



Synergizing Buildings Renovation and Regenerative Urban Furniture to Co-create PED Ecosystem

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Imottesjo

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Statement of originality

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Table of Contents

About the project	3
Annual event report	4
Executive Summary	4
1. Description of work, objectives and preliminary results.....	5
1.1 Project progress in the reporting period	5
1.2 Main objectives accomplished	5
1.3 Work accomplished by Work Package.....	6
1.4 Collaboration with target groups and stakeholders	12
1.5 Deficiencies, risks and bottlenecks	13
2. Impact of the project.....	13
2.1 Contribution to urban transition	13
2.2 Link to DUT Roadmap and transition pathways.....	14
2.3 Long-term expected impact	15
2.4 Interdisciplinarity and transdisciplinarity.....	15
2.5 Urban living lab experiences	16
3. Dissemination and communication activities	18
4. Outlook – year 2 work plan.....	21
5. Project organization and management	23
Contacts	26

Figures

Figure 1: Overview of the three cities (<https://setpedproject.wixsite.com/set-ped>)

Figure 2: Kick-off meeting in Bucharest (27-28 March 2025)

Figure 3: Co-creation workshop in Eskilstuna

Figure 4: Co-creation workshop in Bucharest Sector 6

Figure 5: The BAS 2025 Conference in Borlänge, Sweden

About the project

SET-PED aims to integrate buildings envelope renovation and urban furniture design to co-create a new Positive Energy District (PED) ecosystem across different climates zones. This project offers low-carbon, circular economy-based solutions for public space transformation and energy resilience, utilizing local resources for co-designing and co-implementing smart urban furniture, integrated within the social landscape as a valued place by the residents, and integrated within sustainable development initiatives: PEDs and local energy communities (LEC). The project has four objectives:

- model and assess envelope renovation designs using circular bio-based systems by considering cross-impacts towards both reduction of environmental impacts and increase building energy performances;
- identify potential recycled materials for urban furniture to redesign production processes;
- develop an urban furniture prototype in each participating country, using recycled building material and incorporating a solar PV, recycled battery storage, and micro-grid energy hubs for the optimized energy flow in a PED or LEC context;
- collaborate with different stakeholders to co-create a potential roadmap for smart urban furniture as the new standard in the case of integrated circular-economy-based renovation projects able to perceive the solution not just as a stand-alone element, but as a valuable intervention fostering PED and LEC diffusion and having the role of social coagulant.

Therefore, SET-PED combines expertise in building renovation, renewable energy, digital fabrication, design-based research, and urban planning to develop a sustainable and circular co-creation process. SET-PED will test pilots in Mascalucia (Italy), Eskilstuna (Sweden), and Bucharest Sector 6 (Romania) with the aim to enable the development, testing, and communication of circular co-design on an EU level. The smartness of prototypes in the pilots will be co-developed with stakeholders depending on local context, which will be further tested from aspects of energy generation, storage, distribution, and local demand through predictive modelling and advanced coordinated control strategy for optimized energy flows.

Annual event report

Executive Summary

This document constitutes the first Annual Progress Report of the SET-PED project, covering the reporting period from 15 January 2025 (the project start) to 14 January 2026. The report documents the activities carried out across all seven work packages, the progress against planned milestones and deliverables, the main results achieved, the dissemination and communication activities undertaken, and the outlook for the second year of the project.

During Year 1, the SET-PED consortium established the methodological, technical and participatory foundations required for the subsequent phases of iterative prototyping and implementation. Key achievements include: the completion of the database of circular renovation design solutions for building envelopes (MS7, T2.1); the finalisation and laboratory testing of the modular energy hub kit (D3.1); the completion of public space assessments in all three pilot cities (Eskilstuna, Bucharest Sector 6, Mascalucia); the establishment of local stakeholder ecosystems; and the application of co-creation frameworks based on the Her City Toolbox in Eskilstuna and Bucharest. The project is progressing as planned, with minor timing adjustments in Mascalucia that do not affect the overall trajectory or final deliverables.

1. Description of work, objectives and preliminary results

1.1 Project progress in the reporting period

The project is progressing as planned and as described in the proposal. All planned milestones and deliverables for Year 1 have been achieved. Minor timing adjustments have been applied in Mascalucia (cooperation partner), where co-creation activities initially foreseen for late 2025 have been rescheduled to early 2026. This does not affect the overall project trajectory, deliverables or final timeline.

1.2 Main objectives accomplished

During the first reporting period, the SET-PED project achieved the key objectives foreseen for the initial phase, in line with those outlined in the Online Survey and the project proposal. All partners successfully contributed to establishing the methodological, technical and participatory foundations required for the subsequent phases of iterative prototyping and implementation.

SET-PED achieved the development and testing of co-creation procedures and strategies for regenerative urban furniture. Through coordinated work across WP3 and WP5, the project established a shared framework for participatory design, adapted to local contexts and target groups, and applicable across the three pilot cities of Eskilstuna (Sweden), Bucharest Sector 6 (Romania) and Mascalucia (Italy).

A further key objective accomplished was the public space assessment and needs mapping in the pilot areas. This included baseline local context descriptions, stakeholder-based site assessments and technical site analyses, ensuring that future prototypes are grounded in real spatial, social and environmental conditions. From a technical perspective, the project finalised the design specification of the modular energy hub kit (D3.1), enabling urban furniture to be equipped with solar PV, battery storage and monitoring systems. The energy hub design was tested during autumn 2025 and is intended to provide low-voltage electrical power to urban furniture functions to be defined in the next phases.

In parallel, the project successfully established local stakeholder ecosystems, particularly in Bucharest Sector 6 and Eskilstuna, engaging municipalities, schools, local communities and civil society organisations. This achievement directly supports the objective of empowering communities through co-creation and ensures continuity of engagement throughout the project lifecycle.

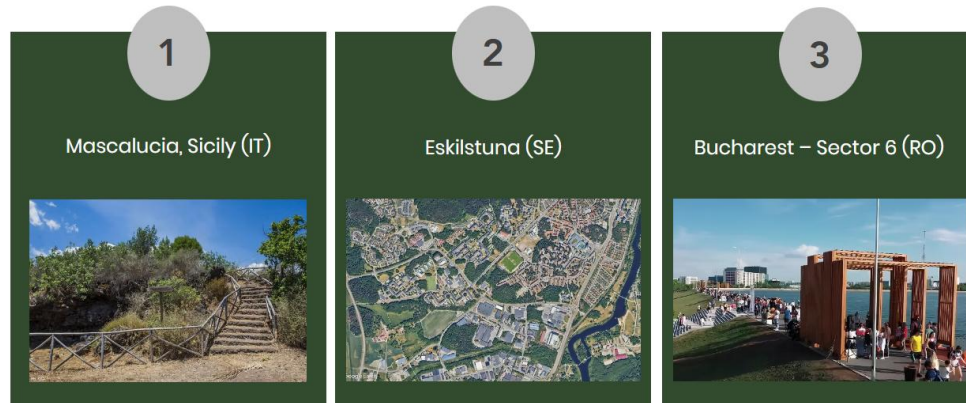


Figure 1: Overview of the three cities (<https://setpedproject.wixsite.com/set-ped>)

1.3 Work accomplished by Work Package

WP1 – Coordination and Management

The activities were carried out as planned. The consortium agreement was signed and delivered to all partners (D1.1). The data management plan was launched on 24 March 2025 and is planned to be updated yearly. Partners participated in regular consortium bi-monthly meetings (MS2 and MS8), ensuring alignment with project objectives, timelines and reporting requirements. The project kick-off meeting was held in Bucharest Sector 6 (Romania) on 27–28 March 2025.



Figure 2: Kick-off meeting in Bucharest (27-28 March 2025)

WP2 – Climate-Adapted Design Solutions to Building Envelope Renovation

Within WP2, Task 2.1 was finalised and the database of design solutions for circular deep renovation of buildings was completed (MS7). This work mapped climate-adapted renovation solutions and contributed to identifying potential recycled materials for urban furniture design. The analysis of case studies advanced within Task 2.2, and case-study finalisation for the implementation of Task 2.3 is ongoing. Eco-design and circularity principles are being input to the prototype design within Task 2.2.

WP3 – Iterative Prototyping of Regenerative Urban Furniture through Co-Creation

The collaboration among Imottesjo, Urbasofia and Shared City Foundation led to the completion of the procedure and strategies for prototype co-creation under Task 3.1. A SET-PED roadmap was developed to structure the integration of urban furniture prototype design and implementation into citizen co-creation processes. The roadmap accounts for multiple steps, actors and dependencies required to align technical development with participatory design and validation. Workshops conducted with Shared City Foundation and the city of Eskilstuna permitted to identify key challenges and solutions for integrating the HerCity Toolbox into processes for understanding local shared visions, design, validation and final implementation, including sourcing recycled materials, local labour, infrastructure and logistics. Shared City Foundation and HerCity

has served and continues to serve as a strategy for ensuring a continuous and inclusive approach for co-design innovation and feedback. Shared City Foundation is also contributing in providing documentation and recommendations for co-creation of smart-urban furniture in each pilot. These steps were validated with Dalarna University to ensure alignment with technical requirements. The resulting step-by-step sequence was transferred and further discussed during the physical workshop in Bucharest, aiming to establish an overarching and transferable framework applicable across all three pilot cities. A similar workshop will take place in March for the cooperation partner of Mascalucia. Regarding the open-source online platform (MS6), discussions with partners and city stakeholders led to refining the initial concept into a multi-channel communication approach. A dedicated LinkedIn account and project website were identified as more efficient tools for dissemination and stakeholder engagement than developing a new standalone platform, developed within the activities of WP6. These shared social networking service channels were assessed as more efficient than creating a new platform, as it builds on existing professional networks and follower bases that are already interested in urban, co-creation, design, and PED topics, enabling faster outreach and greater visibility among relevant stakeholder groups. Considering local diversity and the targeted stakeholder profiles (age, interests), the use of other existing social media platforms, such as Facebook, was discussed but deemed less effective for the project's objectives. Once finalized, project guidelines and manuals documenting design processes and implementation are publicly available and downloadable to ensure openness and transferability. Task 3.2 on the public space assessment through a structured three-step approach was carried out with the coordination from Imottesjo, Urbasofia and Shared City Foundation. Step 1 focused on a baseline local context description, capturing geographical, social, cultural, historical and regulatory dimensions, as well as site-specific challenges, opportunities and available local stakeholders. Step 2 focused on understanding stakeholder perceptions and needs related to the sites. Shared City Foundation facilitated a series of workshops using the HerCity Toolbox.



Figure 3: Co-creation workshop in Eskilstuna

These workshops enabled participating stakeholders to assess the sites through lived experience, identify priority needs, and co-create a shared vision for the sites' future. The outcome informed both site-specific design directions and preliminary design proposals. Step 3 consisted of a technical site assessment survey directly linked to the detailed design, implementation, and monitoring of the urban furniture prototypes. The survey was distributed to the participating cities and is intended to be completed by Imottesjo during site visits, in collaboration with municipal architects who provide technical insights beyond those derived from observational site studies. This process was completed in Eskilstuna, Bucharest and Mascalucia. Finally, Task 3.3 regarding the design of the modular energy hub kit was completed. The modular kit consists of a technical energy hub and an urban furniture module. The final modular kit components for the technical energy hub is delivered by Dalarna University and consist of a flexible solar panel from Midsummer (type SLIM2 panel 4025 x 358 mm, 165 W), irradiation sensor to be mounted on the urban furniture, where the solar cell is attached, a standard electrical cabinet that

houses a 12V lithium-ion battery with 1,2 kWh of storage capacity, Victron Cerbo GX for system monitoring and communication, Victron SmartSolar MPPT 100/20 as solar charge controller with max PV 100V, max charge current 20A, Victron Cerbo GX for system monitoring and communication, battery shunt for battery monitoring, fuse blocks for power distribution and circuit protection, DC Busbars (positive & negative) for connection points and cables. The modular urban furniture component is designed based on locally available recycled materials, urban discarded biomass for biodiversity. theft-proofing is needed due to the permit for prototyping that does not allow excavation of the ground, design flexibility, maximising the use of curved solar panels and functionality. The required materials for the urban furniture kit are 1-5 pcs flat, smooth hewn surface natural stone or concrete block (200-400×200-500×800-1400 mm), 8-12 pcs steep pipes/tubings (galvanised iron) with dia. 25-70mm, length 2,000-4,000mm, 3 pcs biomass of live deciduous trees (single log or stems harvested) dia. 80-200mm, length 3,000-6,000mm, with max. branch size 30mm, 1 pcs Timber log (Oak or hard, rot-resistant wood) of all variations, including branches and irregular shapes. diameter: 400-600 mm and length: 1.5-3 m. For Task 3.4, on the iterative prototyping through co-creation, the shared methodology from Shared City Foundation and joint planning for all pilots resulted in a harmonized co-creation process where pilots strengthen each other. In Figure 3, the co-creation workshop in Bucharest.



Figure 4: Co-creation workshop in Bucharest Sector 6

The co-creation workshops with local communities are done in Bucharest and Eskilstuna that have resulted in visualisations, priorities and recommendations for further prototyping. Additional engagement of locals will be done through design validation and prototype assessment.

WP4 – Integrate Smart Urban Furniture with Local Energy System

The design of the energy hub was finalised, tested during autumn 2025 and contributed to Deliverable D3.1. The system is designed to provide 12 V electrical power to urban furniture functions to be defined in the upcoming Deliverable D4.1. Preparatory work was carried out for the integration of energy solutions into the prototypes and for future simulation and monitoring activities.

WP5 – Empowering Communities through Co-Creation

Urbasofia co-led Task 5.1 on stakeholder engagement frameworks (MS3). In the first 12 months, key stakeholder groups were identified and mobilised in Bucharest, and a local multi-actor network was established. Workshops and meetings enabled early co-design discussions around use-case scenarios for schools and neighbourhood public spaces (MS9). This work represents a social and process innovation, creating new forms of collaboration between the municipality, local communities and project partners, and introducing

participatory governance practices into the early planning of smart urban furniture.

WP6 – Cooperation and Dissemination

Urbasofia contributed to the local communication and visibility of the project. This included providing content for the project website, <https://setpedproject.wixsite.com/set-ped>, connected with a dedicated mail address for reaching out and contacts. and supporting outreach actions in Bucharest. Visual material preparation (MS5) is under development and will consist in the diffusion of the preliminary results for the three pilot cities and for specific achievements within each WP.

WP7 – Support for the DUT Knowledge Hub

SET-PED actively contributed to the PED Knowledge Hub through participation in onboarding and thematic periodical meetings, including the KH session on 14 November 2025 and the Topical Kick-off on 10 December 2025. The project supported the definition of the DUT PED Roadmap and the identification of thematic priorities, contributing to the structuring of future Knowledge Hub subgroups. SET-PED also participated in the joint reflection on Key Areas of Action, main project challenges, and relevant KPIs, helping to consolidate shared analytical frameworks within the Knowledge Hub. In doing so, SET-PED brought its specific focus on urban regeneration, co-creation-based approaches, and smart urban furniture as centres for energy and social aggregation, enriching the PED discourse with socially embedded and place-based perspectives.

1.4 Collaboration with target groups and stakeholders

The work was carried out through extensive multi-stakeholder engagement. Collaboration with municipalities, local partners and community groups was ensured through workshops, meetings and on-site activities. Collaboration took place through a series of local workshops, small group meetings and on-site discussions aimed at understanding everyday use of public spaces and the needs of different user groups. In Bucharest, engagement focused on Sector 6 municipality representatives, school communities, local residents and civil society organisations. US worked closely with the main target groups in the Bucharest pilot, especially representatives of Sector 6 municipality, school communities, local residents and civil society organisations. Young mothers, students and youth were also actively involved in surveys and design

workshops. In Eskilstuna, adolescent girls were the main target group. In Mascalucia, preparatory efforts focused on engaging children and families, with activities scheduled for the following reporting period. Working closely with local partners proved key in ensuring commitment from target groups. A key takeaway was that many stakeholders were initially unfamiliar with the concept of smart urban furniture as part of local energy and social infrastructure. Through dialogue and co-creation activities, the concept became clearer and generated concrete ideas. Early, face-to-face engagement was essential for building trust, ownership and meaningful participation.

1.5 Deficiencies, risks and bottlenecks

With regard to WP2, activities are progressing. Task 2.2 will be extended for some months into the second year in parallel with the development of Task 2.3. At the pilot level, Tasks 3.2 and 3.4 experienced delays in Mascalucia. These activities are rescheduled for the first months of 2026, and thorough preparation ensures that the delay will not affect final project delivery. Additional local challenges were identified in Bucharest. The city lacks a dedicated department for recycling materials, which complicated access to circular resources. Additionally, involving children as initially planned proved impractical, so the focus shifted to engaging students, who could better contribute to co-creation and design discussions. These issues were addressed through flexible stakeholder strategies and close collaboration with local partners.

2. Impact of the project

2.1 Contribution to urban transition

In the first 12 months, the project's main contribution to urban transitions has been the introduction of a participatory, circular and energy-aware approach to public space and urban furniture design, tested in the three pilot cities of Eskilstuna, Bucharest and Mascalucia. From the societal viewpoint, SET-PED has fostered stronger community engagement by involving residents, students and municipal actors in co-creation processes, creating new forms of dialogue and collaboration. The stakeholder engagement and participatory governance approach developed in the pilot cities represents a social innovation that can

inform policy and support wider adoption of circular and energy-integrated urban solutions. Culturally, the SET-PED project has raised awareness of smart urban furniture as a multifunctional asset that can combine energy, social interaction and environmental benefits. By making the transition visible and tangible, the project contributed to influence citizens' perceptions of how public spaces can actively contribute to urban sustainability goals. Environmentally, the project has started to explore circular design principles and the potential reuse of materials, highlighting challenges and opportunities in the local context. Economically, by mapping local needs and co-developing solutions with stakeholders, the project lays the foundation for scalable and replicable urban interventions that can support sustainable investment in public spaces. The application of comparable methodologies across different socio-cultural and climatic settings has enabled early cross-city learning, contributing to institutional capacity building and innovation in urban planning practices. The first-year achievements of the project, therefore, contributed to have an impact on societal, cultural and environmental urban transitions, establishing a strong basis for future innovation and replication.

2.2 Link to DUT Roadmap and transition pathways

The project's first-year contributions are closely aligned with the DUT Roadmap and the DUT Transition Pathways, particularly in advancing climate-neutral, circular, and socially inclusive urban development. By implementing co-creation processes with local stakeholders, the project supports the Transition Pathway mission of participatory governance and community engagement, fostering bottom-up decision-making in public space design. In addition, the project contributes to the PED and CUE Transition Pathways by positioning smart urban furniture as an enabling system that links public space regeneration with local energy generation, circular material flows and social value creation. Even at this early stage, SET-PED demonstrates how small-scale, place-based interventions can act as entry points for wider district-level transitions. The project contributes in raising awareness of renewable energy and circularity, and increasing acceptance of multifunctional public spaces, thus targeting the mission of inclusive and resilient urban transitions.

2.3 Long-term expected impact

In the long term, SET-PED is expected to advance circular, energy-integrated and socially inclusive urban transitions in pilot cities and beyond. It will strengthen community participation, promote circular design and local energy efficiency through smart urban furniture, raise awareness of multifunctional public spaces, and provide scalable models for sustainable urban interventions. Aligned with the DUT Roadmap and Transition Pathways, the project supports climate-neutral, resource-efficient and socially inclusive city missions by providing tested frameworks and practical evidence for replication in other urban districts.

To achieve these impacts, the project will continue co-creation workshops, implement and monitor smart urban furniture prototypes, integrate circular materials and energy solutions, and develop city-scale replication strategies. Dissemination and knowledge sharing will ensure lessons learned are applied in policy and practice across PED and CUE communities.

2.4 Interdisciplinarity and transdisciplinarity

Several important insights emerged as a direct result of the interdisciplinary and transdisciplinary setup of the SET-PED project. By combining expertise from building physics and energy systems, urban design, circular economy, social sciences, and participatory design, and by actively involving non-academic actors such as municipalities, civil society organisations, local communities, young mothers and students, the project generated new understandings that would not have been possible within a single disciplinary framework. The transdisciplinary setup enriched the co-creation process by integrating the Her City methodology, which provides technical planning and design tools grounded in a normative, inclusive and human-rights-based approach to urban development. Within SET-PED, this co-creative urban planning method was strengthened by an in-depth thematic focus on solar power and energy integration. This thematic focus added value to community engagement by transforming the co-creation activities into learning opportunities, particularly for participating youths and students, who were introduced to energy concepts through hands-on design processes. A first key insight concerns the interaction between technical design and social processes. The collaboration between engineers, designers and social practitioners showed that technical solutions for energy-integrated urban furniture cannot be

developed independently of participatory processes. Co-creation activities influenced not only the functions and aesthetics of the prototypes, but also technical requirements related to usability, safety, maintenance and acceptance. The combination of urban design, social science, energy research and participatory design methods clearly showed how technical solutions, such as solar-powered urban furniture, are shaped by social perceptions of safety, belonging and everyday use. This demonstrated that social engagement is not an add-on, but a design driver that directly shapes technical innovation. A second insight emerged from the integration of circular economy principles with public space design. Input from material experts, municipalities and local stakeholders revealed that availability of recycled materials, regulatory constraints and local maintenance capacities strongly affect what is technically and socially feasible. This led to a more realistic and context-sensitive understanding of circular design, moving beyond theoretical material reuse towards implementable solutions grounded in local supply chains and governance structures. The involvement of non-academic partners, particularly municipalities and civil society organisations, also generated insights into institutional and governance dimensions. Municipal actors contributed practical knowledge on permits, public space management and long-term maintenance, while civil society partners provided methods and tools to engage specific target groups. Most importantly, the involvement of children, youth and young women as co-creators challenged conventional expert-led approaches and demonstrated how inclusive and participatory processes can generate more context-sensitive, socially sustainable and technically feasible solutions. In addition, the transdisciplinary setup enabled cross-learning between cities operating in different socio-cultural and climatic contexts. Applying shared methodologies across Bucharest, Eskilstuna and Mascalucia revealed which elements of the co-creation and design process are transferable and which require local adaptation. This insight strengthens the project's replication potential and contributes to broader learning within the DUT community.

2.5 Urban living lab experiences

During the first year of SET-PED, experimental approaches inspired by Urban Living Lab (ULL) principles were implemented to facilitate the co-design of transformative solutions aimed at improving urban liveability. These approaches were embedded within the project's co-creation framework and applied through site-specific workshops, participatory assessments and

iterative design activities in the pilot cities. A key example is the co-design workshop conducted in Eskilstuna, which functioned as an experimental ULL setting. During this workshop, the technical solutions related to the modular energy hub and energy-integrated urban furniture were presented in an accessible and non-technical manner, while preserving their core functional logic. Concepts such as solar energy generation, energy storage, and the role of urban furniture as a local energy node were explained through visual materials, simplified and design-oriented language. This enabled participants without technical backgrounds to meaningfully engage with energy-related concepts during the design phase. The results of the workshop demonstrated that participants actively integrated these technical principles into their design proposals reflecting their awareness of energy-related functions, such as multifunctional use of furniture and the relationship between energy generation, social use and spatial configuration. This provided a concrete insight into how technical knowledge, when translated appropriately, can empower non-expert actors to contribute to energy-aware urban design. The Urban Living Lab approach was also implemented in the Bucharest pilot area to support the co-design of radical but locally grounded transitions toward more liveable public spaces. The pilot area was treated as a real-life testing environment where ideas, needs and design options could be explored together with local actors rather than imposed from outside. In this pilot area, the ULL activities were organised as a sequence of on-site workshops, exploratory walks and small group meetings. Local public administration representatives from Bucharest Sector 6 were engaged to align the project with municipal priorities and to discuss regulatory and implementation constraints. Residents and students were involved through participatory mapping exercises and guided discussions focused on how public spaces are currently used, which groups feel excluded, and what functions smart urban furniture should provide. NGOs and civil society organisations active in the neighbourhood contributed local knowledge and helped reach vulnerable or less visible groups. A third ULL is planned to be held in Mascalucia in early 2026. Engagement with local public administrations was central to this ULL approach. Municipal representatives contributed practical knowledge on public space regulations, maintenance responsibilities, safety requirements and long-term feasibility. Their involvement ensured that co-designed solutions remained grounded in real implementation conditions and helped align experimental design outcomes with administrative and governance frameworks. The project applied Her City methodology to experimentally co-design solutions that incorporate solar energy to support

more liveable, inclusive and sustainable urban environments. The workshops in Eskilstuna and Bucharest functioned as testing ground where ideas were developed, assessed and refined directly in the local context. Activities combined on-site spatial analysis, data collection, and participatory design processes. Participants mapped accessibility, use patterns and physical conditions of the site using digital tools, followed by structured co-design sessions based on tools for design-thinking. This approach enabled the translation of everyday experiences into concrete design concepts, supporting iterative learning and experimentation. The experimental nature of the SET-PED ULL-inspired approach also fostered learning-by-doing among project partners. Designers, engineers, social scientists and facilitators worked together in real-time, adapting methods and communication strategies based on participant feedback. The experience from SET-PED project showed that working in a real urban setting significantly increased trust, relevance and the quality of the inputs received. It also demonstrated that Urban Living Labs are effective in bridging technical concepts, such as circularity or energy-integrated furniture, with everyday experiences, enabling co-design processes that are both innovative and socially meaningful.

3. Dissemination and communication activities

During SET-PED dissemination and communication activities were designed to connect research, policy dialogue and local engagement. These activities supported the key project communication goals identified within the initial proposal, particularly within WP 6 (Cooperation and dissemination), WP 7 (Support to the DUT Knowledge Hub), as well as within the co-creation activities carried out in WP 3 and WP 5. Dissemination activities were conceived as spaces for exchange, learning and stakeholder engagement, thus connecting research, education, local dialogue and participation. Across the reporting period, dissemination took place at three complementary scales, i.e. the international scientific and educational dissemination, DUT events and Knowledge Hub collaboration, local communication and co-creation activities in pilot cities. A first important dissemination activity was the organization and participation in international scientific events focused on PEDs and climate-neutral cities. HDa hosted the BAS2025 Conference on Climate Neutral Districts and Cities (2-4 July

2025, Borlänge, Sweden). Here, together with UNICT, the SET-PED project was presented through a poster and UNICT delivered a keynote presentation on PEDs and energy communities, linking SE-PED to broader European research agendas. The conference gathered more than 75 participants. Another major educational and dissemination activity was the Blended Intensive Programme (BIP) on Positive Energy Districts, organized by HDa, UNICT and UNIPA and hosted by HDa in Borlänge, Sweden (September 2025). The programme involved 30 students and 11 teachers, creating an interdisciplinary learning environment focused on recent developments in PED research and implementation. SET-PED was presented during the poster session, allowing students and teachers to engage directly with the project's objectives, methodologies and pilot activities. Regarding the DUT events, SET-PED participated to the Projects' Event Kick-off of Driving Urban Transitions in Milan, Italy (September-October 2025). UNICT and UNIPA (the last acting as Knowledge Hub Expert) introduced the SET-PED project and connected with other funded project. HDa also participated in the DUT2025 Annual Conference on PED (October 2025) in Milan, Italy, exchanging the project scope and early experience with other sister projects. UNICT and HDa organized a dedicated session on Positive Energy Districts at the 20th SDEWES Conference in Dubrovnik (October 2025). In addition, HDa submitted a journal paper entitled "Stakeholder salience analysis for the growing divergent perceptions of positive energy districts", which is currently under review. UNIPA submitted an abstract to SDEWES 2026 on the state-of-the-art assessment of circular renovation in the built environment.

Regarding the PED Knowledge Hub, the SET-PED project also actively participated in onboarding and thematic meetings, including the Knowledge Hub session on 14 November 2025 and the Topical Kick-off on 10 December 2025. The project contributed to the definition of the DUT PED Roadmap, the identification of thematic priorities and Key Areas of Action, and the discussion of shared KPIs and analytical frameworks. In this context, SET-PED introduced its specific focus on urban regeneration, co-creation processes and smart urban furniture as centres for energy and social aggregation.

At the local level, dissemination activities were linked to the design workshop with inhabitants and stakeholders, organized together with Shared City, HDa and Imottesjö. Project results were presented to different sections of the Eskilstuna municipality on 18th September 2025, strengthening institutional awareness and internal coordination. The municipality also presented the project website during autumn 2025, supporting local visibility and communication. Synergies were identified with another local initiative on

circularity “Waste to value”, with collaboration planned for the following project phases. In Bucharest Sector 6, dissemination was integrated with community engagement activities. SET-PED was presented during the West Side Flower Fest in the Drumul Taberei area, where Urbasofia, Sector 6 Municipality and IntreVecini introduced the project to local residents in an informal public setting. The team engaged in direct conversations with citizens and collected qualitative input regarding everyday use of public spaces, perceived comfort and safety, and locations of interest in the Crangasi-Lacul Morii area. This was followed by the SET-PED co-design workshop (October 2025) organized by Urbasofia together with Sector 6 municipality and IntreVecini. The workshop involved 17 students from the Ion Mincu University of Architecture and Urban Planning, who participated in site visits and structured co-creation exercises focusing on accessibility, comfort, lighting, safety and potential functions of smart urban furniture. The Her City team also disseminated insights from the project in international policy and professional forums, including the Seventh session of the United Nations Environment Assembly (UNEA-7), in December 2025, the PLS & PFS COP session on public space governance and the Global Public Space Network yearly meeting. These activities connected SET-PED with global discussions on public space, governance and sustainable urban development.

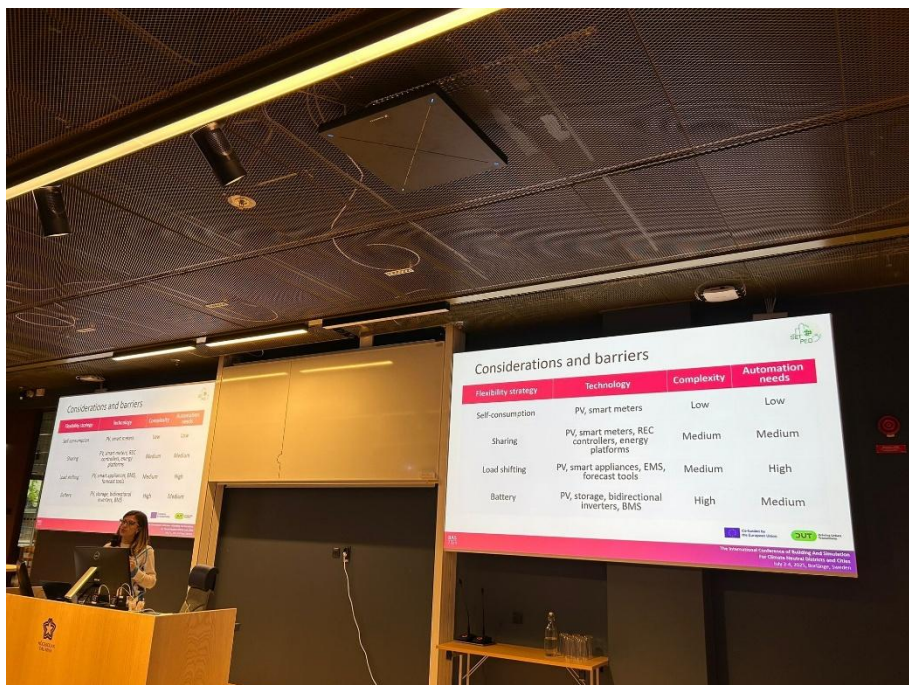


Figure 5: The BAS 2025 Conference in Borlänge, Sweden

The dissemination and communication roadmap has been established, according to the project goals, including the creating of the logo and identity.

Project communication was further supported through the SET-PED website (<https://setpedproject.wixsite.com/set-ped>) and social media channels (LinkedIn: <https://www.linkedin.com/company/set-ped/>). A bi-monthly newsletter series was established from 2026 (first issue: <https://setpedproject.wixsite.com/set-ped/post/set-ped-project-newsletter-01-2026>).

These activities together contributed to SET-PED project objectives at multiple levels. At the scientific and educational level, conferences, journal submissions and the BIP strengthened the project's visibility within the PED and climate-neutral research communities while supporting knowledge exchange and capacity building among students, researchers and practitioners. Within the DUT ecosystem, participation in the annual conference and KH activities enabled alignment with sister projects and contributed to support WP 7 objectives. At the local level, public events, workshops and municipal presentations increased awareness of the project, facilitated dialogue for making the activities co-created with the local stakeholders.

4. Outlook – year 2 work plan

During the next 12 months, the SET-PED project will move from preparatory and framework-setting activities towards implementation, validation and technical integration, in line with the original work plan described in the proposal. Planned activities directly build on the results achieved during the first year with the minor timing adjustments.

WP1 “Coordination and Management” activities will continue as planned, focusing on overall coordination, progress monitoring, financial and administrative management, and quality assurance. Regular consortium meetings will ensure alignment across work packages and pilot cities. Particular attention will be devoted to coordinating the sequencing of pilot implementations and to managing interdependencies between co-creation, technical development and dissemination activities.

WP2 “Climate-adapted design solutions to building envelope renovation” will progress towards energy modelling and integrated assessment. Task 2.2 will be finalised, with some activities continuing in parallel with Task 2.3, as foreseen in the proposal. Task 2.3 will focus on energy modelling of selected case studies, including calibration and performance indicator computation, while preparatory work for Task 2.4 will advance. This sequencing reflects the logical

dependency between data availability and modelling and does not affect the overall work plan.

WP3 “Iterative prototyping of regenerative urban furniture through co-creation” will enter a core implementation phase. Tasks 3.1, 3.2 and 3.3 have already identified the local contexts of each urban site, including citizen stakeholders, climatic and environmental conditions, relevant municipal actors, available resources (budget, materials, logistics) and potential builder communities. Based on this groundwork, modular kits for both the energy hub and the urban furniture have been designed, accounting for the diverse challenges and opportunities across the three cities. Within Task 3.4 – Iterative prototyping through co-creation, the first prototype has been designed and is scheduled for validation with citizen stakeholders using Shared City’s Her City Toolbox, followed by implementation in Eskilstuna in May (M17). The building permit was submitted to the City of Eskilstuna in M11, and logistics coordination, including collaboration with municipal firms providing builders and recycled materials, is being handled jointly with the municipality. Imottesjo will deliver the site-specific design for the modular energy hub and urban furniture by March (M18), reflecting local conditions. Validation and full implementation will continue into 2026. For Mascalucia, the technical site assessment will be conducted by Imottesjo through a site study visit in mid-February 2026 (M14), complemented by a stakeholder workshop using the Her City Toolbox planned for March 2026 (M15). Further implementations in Bucharest and Mascalucia will be planned in more detail following final design delivery and validation. These steps address the minor delays identified in Chapter 2.2 while preserving the overall project trajectory.

WP4 “Integration of smart urban furniture with local energy systems” activities will intensify in the next period. Task 4.1 will further refine technical solutions for integrating PV, battery storage and monitoring systems into the urban furniture prototypes. Task 4.2 will initiate simulation campaigns to analyse energy flows and optimise system performance. Task 4.3 will prepare and coordinate the installation of energy solutions on the prototypes, in close alignment with WP3 design and implementation schedules.

WP5 “Empowering communities through co-creation” will progress towards co-design of use-case scenarios under Task 5.2, building on the completed stakeholder engagement frameworks (Task 5.1). Continued engagement with local actors will support design validation, scenario development and preparation for replication and upscaling.

WP6 “Cooperation and Dissemination” activities will continue through multi-channel outreach, including project website updates, social media communication and local visibility actions. Documentation emerging from WPs’ activities will progressively be prepared for public dissemination. The dissemination and communication campaign of SET-PED will be enriched by the diffusion of bi-monthly newsletters, videos and downloadable material.

WP7 “Support for the DUT Knowledge Hub” will continue the engagement with the DUT Knowledge Hub, with the sharing of preliminary results and participating in joint learning and harmonisation activities with other DUT-funded projects.

No major changes to the original work plan are envisaged. Minor timing adjustments, particularly related to pilot-specific implementation in Mascalucia and the parallel continuation of Task 2.2, are already reflected in the planning described in Chapter 2.2. These adjustments do not affect project objectives, deliverables or the overall timeline and contribute to a more robust and context-sensitive implementation in the next reporting period.

5. Project organization and management

No changes occurred in project organisation and management during the reporting period. Project coordination was ensured through regular consortium communication, structured meeting across WPs, and continuous interaction with pilot cities and local stakeholders, in line with the coordination approach defined in the proposal. At consortium level, coordination was supported through bi-monthly project meetings, preparation and circulation of meeting minutes, and continuous communication across work package leaders. These meetings ensured alignment between technical development, co-creation activities, dissemination actions and pilot implementation. The kick-off meeting and the consortium agreement established the operational framework for collaboration among partners. Pilot cities in Sweden, Romania and Italy facilitated the interaction between project partners and local stakeholders. This structure proved effective coordination and continuity of communication with municipalities and local organizations. More specifically, coordination activities included a series of targeted technical and organizational meetings. For the Eskilstuna pilot, coordination meetings were held with the Eskilstuna municipality, Shared City, Imottesjo and HDa in preparation for the co-creation workshop (online meeting on 23rd of June and 19th August 2025), followed by

the workshop on 27-28 August 2025. Additional coordination meetings with Shared City in Eskilstuna took place on 28th of May, 3rd of June, 18th of June, 27th of August and 4th September 2025. During autumn, email communication with Imottesjo focused on energy hub design specifications and urban furniture design. Further coordination activities in Eskilstuna included a coordination meeting with “Waste to Value” project (24th November 2025), a circularity event connecting with the “Waste to Value” (5th of December 2025), a meeting with the Eskilstuna Art Museum to ensure synergies in the park development where the prototype will be installed (4th December).

For the Bucharest pilot, several coordination activities were organized by Urbasofia. A local coordination meeting in Bucharest Sector 6 (26th of September 2025) involved the Municipality of Bucharest Sector 6, DearNeighbour and local institutional actors, focusing on the identification of potential locations for the SET-PED prototype, criteria for site selection, availability of recycled materials and preparation of the co-creation workshop. This was followed by internal coordination meetings (3rd of October 2025) between Urbasofia, the municipality and DearNeighbour to align workshop preparation, communication and stakeholder involvement. A further coordination meeting with Metapolis (15th of October 2025) ensured alignment between the SET-PED pilot and the development of the linear park near Lacul Morii.

For Mascalucia pilot, the co-creation activities roadmap alignment took place during a meeting with Urbasofia, Shared City, UNICT and Imottesjo on the 14th of March and 30th of June 2025. A dedicated meeting for the organization of the co-creation workshop in Mascalucia was held on the 2nd of October 2025 together with UNICT and Shared City. The technical site assessment meeting with Imottesjo and UNICT took place on the 18th of December 2025.

Coordination between partners involved in co-creation methodologies was also ensured through meetings between Urbasofia and Shared City (2nd of April and 22nd August 2025).

In addition, Shared City Foundation and UN-Habitat organized Her City training sessions for project partners (16th and 27th June 2025), attended by eight participants. These sessions supported methodological alignment across partners involved in co-creation activities.

Cross-work-package coordination was strengthened through an internal WP2-WP3 meeting (15th November 2025), focusing on the integration of circular and low-environmental impact eco-design principles into the prototype solutions.



No major changes in the project organization or management occurred during the reporting period. The coordination structure defined at the beginning of the project proved effective in supporting collaboration across partners and work packages.

Contacts



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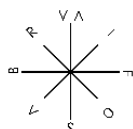
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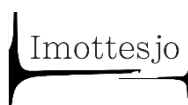


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Comune di Mascalucia

Comune di Mascalucia (Italy) – *cooperation partner*



Midsummer (Sweden) – *cooperation partner*