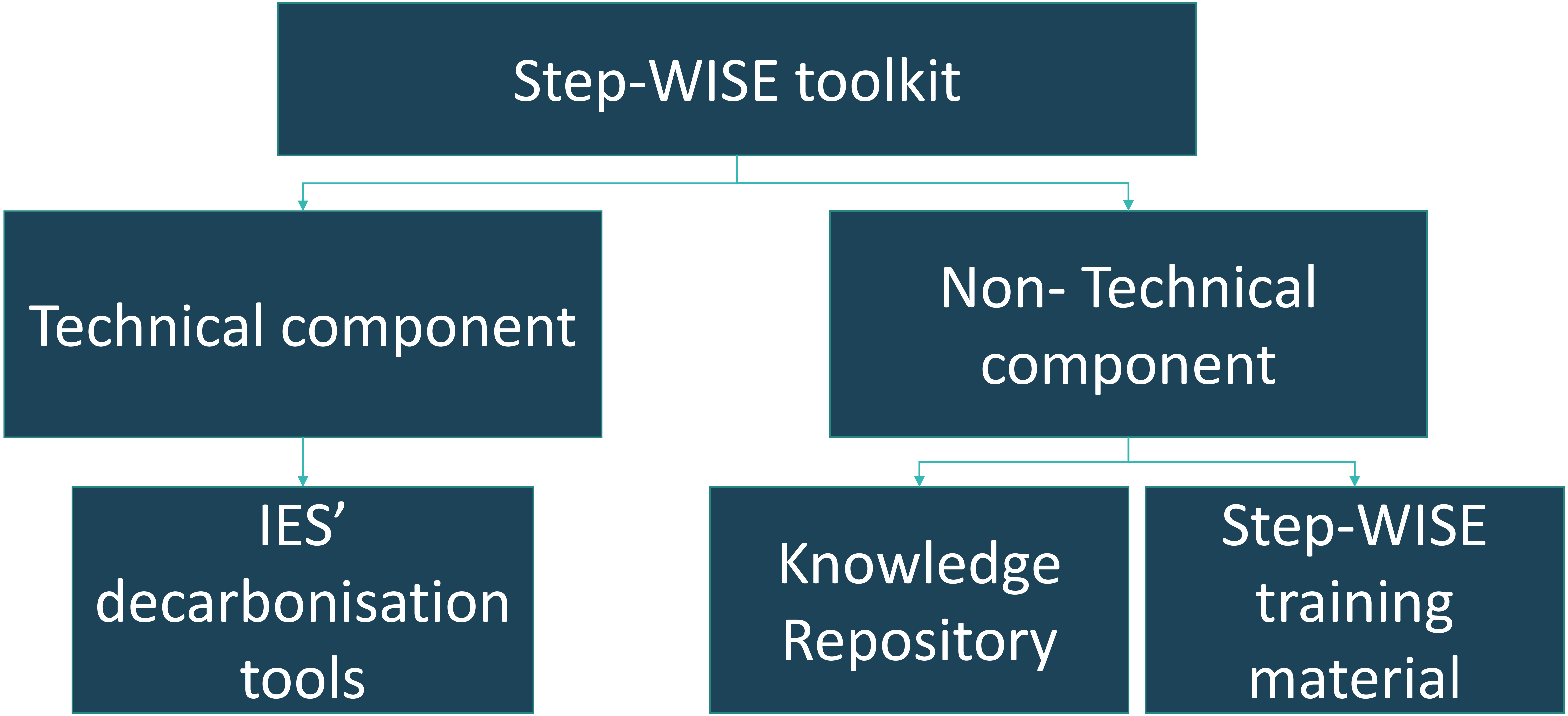

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CETP phases

- Initiation
- Planning
- Implementation
- Monitoring

Baseline model with **pre-filled information** to fill gaps in data e.g. U values

Simulation of **energy and carbon** in different **intervention scenarios**

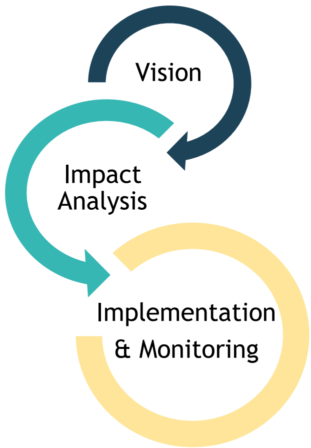
Pre-filled data and **visual analysis** can be viewed sector by sector (user defined) for both baseline and other scenarios

Allows **modelling and simulation** of several **climate mitigation** and some **climate adaptation interventions**

Network energy analysis e.g. District Heating simulation

View, show the roadmap on a user friendly platform

What technical part of the Step-WISE toolkit can support in during the SECAP process



**The software and tools are constantly developing, and the scope presented is subject to adaptation in features that can be provided for the SECAP process*

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IES ICL
Intelligent Communities Lifecycle

The Stepwise toolkit utilize the **Dynamic Energy Simulation**

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Develop a baseline

we can provide templates and examples

Data Gathering

Gather data on building geometry, type, energy consumption, system performance, and usage patterns from government agencies, utilities, research institutions, and open data platforms.

iCD model creation

ICD models create digital twins of real buildings to simulate their behaviour and provide a valuable baseline for testing and monitoring various options.

Model and simulation

Import all essential data from available data sets into iCD. Develop a virtual model of your area. Assess with a high confidence a baseline for you decarbonisation journey.

Review Results

A reliable baseline model is crucial for a successful zero-carbon journey, providing a stable foundation for future enhancements and ensuring confidence in the process.

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Identify and analyse potential actions

Identify high emitters

- Engage with stakeholders that have a potential of a high impact on carbon emission reductions. Start a conversation, understand their view on decarbonisation and actions taken up to date. Include their perspectives and plans in decarbonisation scenarios.

Sort archetypes

Identify groups of similar buildings that can benefit from the same upgrades. This will help to apply the changes to the model. Most importantly, it will streamline a process of future incentives design to help certain parties and community groups to achieve the set goals.

Create scenarios

Create scenarios, and investigate their impact by running multiple simulations using ICL technology. iCD tool allows to investigate larger range of various solutions. This ensures a selection of the best ones, and in the most beneficial sequence.

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Example: Energy diagnosis

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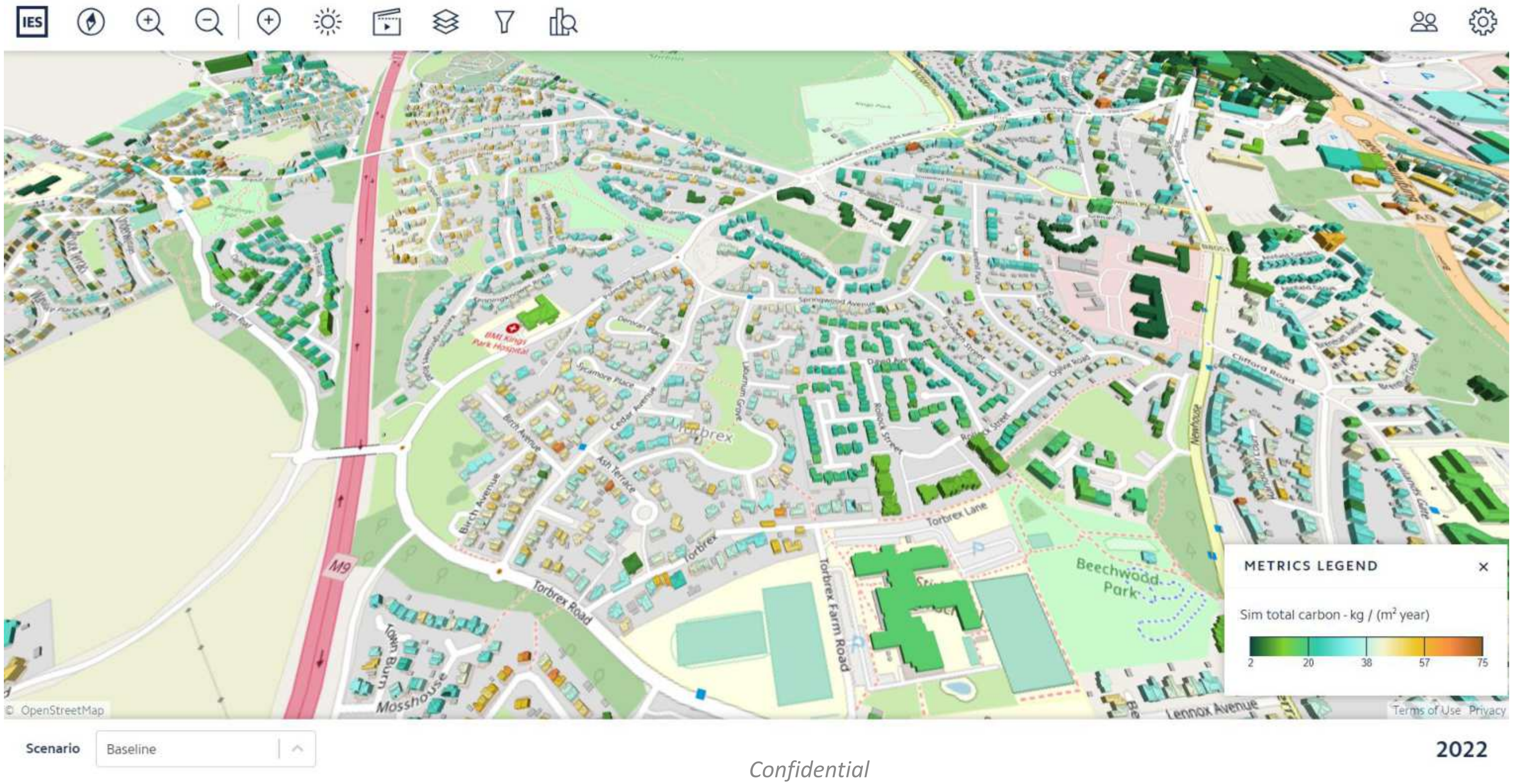
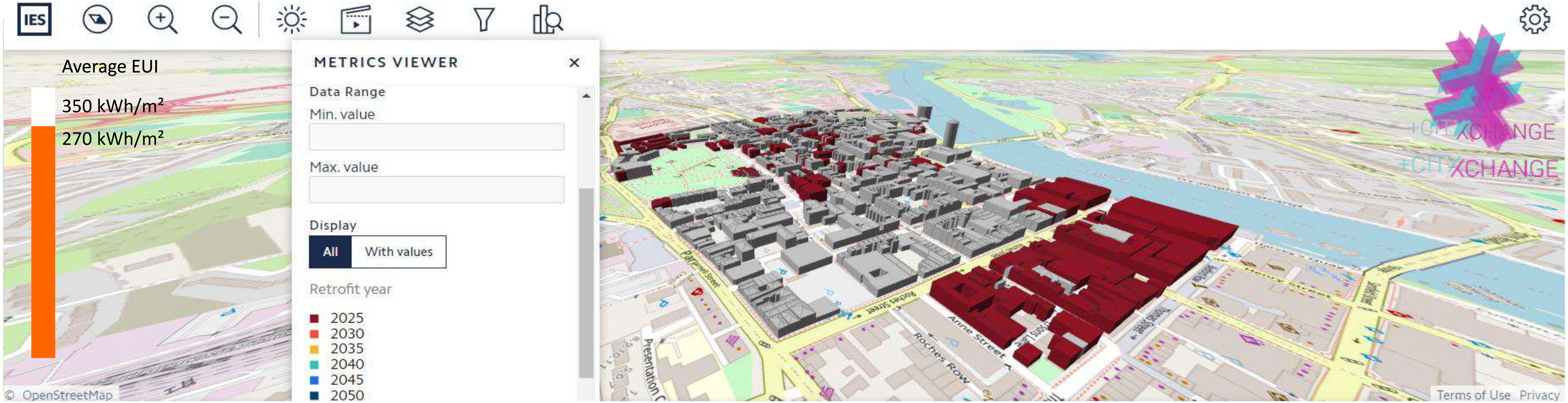
Example: Emitting scenario





IES
Average EUI
350 kWh/m²
270 kWh/m²
METRICS VIEWER
Data Range
Min. value
Max. value
Display
All
With values
Retrofit year
2025
2030
2035
2040
2045
2050
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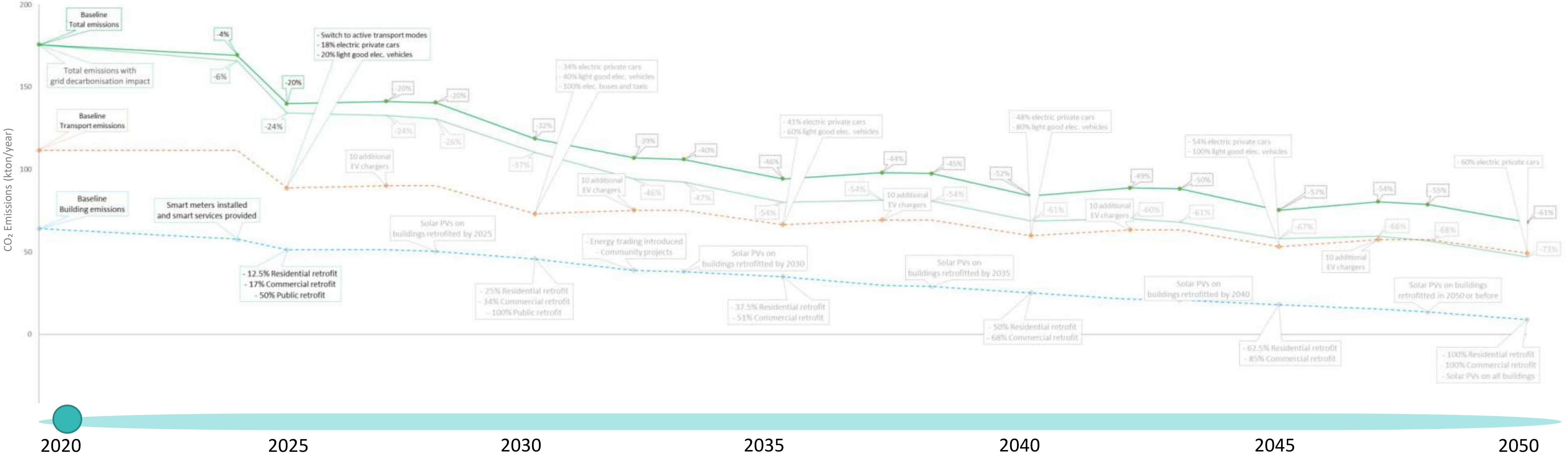
Terms of Use
Privacy
Parnell Street
Roches Street
Anne Street
Roches Row
Presentation



CO₂ Emissions (kton/year)
200
150
100
50
0
Baseline Total emissions
Total emissions with grid decarbonisation impact
Baseline Transport emissions
Baseline Building emissions
Smart meters installed and smart services provided
-4%
-6%
-20%
-24%
- Switch to active transport modes
- 18% electric private cars
- 20% light good elec. vehicles
- 12.5% Residential retrofit
- 17% Commercial retrofit
- 50% Public retrofit
10 additional EV chargers
Solar PVs on buildings retrofitted by 2025
- 34% electric private cars
- 40% light good elec. vehicles
- 100% elec. buses and taxis
- 25% Residential retrofit
- 34% Commercial retrofit
- 100% Public retrofit
Energy trading introduced
- Community projects
Solar PVs on buildings retrofitted by 2030
- 41% electric private cars
- 60% light good elec. vehicles
- 37.5% Residential retrofit
- 51% Commercial retrofit
Solar PVs on buildings retrofitted by 2035
- 48% electric private cars
- 80% light good elec. vehicles
- 50% Residential retrofit
- 68% Commercial retrofit
Solar PVs on buildings retrofitted by 2040
- 54% electric private cars
- 100% light good elec. vehicles
- 62.5% Residential retrofit
- 85% Commercial retrofit
- 60% electric private cars
Solar PVs on buildings retrofitted in 2050 or before
- 100% Residential retrofit
- 100% Commercial retrofit
- Solar PVs on all buildings
2020
2025
2030
2035
2040
2045
2050

IES
Average EUI
214 kWh/m²
184 kWh/m²
165 kWh/m²
140 kWh/m²
METRICS VIEWER
Data Range
Min. value
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Retrofit year
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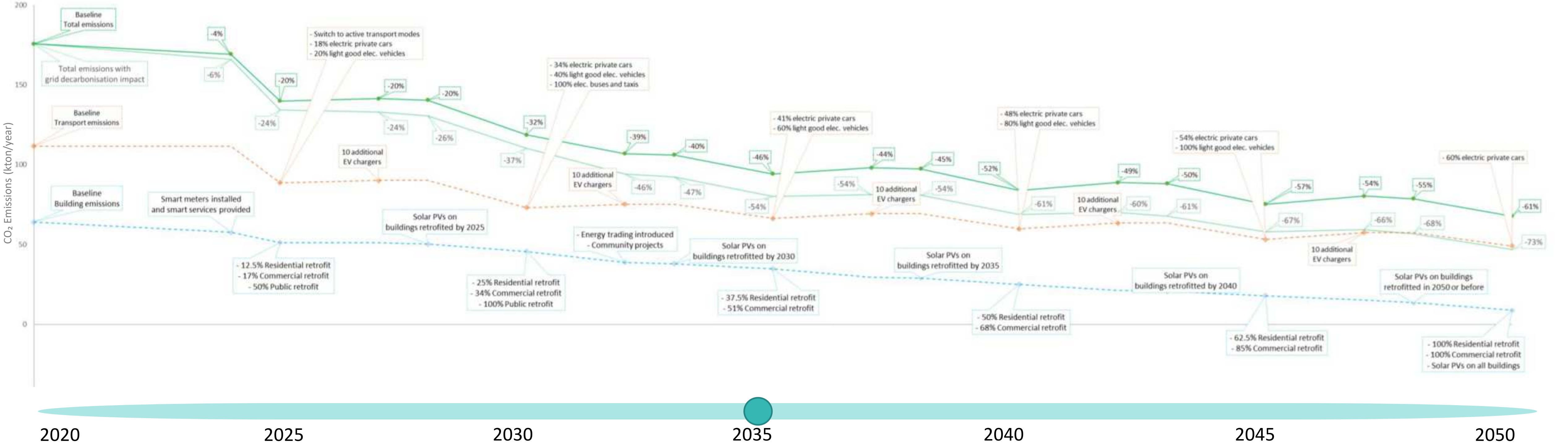

CO₂ Emissions (kton/year)
Baseline Total emissions
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10 additional EV chargers
- 60% electric private cars
Solar PVs on buildings retrofitted in 2050 or before
- 100% Residential retrofit
- 100% Commercial retrofit
- Solar PVs on all buildings
2020
2025
2030
2035
2040
2045
2050

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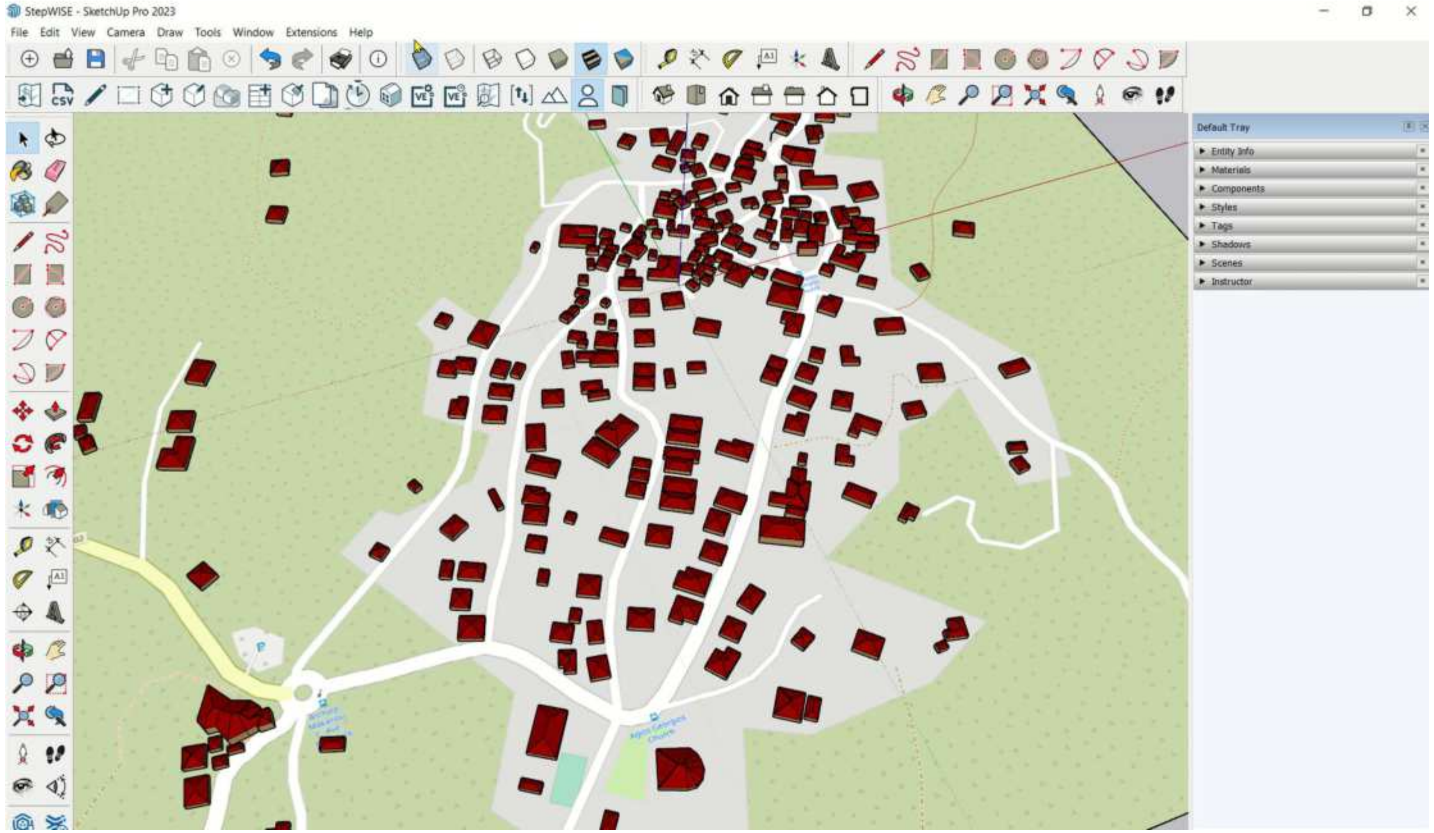
Intervention Scenario(s) Model Creation

- Create intervention scenarios
- Models modified from the baseline with intervention for Year x,y,z…, creating intervention scenarios
- Add Renewables
- Add PV panels by lunching the solar assessment.
- Intervention scenarios comparison and comparison with Baseline



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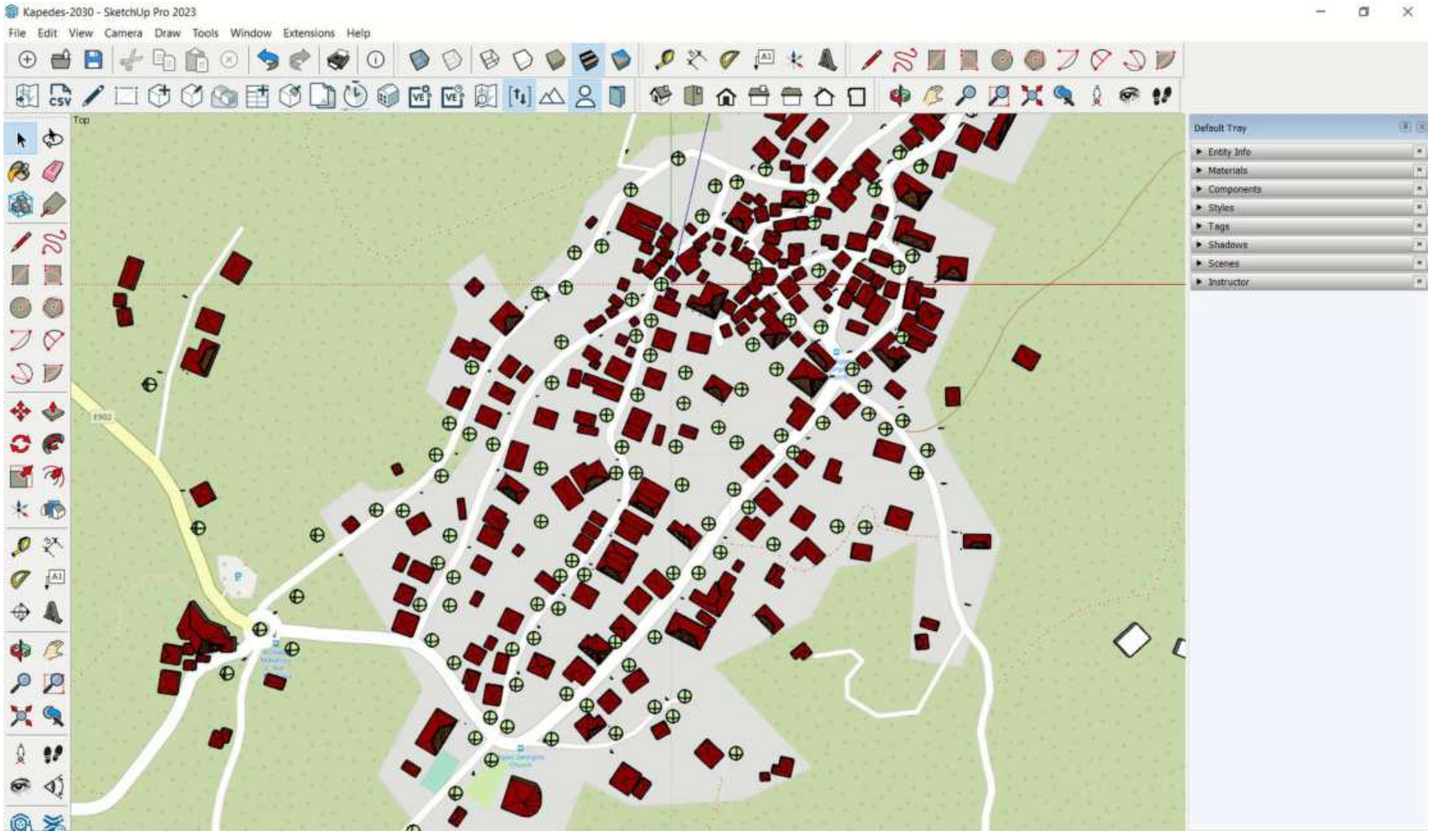
Ready Made Report Comparison

- Analyse baseline Energy use, shading, outdoor thermal comfort, walkability and rainwater run off
- Compare multiple scenarios which can span multiple years
- Simulation and visualise energy and carbon results of the intervention scenario individually



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PowerBI Decarbonisation Roadmap

- Edit and view a dashboard to visualise and share the Decarbonisation roadmap
- Access and view the plan, metrics and models in 3D accessible via browser

[PowerBI Dashboard Roadmap]

Opportunities for LRAs

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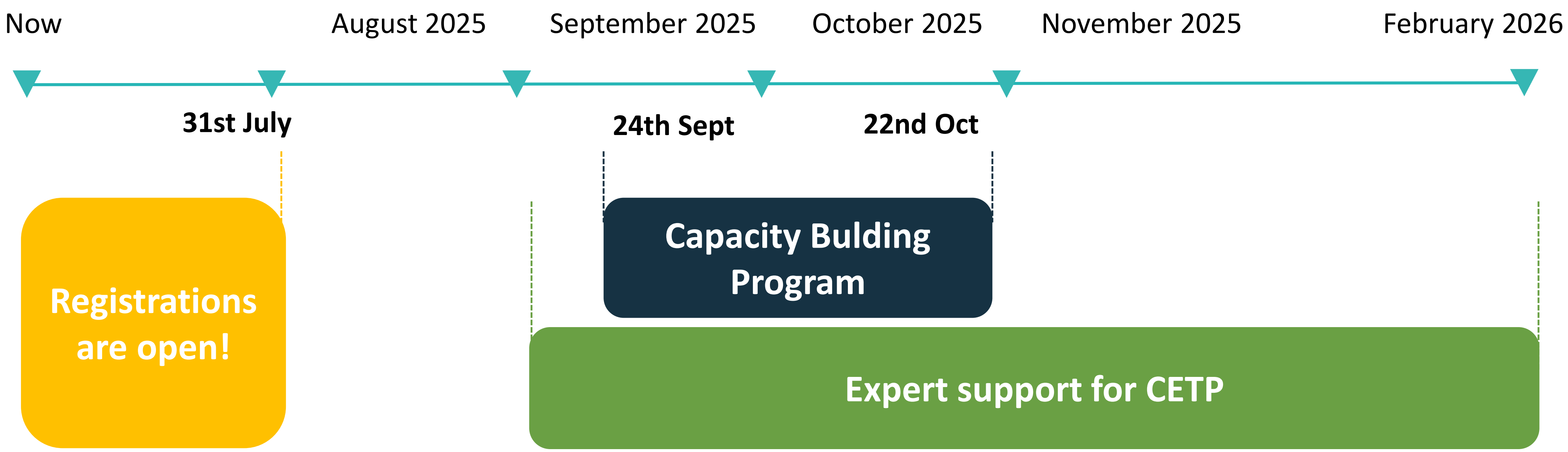
We are looking for Adopters!

Are you a **local / regional authority** eager to contribute to the clean energy transition of your territory?



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Capacity Building Program – October 2025

Registration necessary to gain access to a **free 6-month Step-WISE toolkit license trial**

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Expert support for CETP

Open call to select **6 pilot municipalities** to receive **free of charge expert support** to develop or update an Clean Energy Transition Plan for their territory

Timeline: September 2025 – February 2025

Objective: Develop or update a Clean Energy Transition Plan (CETP)

Selection criteria: Pilots must be located on a Mediterrenean island, in a municipality of less than 10k inhabitants. Pilots must have a good level of proficiency in English and commit to prior follow the Step-WISE training sessions. Priority is awarded to islands with no previous experiences in EU projects.

Deadline: 31st July 2025, 17:00 CET

Send you application!

Thanks!

Alessandra Montanelli
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