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Abbreviations and Acronyms

Acronym	Description
AUAS	Amsterdam University of Applied Sciences
TEC	Tecnia
FCs	Fellow Cities
LHs	House Light Cities
PEDs	Positive Energy Districts
SCC1	Smart Cities and Communities
EU	European Union
P2P	Peer-to-peer/peer2peer
WPs	Work packages



0. Executive Summary

This deliverable showcases the activities and practices carried out within the 6.3 Capacity Building subtask under WP6 Replication and Upscaling in the Atelier project. The main target group was the municipality staff of the fellow cities (Riga, Copenhagen, Bratislava, Krakow, Budapest and Matoshinos) and lighthouse cities (Amsterdam and Bilbao).

The objective of this task is to facilitate and strengthen the replication potential deploying a strong knowledge exchange action, composed by capacity building, coaching and mentoring actions. Staff members of LCs and FCs work together to learn about the specificities of their cities, identifying barriers and common issues. The task expected impact was: 1. Knowledge Transfer and Capacity Building; 2. Barrier Identification and Problem-Solving; 3. Replication Potential; 4. Strengthened Inter-City Relationships; 5. Empowered Staff; 6. Sustainable Urban Development. In order to achieve those results the following approaches were put into practice: 1. Training sessions; 2. Coaching sessions; 3. Peer-to-peer sessions; 4. Study tours. Partners from the different workpackages were directly involved in these activities. The main topics dealt with during these capacity sessions were: 1. PED technologies; 2. Energy modelling; 3. Citizen and stakeholder engagement; 4. Specific technological know-how; 5. Mobility; 6. Monitoring and evaluation.

This report depicts all activities that took place under the capacity building tasks. It showcases the six peer-to-peer online sessions, the two live events organized in Amsterdam and Copenhagen and the different study visits that took place during the live events. Furthermore, it explains how the outcome of this task has fed the different workpackages.



1. Introduction

PEDs' main aim is to create liveable and innovative areas that facilitate the energy transition toward decarbonization to meet the European Union's (EU) climate, society, and economy targets. Such an ambitious objective requires a deep understanding of the cities' contextual conditions, policies, strategies, and solutions. Furthermore, it requires extensive knowledge, skills, and technologies (Krangsas et al., 2021) ². Fulling such ambitious goals should go hand in hand with upcoming challenges. The fellow cities part of the Atelier project identified the following categories of challenges:

1. Governance: the need for new and innovative forms of collaborative governance, policy, regulations, and city administration.
2. Social: the need for the local community's support and engagement.
3. Market: the need for an effective market design, funding, and business model.
4. Technology: the need for balancing energy demand and supply systems.
5. Context: the need to consider regional and local differences.

These reoccurring challenges have been extensively discussed in the literature (Sareen et al., 2022 ³; Krangsas et al., 2021) and by other Smart Cities and Communities (SCC1) projects such as GrowSmarter, REMOURBAN, and Triangulum . They all revealed a common need for a "systematic understanding of the processes" and the key stakeholders' knowledge development.

The lack of awareness by municipal staff in a PED project compromises one of the most commonly encountered barriers due to the novelty of PEDs. A continuous learning process is prerequisite to incorporate innovative technology into the government's everyday operations, when local governments want to implement any innovative strategy supporting the long-term energy transition or any other transition paths. Besides considering the long-term vision, it is essential to consider the human resources needed for a PED project to evolve rapidly and firmly. Therefore, it is crucial to invest in the capacity-building of municipal staff and acquire suitable technology to address the competencies gaps.

Capacity building is a process or activity that improves the ability of a person or entity to "carry out stated objectives" . In order to be effective, it should comply with several key characteristics. Capacity-building should be :

- A continuous process of improvement.
- An internal process.
- A multidimensional process.

² Krangsås, S.G.; Steemers, K.; Konstantinou, T.; Soutullo, S.; Liu, M.; Giancola, E.; Prebreza, B.; Ashrafian, T.; Murauskaite, L.; Maas, N. (2021). Positive Energy Districts: Identifying Challenges and Interdependencies. Sustainability 2021, 13, 10551. <https://doi.org/10.3390/su131910551>

³ Sareen, S., Vicky Albert-Seifried, V., Aelenei, L., Reda, F., Etminan, G., Andreucci, M.C., Kuzmic, M., Maas, M., Seco, O., Civiero, P., Gohari, S., Hukkalainen, M., Hans-Martin Neumann, H.M.(2022). Ten questions concerning positive energy districts. Building and Environment Volume 216, 15 May 2022, 109017. <https://doi.org/10.1016/j.buildenv.2022.109017>

1.1. Purpose and Target Group

This deliverable showcases the activities and practices that took place within the capacity building subtask. The main target group was the municipality staff of the fellow cities (Riga, Copenhagen, Bratislava, Krakow, Budapest and Matoshinos) and lighthouse cities (Amsterdam and Bilbao).

1.2. Contributions of Partners

The following Table 2 depicts the main contributions from project partners in the development of this deliverable.

Partner short name	Contributions
AUAS	Overall content to all sections; Activities in Live events; Editing.
CARTIF	Report's outline
TNO	Activities in Live events
TEC	Activities in Live events
Waag	Activities in Live events
FCs	Peer2peer sessions
LHs	Activities in Live events

Table 1. Contributions of Partners

2. Objectives and Expected Impact

The objective of this task is to facilitate and strengthen the replication potential deploying a strong knowledge exchange action, composed by capacity building, coaching and mentoring actions. Staff members of LCs and FCs work together to learn about the specificities of their cities, identifying barriers and common issues.

The task expected impact was:

1. **Knowledge Transfer and Capacity Building:** The primary expected impact of this task will be an increased level of knowledge and understanding among staff members of both lighthouse and fellow cities. By providing the platform for knowledge exchange, coaching, and mentoring actions, the staff members will have an opportunity to learn from each other's experiences and expertise, thereby enhancing their skills and capacities. This could potentially lead to more effective decision-making and problem-solving in the urban planning and administration context.
2. **Barrier Identification and Problem-Solving:** The task will enable staff members to identify common barriers and issues in their cities. By collaborating and sharing their unique challenges, they can collectively devise innovative solutions and best practices to overcome these barriers. This aspect will strengthen the resilience and adaptability of both lighthouse and fellow cities.

3. **Replication Potential:** A significant expected impact will be the improved replication potential. The cities involved will learn not just the specifics of their own urban environment, but also understand the different contexts and issues that other cities face. This holistic understanding will support the cities to develop and adapt strategies that can be replicated effectively in various contexts.
4. **Strengthened Inter-City Relationships:** The task will foster a spirit of collaboration and partnership among the cities involved. Through the shared learning experience, cities will likely forge stronger inter-city relationships, which could lead to future collaborations and shared initiatives, further strengthening the overall urban development and governance.
5. **Empowered Staff:** With better access to capacity building activities, the staff members will be empowered and motivated. This could lead to a more dynamic, effective, and resilient workforce in urban planning and administration.
6. **Sustainable Urban Development:** In the long term, the task can contribute to sustainable urban development. By facilitating a knowledge exchange and learning platform, cities can adopt and implement best practices and innovative solutions to urban challenges, which can contribute to the creation of more sustainable, livable, and resilient urban spaces.

3. Overall Approach

3.1. Getting cities needs- Intake interviews

The first step in the course of the development of the Atelier capacity-building program was mapping the cities' needs and assessing their knowledgebase. In order to do so, preliminary interviews were conducted with each municipal staff from each FC. The interview covered an array of questions to identify existing competencies, evaluate them and determine gaps. The questions below were asked and the outcome is discussed in the following sessions:

1. What do they already know and have in terms of PEDs?
2. What are their existing plans in terms of replicating PEDs from the LCs?
3. What knowledge and skills do they think they need for executing their plans? Or do they maybe need help in identifying which elements from the LC PEDs they could replicate?
4. Who are the staff members that they want to be trained? At which levels? Do they already have specific people in mind? What are their names?
5. Train-the-trainer idea? Or do they prefer group training?
6. Staff exchange? Do they want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards?
7. Would they like to receive staff from the LCs or more advanced FCs (in terms of PEDs) to train/consult?
8. Can/Will they participate in the kick-off day in Copenhagen? Who will participate from their municipality?
9. Would they like to be involved in a peer-2-peer coaching group (interview group)?
10. Do they prefer coaching or group-training sessions (online or during demonstrations visits in FCs)? Or a combination?
11. In which areas would they like to be coached?
12. Would they also like to act as coach? If yes, in which areas and on which subjects?
13. Would they like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would they like to act as a mentor?) What would they expect from the mentor/from this relationship?

3.2. Establishing capacity building approach

The following capacity building approaches were used:



Training sessions were offered online, either as webinars or tailored online group trainings. Training topics were based on FCs' suggestions depending on their needs. Trainers were experts from the ATELIER partners or the wider SCC01 community. The first training topics to be tackled were "PED definition and tools", "Energy modelling" and "Stakeholder engagement".



Coaching is a short trajectory in which an expert guides the coachee to solve a specific problem or implement a solution. Training sessions will be followed by coaching sessions, in which the FCs are helped in implementing the training knowledge. Coaches were experts from the consortia (e.g. AUAS, Cartif, Tecnalia, TNO, De Waag. LCs and FCs). Topics for training followed by coaching are suggested below in section 3.2.1. For example, first there will be an online training on "PED definitions" and how to define 'your' PED. In consecutive coaching sessions, the FCs will be supported by a coach in defining their PEDs in practice.

Peer-to-peer sessions (peer2peer/P2P) are a form of expertise development in which FC share best practices, discuss problems they face and help each other with implementing their PEDs. Based on FC's voting, six topics were identified (see box below) for the peer2peer sessions. The sessions took place bimonthly and lasted 90 minutes. Sometimes, frequency had to be adjusted in the course of the trajectory due to staff availability. The first session took place on Tuesday, 9 February 2021 from 13:00 until 14:30. First city to share best practices

was Copenhagen. The peer2peer sessions were also be used as platform to discuss current projects and to ask for help or advice on specific problems.



Based on FC's voting, the following **peer-to-peer coaching schedule** is suggested:

Copenhagen: Flexheat – Heatpumps for flexible ultralow
temperate district heating
Riga: Citizen and stakeholder involvement: Mobility
management measures
Budapest: Cities-4-People – Replication and upscaling
Krakow: Climatic quarter
Bratislava: Energy performance contracting
Matoshinos: Smart building rotating like a sunflower

Staff exchange through which staff members from FC works for 1-4 weeks in a host LC or other FC to gain knowledge. This was of course not possible during the COVID-19 crisis. Once situation is normalised, we foresee such exchange option; and the exchange's duration depends on the willingness, personnel ability and financial situation. Another option is that junior staff from an advanced FC is sent to another FC to support their team.



Study tours wherein staff member from FCs travel to another FC fellow city at a certain date to see a real-life demonstration of their PED or smart city technologies, for learning and/or consulting. Original plan was that each FC organises a study tour, however, due to COVID-19, such study tours did not happen.



3.2.1. Suggested topics for training/coaching sessions

The following topics are based on the intake interviews and the data gathered during the general assembly kick-off meeting.

- **PED technologies:** Best practices, possible technologies, concrete solutions.
PED development: Long-term vision, what kind of targets and indicators to choose; How to define a PED; Designing the PED, combined with energy modelling.
- **Energy modelling:** District level modelling, city level modelling; energy planning and modelling – overview of IT tools; Virtual and real-time energy balancing; Simulation model for PEDs; Conception energy inventory; Open data & Energy Modelling: best practices.
- **Citizen and stakeholder engagement:** How to motivate stakeholders to participate; How to use long-term back-casting as tool to engage stakeholders; How to sensitize politicians; Community involvement in energy transition, stakeholder management; Stakeholder involvement in early stages of planning using back casting; Citizen and stakeholder engagement / Citizen engagement and dep renovation boosting/ How these measures are received by the citizens (investment/effort wasted)?
- **Specific technological know-how** (several mentions):
 - Mass-scale thermal renovation

- Heat pump installations / Heat pump in district heating / District heating management - > case Vjoxö (Sweden-CHG)
- **Mobility:** Local mobility changes; Mobility management practices; Electrification of private and public transport
- **Monitoring and evaluation:** How to measure the impact of a new project; Performance indicators: How to visualize progress in energy efficiency; How to select the right indicators; What is critical data; What are the right steps.
- **Further topics mentioned** (one mention per topic):
 - Vision and Leadership
 - Legislation: how barriers in [Slovak] legislation can be overcome; how did other LC and FC deal with legal barriers?
 - Building local innovation ecosystems: what are the principles of it?
 - Business models for zero energy; financial formulas

4. Peer2peer sessions

The benefits of learning in and between cities have been extensively discussed in the academic literature. McFarlane (2011)⁴ pointed out that in all this literature, there is one central claim "that learning is a process of potential transformation". Therefore, peer-to-peer learning is considered a very effective activity for supporting the energy transition (Ensenado & Heemann, 2020)⁵.

Andrews and Manning (2015)⁶ defined peer-to-peer learning as "learning that involves well-matched individuals, who exchange knowledge and experience with each other based on the values of trust and commitment, and circulate what they learned to their organisations to create an impact at scale ". During the Atelier project, peer-to-peer (P2P) sessions were organised to share knowledge, skills, competencies, and experiences based on FCs' best practices.

4.1. Best practices selection

P2P sessions were set up following a regular schedule, and each session (a total of 6) had a dedicated topic with a city responsible for the input of that session (either best practice or learning need). The topics were selected during the Capacity Building activities (Task 6.3) kick-off that took place in the course of the GA in December 2020. A general overview of the Capacity Building approach was presented, then each FC pitched their four best practices in four minutes (see figure 1). At last, topics and meeting frequencies were voted. The outcome from the selected best practices topics are described in the following subsections.

⁴ McFarlane, C. (2011). *Learning the city: Knowledge and translocal assemblage* (1st ed.). Malden, MA: Wiley-Blackwell (RGS-IBG book series, 56).

⁵ Ensenado, E. M., & Heemann, J. (2020). *Can Peer-to-Peer Learning Support Energy Transition in Cities and Regions? In Strategies for Urban Network Learning : International Practices and Theoretical Reflections*

⁶ Andrews, A., & Manning, N. (2015). *Mapping peer learning initiatives in public sector reforms in development* (Working Papers). The Center for International Development at Harvard University.

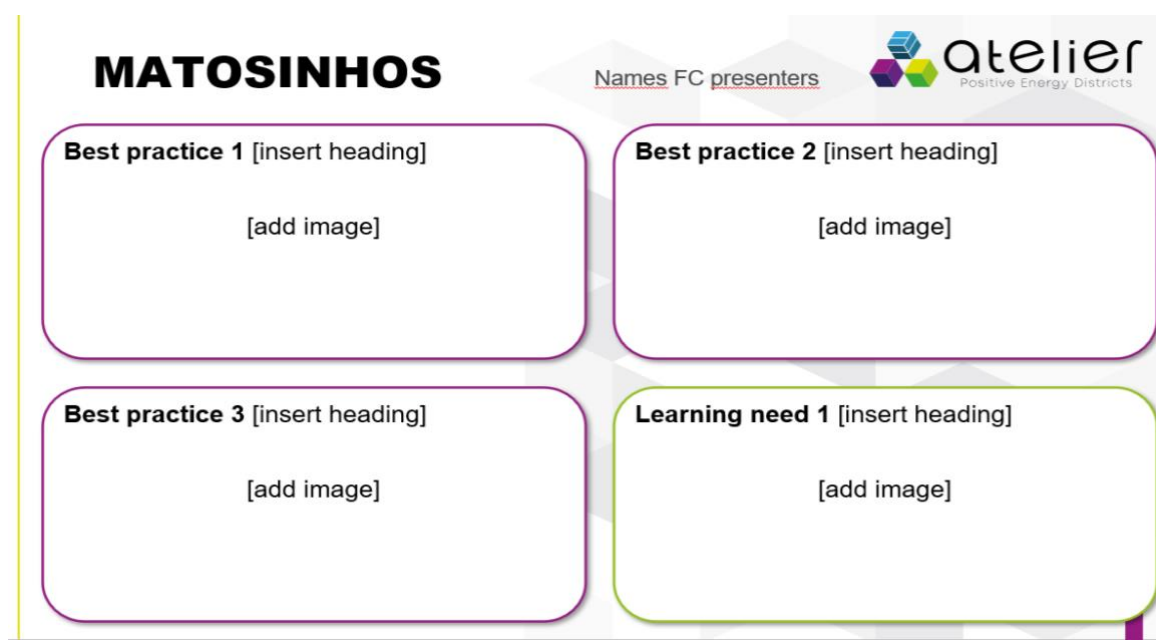


Figure 1. Best practice selection

4.2. Copenhagen: Flexheat – Heatpumps

Main objective of the session:

The main objective of the session was to share the details and lessons learned from implementing heatpumps in Copenhagen for flexible lower temperate district heating.

Session dynamics:

The content of the presentation was tailored to the interests of the other cities. Prior to the session each participants were invited to send a line or two describing what questions they hoped the session could clarify.

The case presented by the water company in Copenhagen, HOFOR, was their FlexHeat system which operates at 70/40 Celsius in a winter situation (i.e. a low temperature but not ultra-low system).

The topics addressed in the presentation as per request from the peers were:

- Manual operation of a large heat pump with a high CoP
- Cost-optimised operation made possible through addition of logic to the heat pump so that it can be deliberately operated at certain high/low electricity prices
- Services to the distribution network
- Services to the transmission network
- Full integration with flexible assets such as batteries, electric vehicles, and buildings.

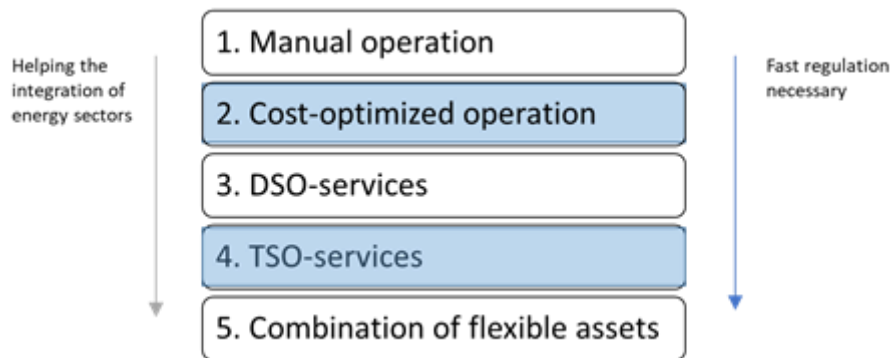


Figure 2. P2P session Copenhagen

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

Bratislava was very interested in the practical aspects of the case, since they, according to their own statements, only have theoretical knowledge of the subject at present. Furthermore, Krakow expressed a particular interest in the subject seen from a managerial point (rather than technical).

Riga already had some experience in the topic and were thus focused on the exchange and discussion related to combination of flexible assets. At the time of the peer2peer session Riga had just submitted a Horizon-2020 Green Deal proposal with a demonstration activity – piloting the 4th Generation Energy solution in one of Riga city neighbourhoods including full integration of decentralized energy production/storage solutions in centralized energy supply system. The overall conclusion was that sharing lessons learned is very valuable even among those that already have worked with the topic.

4.3. Riga: Stakeholders involvement: Mobility management measures

Main objective of the session:

The City of Riga with 614.6 thousand inhabitants (2021) is a shrinking city. Over 35% of Latvia's population live in Riga. Meanwhile 1.3 million people live in Riga agglomeration, making Latvia as a country very monocentric-orientated, and it causes very high traffic volumes in Riga city administrative area where the demand for business, education, culture, healthcare and other services is high. In result, the City of Riga struggles with traffic congestion, noise and air pollution that are getting worse in the city due to internal migration from rural regions to the city, economic growth, associated with more frequent driving and people choosing to live in the suburbs circling Riga, but to work and to educate their children in the city centre. There is an average of 180 thousand daily commuters from the agglomeration to Riga and back, causing a high pressure on the city streets network.

The key mobility challenges for the City of Riga are the following:

- The need to reduce considerably CO₂ emissions in urban transport sector (at least for 30% until 2030) under the circumstances of low public awareness on sustainable transport modes and multimodality, as well as a lack of motivation of commuters to switch to greener transport modes;
- Insufficient integration of train and public transport into urban transport system;
- Lack of mobility management measures and insufficient joint planning of transport and mobility at the regional and national levels;
- Missing linkages between different modes of transportation;
- Slow development of e-mobility and related infrastructure;
- Incomplete network of bicycle lines in the city; and other mobility challenges hindering the sustainable and smart mobility developments.

Session dynamics

The Peer Review workshop began with the presentation by Nika Kotoviča, ATELIER project coordinator, about the urban mobility situation and some of best urban mobility practices implemented in the city of Riga, among the other highlighting the following topics:

- Key mobility challenges in Riga;
- Mobility planning framework;
- Mobility management concept;
- Mobility management ecosystem: participants, stakeholders and end-users;
- Public-private collaboration models;
- Sustainable mobility, multimodality, micro-mobility & shared mobility;
- Mobility points: concept, network and prototypes;
- Piloting the first mobility point in Riga: evaluation and lessons learnt.

Further, external urban mobility expert from the NGO sector, Viesturs Celmiņš, Managing Director of Innovation movement "VEF RESH" provided an in-depth analysis of one of the smart urban mobility pilots deployed in the City of Riga – the VEF. Mobility Point – justifying why the Mobility Point piloted in Riga is unique on the EU scale. He emphasized the role of this pilot project, serving as the testbed for piloting the urban environment monitoring sensors, Internet of Things solutions, machine vision and many other urban innovations, collecting, processing and opening-up urban big data, and other. Viesturs Celmiņš also described the first 9 months of its operation, focusing on lessons learnt and conclusions.

As the next topic in the agenda, Lighthouse cities Amsterdam and Bilbao reflected on their best practices in urban mobility development, highlighting the success stories of urban water transport integration in Amsterdam and the Vision for Sustainable Urban Mobility until 2030 in Bilbao.

Further, the City of Riga team initiated the discussion among the Peer-2-Peer audience on the following topics:

- Why it is important to test urban innovations in a real urban environment?

- Mobility planning culture: paradigm shift;
- The role of local stakeholders and citizens in successful shift to greener urban mobility.

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

ATELIER partner cities shared their views and some of the key learnings from the exchange were the following:

- New urban mobility developments must be part of a bigger planning context and not be isolated and hidden away in infrastructure.
- Discussion led to the conclusion that private developments in the ATELIER cities often bring quick gains and advantages to both private and public urban environment on a block or district scale, adding comfort and qualities to the neighbourhoods in the cities. However, the municipalities sometimes are too slow to react to private developments (e.g., adjust traffic solutions, connections, accessibility and so on) resulting in delays of needed implementation of urban planning solutions on the wider scale (district, city scale).
- ATELIER cities suggested the City of Riga to let local residents vote locally (on the neighbourhood scale) on the perspective developments of urban mobility, to look for hidden mobility spots in the city (e.g., nearby train stations or other transport infrastructure knots) and think of planning these spots at early planning stages.
- It was concluded that urban water transport is also an opportunity for the City of Riga, as it adds multimodality of urban transport system – both for daily urban commuting and for recreational purposes.
- Another lesson learnt for the City of Riga was the importance of having a specific planning framework for urban mobility, similar to SUM in Bilbao. Up to now in the City of Riga various transport infrastructure planning documents have been elaborated and approved, however, the City of Riga never had its own SUM or SUMP – a holistic urban mobility planning framework that would integrate and prioritize sustainable urban mobility issues and define transport infrastructure development priorities on the city scale.

4.4. Budapest: Cities-4-People

Main objective of the session:

How bright ideas end up as a main goal for the city of Budapest? - Good practices in stakeholder collaboration. As described in the title Budapest has shared its experiences on stakeholder engagement and collaboration via different methods. The Urban Planning Department has presented its joint planning experience in the case of the new Integrated Urban Development Plan. The Department for Climate and Environmental Affairs showed a

new method for engagement and deliberation, the example outlined the first Citizens' Assembly on Climate Change organized by the Municipality of Budapest on "Climate emergency! What should Budapest do?". This session was followed by a very practical illustration of community engagement, co-creation and pilot co-development in the frame of Cities-4-People project, where Budapest installed its first mobility points and later upscaled them.

Session dynamics:

The session consisted 3 parts describing different way of stakeholder collaboration by the Municipality of Budapest. After the session participants could pose their questions to the presenters, we've received large number of queries.

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

The session was very successful, large number of issues and questions emerged, mostly on the 3rd presentation due to the topic. Main conclusion was that a clear need for city-to-city peer-learning became apparent, therefore the cities agreed on having more sessions like this.

4.5. Krakow: Climatic quarter

Main objective of the session:

The Representative of the municipal unit - Public Transport Authority in Krakow, was the presenter during Krakow's peer2peer session. The unit is responsible for organizing, supervising and conducting all actions related to public transport in the territory of the Municipality of Krakow and neighboring municipalities, including: creating bicycle paths, managing parking systems and conducting innovations in Krakow, such as implementing clean transport zones or the climate quarter.

Session dynamics:

During the P2P session, the director of the unit shared good practices in case of transport system in Krakow and presented the Climate Quarter project. It is a breakthrough urban project under implementation in the historic part of the city. It includes activities related to the improvement of the quality of public space, mobility, greenery and revitalization. The Climate Quarter is the beginning of changes in thinking, planning and shaping public space. It reflects the integration of the development of the area, infrastructural changes and projects related to spatial development and its quality. Crucial factor in this project is creating new links among neighbours, taking care of the existing ones, increasing the participation of those who live there and work there on a daily basis in shaping their surroundings and supporting the city in the process of creating the future.

The main tasks carried out under the project will be:

- Revitalization of historic city squares,
- Creation of the garden streets,

- Creation of an interchange railway park,
- Creation of bicycle highway.

One of the main assumptions of the project is the implementation of the idea of a 15-minute city. It means to meet the most daily necessities by walking or cycling, without the need to travel long distances. Particular tasks are implemented with the involvement of residents and other local stakeholders. This allows increasing the involvement of residents in activities aimed at introducing changes that implement the idea of a 15-minute city.

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

The P2P meeting was dynamic. The representative of the unit presented the most important information about the Climate Quarter project. Possible barriers and factors accelerating the change were emphasized. After the meeting a discussion started and bothering questions were answered. The participants shared their thoughts and ideas. This undoubtedly will have an impact on the improvements of the current project and input in relation to planned urban projects.

4.6. Bratislava: Energy performance contracting

Main objective of the session:

The objective of the session was to present the biggest housing stock in Europe – Petržalka area and the lessons learnt from Bratislava's first PED. Furthermore, showcasing the impact of EU decisions on a city and its citizens.

Session dynamics:

The session started sharing some basic information about Bratislava. Then the biggest housing stock in Europe – Petržalka – was presented. The historical context of the district, the new developments after 1990 were presented. The urban study of new area “Petržalka axis”, current situation, phases and development, realization were presented. The participation process in the urban study of the Petržalka axis, main moments were explained. How the EU refused to finance the automobile road as a competition to the tram (4-lane road) and how that created a strong citizen movement against the road – petition, rallies, events, meetings, competition on urban study including participatory process, initiated by Bratislava Chief City Architect.

Furthermore, the first PED in Bratislava - Janikov Dvor - also part of Petržalka, were introduced. During the first PED development the municipality worked closely with the Slovak University of Technology, Faculty of architecture and design, Institute of Urban Design and Planning. A PED student urban competition was organised in order to have students' involvement and participation.

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

Discussion about processes necessary for administration of the PED in municipality, among stakeholders, experiences of lighthouse cities and fellow cities, best practice, recommendations regarding incentivization of municipality representatives.

4.7. Matoshinos: Smart building rotating

Main objective of the session:

FC partners visited a demo project on intelligent House to demonstrate functionality of:

- An intelligent House that allows two movements: rotation of the entire building until 180 degrees and rotation of the photovoltaic cover, to follow the sun, allowing management temperature of the interior space and production of energy superior to the consumptions made.
- The possibility of making space and energy available to the population.
- Charging electric vehicles.
- Disclosure of Information on the Project's Environmental Impact.
- The possibility of Providing "clean" energy to the city.

Session dynamics:

The presentation was performed live at the House in Motion by one of the project's collaborators with the presence of about 30 participants from the Atelier project.

- Participants were able to visit the interior of the house and observe its rotation, that is, the smart building rotating like a sunflower, following the sun.
- Inside the house it was demonstrated that user can have control over the structure with mobile interfaces and the spaces that dynamically adapt to users' needs.
- Outside the house it has been demonstrated the possibility of charging electric vehicles and the possibility of publishing events within the Living Lab (and partners) and the information on the project's environmental impact, using the exterior side facade.

For more detail, please, see the slides presented as Annex.

Conclusion of the session:

- Matosinhos House in Motion is an intelligent building that allows two movements: rotation of the entire building until 180 degrees and rotation of the photovoltaic cover, to follow the sun, allowing management temperature of the interior space and production of energy superior to the consumptions made. The surplus can be used for outdoor lighting, charging electric vehicles, supplying the energy needs of surrounding buildings, among others.
- The building has a structure upper movable and covered by photovoltaic panels (42). On its sides has LED panels.
- The House in Motion Integrates an electric vehicles charging point which will allow the use of surplus energy to supply these vehicles

5. LIVE EVENTS

The capacity-building program started with peer-to-peer sessions. The sessions took place online due to COVID restrictions. After a few sessions, the FCs expressed their need for a live encounter to exchange ideas, thoughts and bond as a group in person. Considering the pandemic restrictions were easing slowly, the following decisions were taken:

1. Trainings, and workshops would be organized combined with study tours. These events would be held as joint events instead of separate ones. In this way time and resources would be used more efficiently.
2. The events would take place live. The Atelier project members needed to get to know each other better, bond, and network.

5.1. AMSTERDAM Live event

On the 5th and 6th of October 2021, the Amsterdam University of Applied Sciences (AUAS), together with the City of Amsterdam (COA), organised a series of live workshops and site visits to facilitate the exchange and cooperation between cities and partners. This event was focused on WP6.3 Capacity Building Activities.

5.1.1. Objective

The goal of the event was to facilitate and strengthen the fellow cities' replication potential by deploying a knowledge exchange action through capacity-building activities such as demonstrations and trainings.

5.1.2. Target audience

The live event targeted FCs, LHCs, and Atelier partners (AUAS, TNO, TecNALIA and Waag).

5.1.3. Agenda

Please see agenda in Annex 4.

5.1.4. Sessions reporting

SESSION A [AUAS] The energy system of a PED and components; LHCs' examples + Q&A session

Date: 5th October 2021

Presenters: Renée Heller (AUAS), Jon Gonzalez Mancisidor (COB), Rudy Rooth (COA), Frans Verspeek (COA), Karen Williams (AUAS)

The first session of the day was targeted at presenting the basic concepts of the Positive Energy District (PED) energy system. The content of the presentation was in line with the Smart Cities Information System (SCIS) Solution Booklet on "Positive Energy Districts" and

the work of the International Energy Agency, Energy in Buildings and Communities (IEA EBC) Programme - Annex 83. Renée Heller (PhD), Professor of Energy and Innovation within the Faculty of Technology of the Amsterdam University of Applied Sciences (AUAS) presented on the topics of 1) PED definition, 2) PED goals, 3) PED energy system components, 4) PED energy system boundary, 5) energy flexibility and why it is important and 6) a discussion on PED energy demand sources.

An overview of PED goals was presented, highlighting that a positive energy balance represents only one of many goals. Participants from the Fellow Cities (FC) gave their feedback on what they considered to be their most important goals (Fig.1). Achieving climate neutrality and improved quality of life were considered as the most important with a positive energy balance ranking 6th out of 8 possible goals.

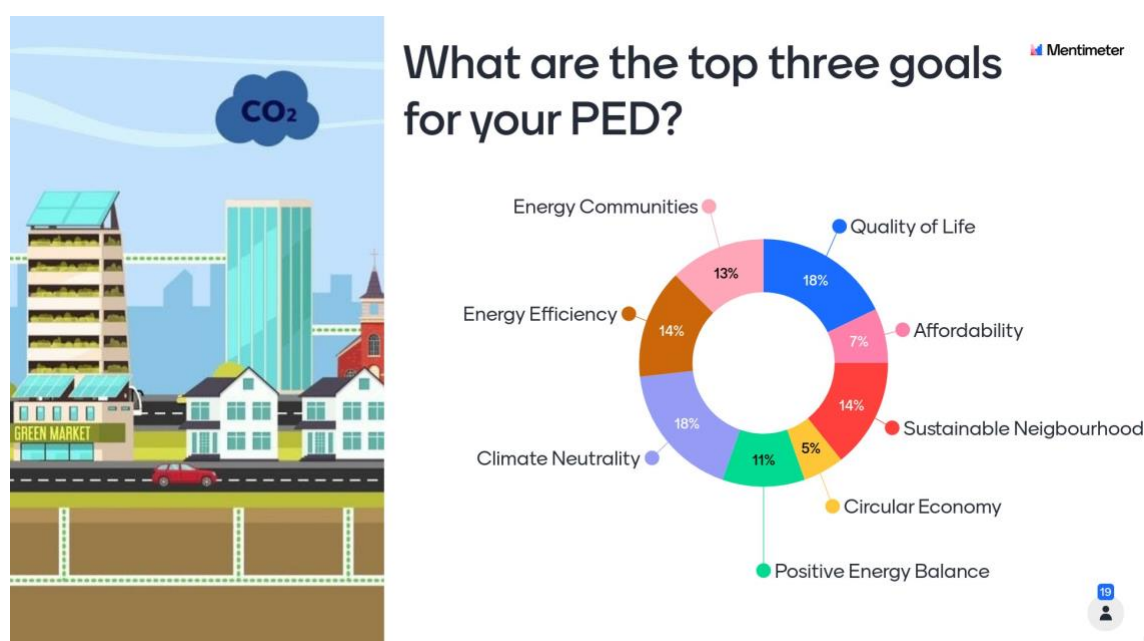


Figure 3. Top PED goals for Fellow Cities

PED components that go beyond Business as Usual (BAU) were discussed. This included area focus, integration, flexibility, and the social dimension. It was noted that the majority of PED projects have a virtual boundary and as such dynamic exchanges with regional energy systems are required. The importance of flexibility was discussed with a focus on the mismatch between demand and supply from variable renewable energy sources, the influence of load density and diversity, and the need for storage.

Participants from the FCs gave their feedback on the demand sources they plan to include (Fig.2). All cities planned to include "Building Bound" energy demand sources, with some going beyond the traditional scope to include appliances, mobility, public sources, and embodied energy.

What energy demand sources do you plan to include in the PED Energy System Boundary?

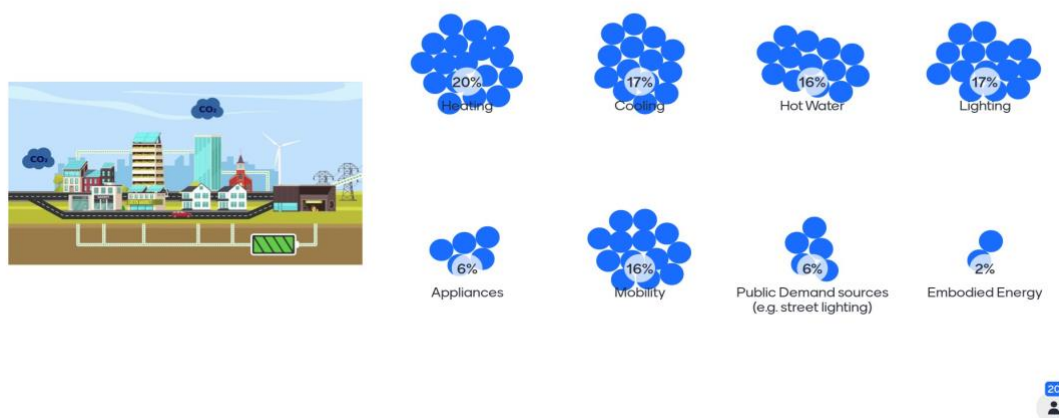


Figure 4. PED energy demand sources considered to be included by Fellow Cities

Karen Williams gave the second part of the presentation, Researcher in Energy and Innovation within the Faculty of Technology of the AUAS. The topics of her presentation included; 1) PED energy supply, 2) Renewable energy options, 3) Energy system choices, 4) Renewable energy and storage/flexibility options, 5) Implementation, 6) Monitoring & Evaluation, and 7) Innovation. During this session, FCs participants identified the renewable energy sources (RES) most applicable to their local context (Fig.3). The results (Fig.3) show that Solar PV (38%) and heat pumps (21%) are the most suited with none of the FCs planning to use bio-energy, solar thermal, aerothermal, hydrothermal, and renewable hydrogen.

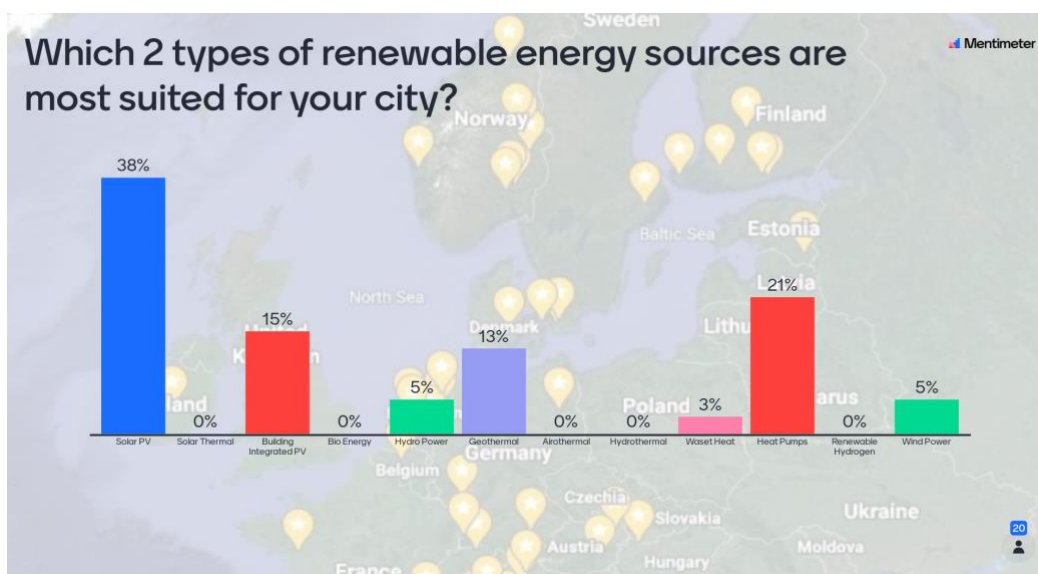


Figure 5. RES suited to the local context of Fellow Cities

The presentation gave the FC's an overview of the eight key phases of PED development, an output from the work of Annex 83, with insights on the considerations and sources of potential delay, applicable during every stage. Continuing with this theme, the FCs were asked to provide feedback on their main challenges. The feedback results are shown in Figure 4, with financing, legislation, citizen engagement, balancing interests, and regulatory barriers identified as the most significant challenges.

What are the main challenges for your PED?

Mentimeter



27

Figure 6. Main challenges faced by the Fellow Cities in the development of PEDs

The second part of Session A, consisted of examples given from the Lighthouse Cities of Amsterdam (Rudy Rooth) and Bilbao (Jon Gonzalez Mancisidor) specifically relating to the topic of the PED's energy system. The presenters gave an overview of the PED's process, the timeline to realizing a PED, real-life examples of challenges faced during development, and emphasis on keeping the ambition levels high.

SESSION B [TNO] Innovation Ateliers

Date: 5th October 2021

Presenter: Jeroen Brouwer (TNO)

The topic of the second workshop was on how to create an Innovation Atelier (IA) that will have an impact and sustain the local innovation ecosystem and help realize a PED. The session consisted of two elements; a general introduction of the Innovation Atelier and an interactive part in two groups.

The Innovation Atelier (IA) rationale was discussed as a vehicle/ method to support the becoming of the P.E.D. through creating an innovation ecosystem with industries, society, government, and knowledge institutes (quadruple helix). The added value of the IA can be found in the way that it can support the local urban energy transition, involve local ecosystem, create an open innovation learning space, offer local stakeholders a knowledge

pool and creative power for reflection, adaptation, or resolve complex issues, establish an open network environment, but also create products, services, and ideas that offer (economic) value for the participants, and finally in the long term generate revenues for independent operation of the IA.

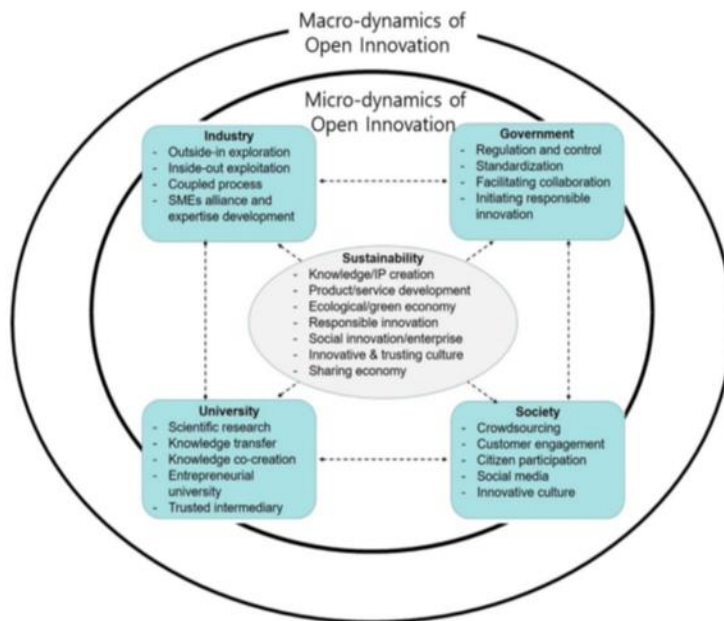


Figure 7. Dynamics of Open Innovation

In Bilbao and Amsterdam, the IA have been established, and the first sessions are organized. In Bilbao, the IA has already been used to perform SWOT analyses and a reflection on the City Vision 2050 scenario. In Amsterdam, the IA has been organized several times to address a particular issue that challenged the construction of the PED in Amsterdam; namely the lack of space for building-attached PV. The IA has been used to find alternative solutions, and an alternative location has been found in a nearby area.

Interactive part

During the interactive part, the group was divided into two breakout sessions, each focusing on a question, namely:

Question 1. What are key conditions within the organization of the municipality to realize an IA that has an impact?

Question 2. What aspects or conditions will ensure that the IA will sustain well beyond the project time, and where is starting point?

During the breakout sessions, the following steps were followed:

1. **Step 1.** The group is asked to contemplate the question and the conditions still missing on the board. The audience gives input to the question by writing their

answers on sticky notes they stick to the poster. Together the conditions are discussed and clustered.

2. **Step 2.** Each participant votes on what they think are the most important conditions using three sticker dots. A top 3 is made based on the votes
3. **Step 3.** Then the participants are asked what actions *they can do to support the conditions/factors* and what action *they (the person in particular)* can take as a municipality/from your organization to realize the conditions.
4. **Step 4.** Participants write one of their actions and what they will do about it on the postcard. Next year the hosts will ask the participants about the follow-up on their actions.

Results

Group I: What are key conditions within the municipality's organization to realize an IA has an impact?

The conditions with the most votes were:

1. working across departments to link different policy processes: (renovation, energy transition, urban development, ...), but also the ambitions of the IA should be connected to high-level ambitions.
2. interdisciplinary work: link technical, social, environmental, economic expertise
3. Political support/high-level political engagement
4. Budget to organize the IA.

What actions can be taken to support the IA?

1. Actions for Interdisciplinary work:

Involve experts with relevant expertise from their own network, create interdisciplinary teams, create an interdisciplinary task force, organize economic expertise, co-organize a PED session with the city planning department at their conference (work in progress), and finally, improve citizen involvement in the planning process as citizens can bring in more and different perspectives.

2. Actions for Link between levels

Strengthen internal interdepartmental cooperation, use regular communication channels, give support in linking the levels thanks to the experience and the contacts > support as IA to do this linking, point out the contribution to global commitment > explain how it contributes to the broader context/higher level commitments, market/communicate/translate plan into actions for every department,

3. Actions for High-level political engagement/Leadership:

Make good results public; internally and externally, keep contact with leaders, educate the politicians (decision-makers) about innovation ateliers; have ambassadors/sponsors

on the high strategy level, capacity building actions; provide politicians with good information about why leadership is important to engage all the departments and the public

Results Group I: What aspects or conditions will ensure the IA will sustain the activities beyond the project, and where to start?

The conditions with the most votes were:

1. Political support: A vision and a mission for an IA and the political support for this are important for sustaining the IA. The group also mentioned that the IA could benefit from support from powerful influencers.
2. Value (costs and benefits) the IA has for the involved actors
3. Branding: the value of the IA should be known
4. Fruitful cooperation

What actions can be taken to support the IA?

1. Actions for Political support

Show results and benefits; both social and economic, communicate the process, brand, and disseminate, organize meaningful events so that politicians can attend, organize meetings to introduce the project and goals, engage the mayor.

2. Actions for Value (cost and benefits) for involved actors

Start analyzing the value from the day, get professional help to address this aspect; very difficult to present faithfully in simple language, show results; real models should result in a (partly) autonomic business; combining private projects, CRM projects, and research.

3. Actions for Branding, communication, and dissemination

Organize workshops for citizens to involve them in the project, get the citizens and customers involved from the start, improve the municipalities' communication, raise awareness by a proactive action and showing results, combine small scale projects, can give quick wins & complex development projects have a wider impact.

4. Actions for Fruitful cooperation

Raise awareness, organize meetings, create ownership, choose the right partner for the right jobs, cooperate with the best stakeholders in the area

Each participant in group I and II was asked to write down what actions they will do to support these conditions/factors.

Plenary conclusions

Every city will work to establish an IA. The context of each city is different. This will influence the design of the IA., fitting it to the local context. However, certain challenges are the same.

Organizing political support, selling the IA both internally and externally, and getting the right people on board are important conditions to realize and sustain an IA that has an impact.

SESSION C [TECNALIA] City Vision

Date: 6th October 2021

Presenter: Carolina Madruga Garcia (Tecnalia)

The City Vision creation session was focused on the SWOT diagnosis since each city must make an assessment of their city vision. SWOT states internal (Strengths, Weaknesses) and external (Opportunities and Threats) characteristics.



Figure 8. SWOT Diagram

Within the Cities4ZERO methodology that is being followed in ATELIER for City Vision creation, SWOT aims to provide the qualitative diagnosis needed to guide the city energy transition strategy. Bilbao, as ATELIER lighthouse city, is being a front-runner in city vision creation, and lessons learnt from the process are applied to fellow cities.

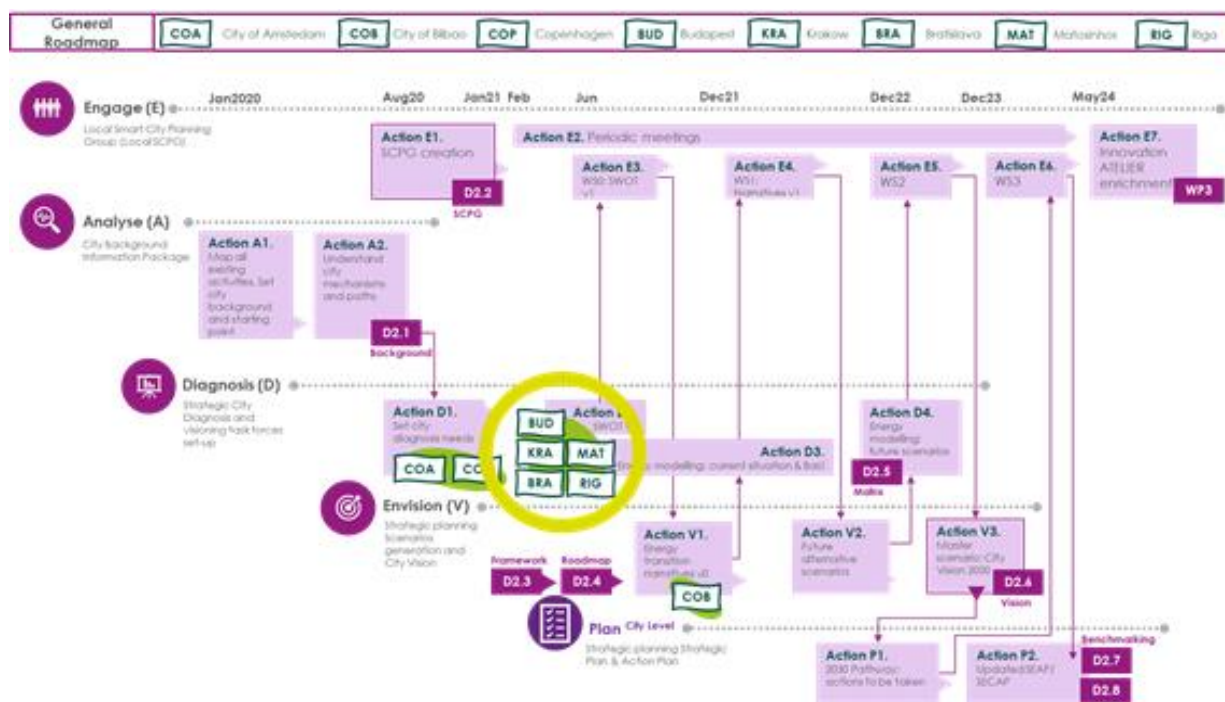


Figure 9. Roadmap city vision development - Cities4ZERO methodology

During the live Workshop in Amsterdam, Bilbao SWOT development was presented. As part of the process of defining the City Vision 2050, the SWOT Bilbao Diagnosis has been defined as a collaborative diagnosis process in which the different stakeholders involved in the energy transition of the city have been able to contribute with their knowledge and concerns.

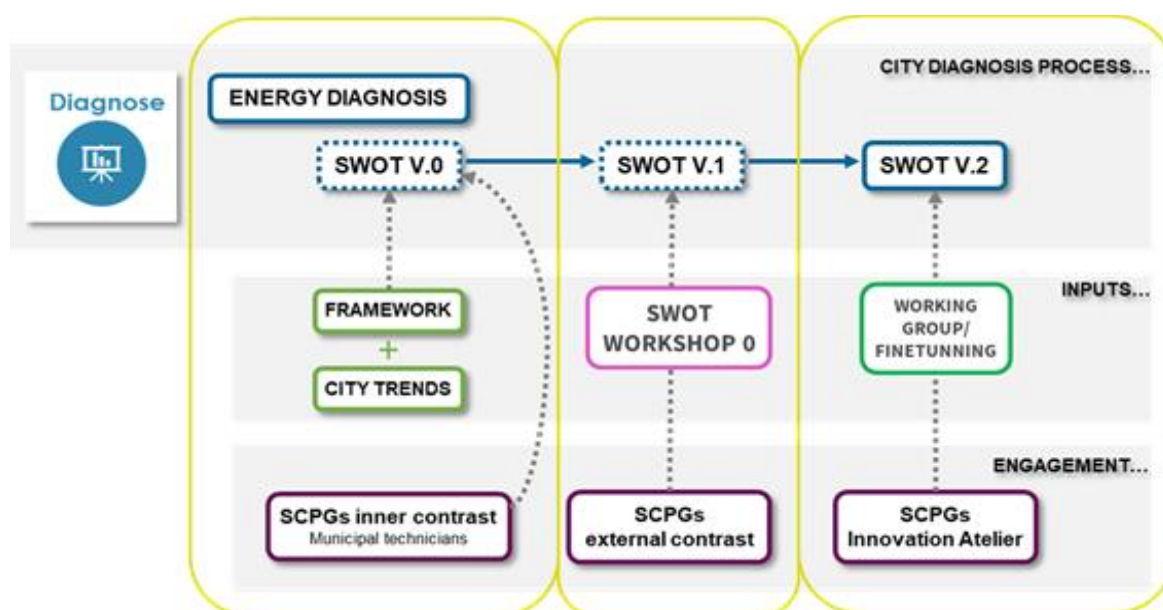


Figure 10. SWOT development

It is important to note that the workshops where the SWOT diagnosis was contrasted were part of the actions that are being carried out under the umbrella of the Bilbao Innovation ATELIER. Apart from this main goal, the purpose of the workshop was also to:

- Establish contact between the local agents involved in the energy transition and decarbonization of Bilbao.
- Organize these agents by groups of expertise so that they can participate in the diagnosis and co-development of the vision for Bilbao 2050 so as in their involvement in the plan definition.
- Obtain a sectoral diagnosis shared by local agents in SWOT format, which feeds into the next steps of the process:



Figure 11. from SWOT to Action Plan

Bilbao's SWOT is organized around six different themes: 1) Governance and society, 2) energy, 3) Mobility, 4) Built environment, 5) Climate change adaptation, 6) Digitalization. Cities will have to define the themes that better suit their specific city needs.

After the different contrast iterations, the final version of the co-developed SWOT of Bilbao was obtained and was used to define the eight hypotheses that guide the city vision 2050.

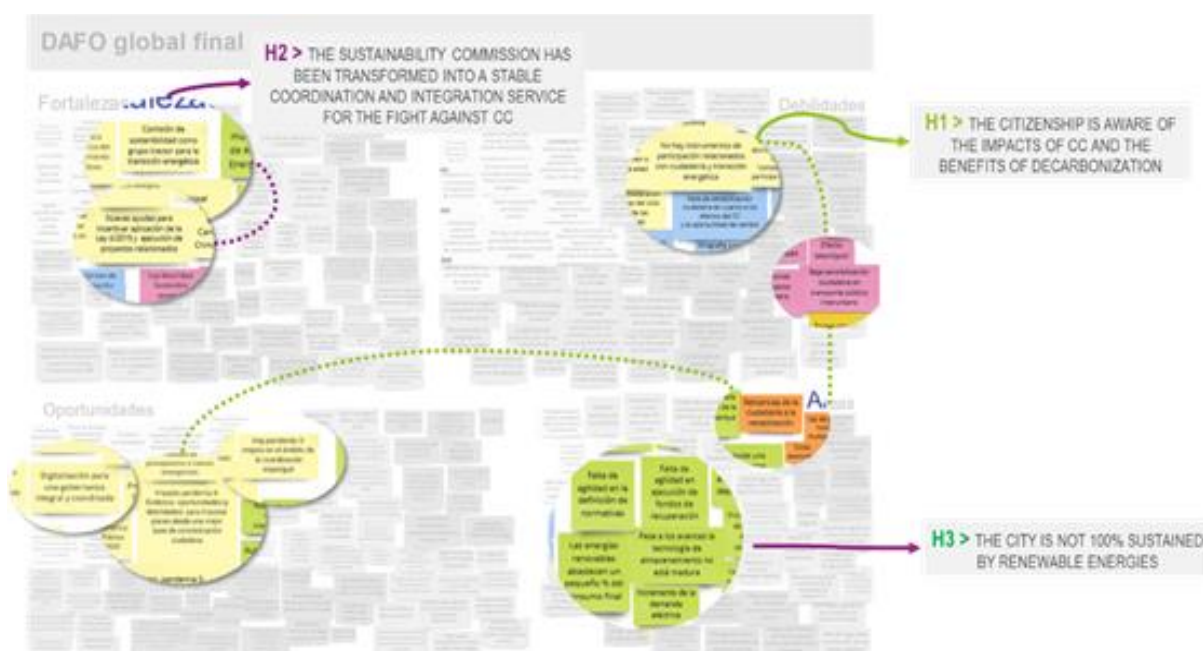


Figure 12. From SWOT to city vision

Once the hypotheses were defined, they were presented and modified in a WS that aimed to co-develop the 2050 vision and the master scenario 2030. This information will be enriched and complemented with the quantitative analysis of the energy models (LEAP and Enerkad).

After Bilbao's process presentation, the first drafts of Riga's and Krakow's SWOT were presented. The drafts were created using the SWOT analysis done for PEDs in WP6 and with information regarding the analysis of plans done in Task 2.1.

The interactive part of the session was focused on answering by the cities the following questions:

1. FCS....ABOUT YOUR SCPG

√ STRENGTHS OF THE SCPG, HOW IS IT GOING?

√ HOW THE SCPG IS PERFORMING THE CITY VISION PROCESS?

2. MIXED GROUPS...DIMENSIONS FOR SWOT ANALYSIS

√ KEY DIMENSIONS FOR YOUR CITY SWOT DIAGNOSIS?

√ HOW THE SCPG IS PERFORMING THE CITY VISION PROCESS?

√ IMPROVEMENTS FOR WP2

Due to the lack of time, only the first question was made "SCPG status" (in yellow), and, as a result, the following information was obtained:

Table 2: Fellow Cities SCPGs

RIGA	KRAKOW	BRATISLAVA
<ul style="list-style-type: none"> • S.C.P.G. was established one year ago and is working very actively: more than 15 group meetings. • New ambitious S.E.C.A.P. is in the process of being published. Actions in 2023. Need to approve the S.E.C.A.P. to have access to E.U. funds. • CORE GROUP VS WIDER GROUP (2d) • SECAP DEVELOPMENT WORKING GROUPS (72) 	<ul style="list-style-type: none"> • ALREADY ESTABLISHED, OFFICIALLY. 2 meetings have been done, focused on organizational issues • More technical meetings will be held ON MONDAY! • MULTIAGENT • COOPERATION MODEL: Deputy mayor is the leader, different departments participate, no representatives of the public sector but they cooperate. 	<ul style="list-style-type: none"> • S.C.P.G. + S.E.C.A.P.: S.C.P.G. is connected with the preparation of S.E.C.A.P. S.C.P.G. is focused on ATELIER • METROPOLITAN INSTITUTE (RECENT CREATION) • PED AREA ACTIONS: MULTILEVEL, TRAM AS KEY WORKING ISSUE • ARCHITECT STUDY AS LEADERSHIP

<p>STAKEHOLDERS > MULTIAGENT)</p> <ul style="list-style-type: none"> • SCPG HELPED TO REORGANIZE: Good experience, aware that they are going to develop the vision. Good and promising results 		
MATOSINHOS	BUDAPEST	COPENHAGEN
<ul style="list-style-type: none"> • ALREADY ESTABLISHED • MUNICIPALITY ELECTIONS happened 2 weeks ago: the work is stopped until they have the results of the elections. After this they will organize the first meeting, they expect to start with vision W.S. in November. • IN THE COMING WEEKS THE SCPG WILL BE RE-ACTIVATED • NOV SWOT WKS FOR CITY VISION • S.E.C.A.P. 2030 APPROVED IN 2021 • ENERGY MODELIZATION...D ATA GAP!! Need to engage key stakeholders to get the data – trying to Schedule a meeting 	<ul style="list-style-type: none"> • DIFFICULTIES WITH THE SCPG (not formalized): the plan strategy and the S.E.C.A.P. was already finalized. • S.E.C.A.P. & OTHER STRATEGIES ALREADY ONGOING • THEY NEED TO FIND THEIR "MOMENTUM" FOR SCPG IMPLEMENTATION • CITY PLANNING DPT....NEW CITY CONCEPT: City planning department initiated a new city concept with several departments and could be an opportunity to push the establishment of this group 	<ul style="list-style-type: none"> • NOTHING IS HAPPENING? GOOD OR BAD NEWS??? • NO PREPARED SECAP because they use other mechanisms: The climate roadmap was published by the end of 2020 and 3 additional annexes are ongoing. • Climate secretariat is responsible for this work, decisions will be made in November about the next steps (when the next mayor is established) • NEW CLIMATE EVENT • CLIMATE SECRETARY AS THE LEADERSHIP FOR CLIMATE VISION • ADMIN IS WAITING FOR THE NEXT MAYOR • INNOVATION ATELIER... LONG TRADITION IN STAKEHOLDERS INVOLVEMENT

SESSION D [CARTIF] How to Calculate PED Balance

Date: 6th October 2021

Presenter: Estefanía Vallejo Ortega and Andrea Gabaldon Moreno (CARTIF) (this session took place online since the presenters couldn't travel due to COVID travel restrictions)

PED calculation methodology was explained by CARTIF, highlighting the differences between energy needs and energy use, an overview of tools that can be used, how to calculate primary energy factors, and the energy flows of the district.

The main challenges in the calculations of Bilbao and Amsterdam were highlighted by the lighthouse cities, showing the Sankey diagram of each.

In the end, people were divided into two groups and one exercise was given to each group. The exercise was intended to make them think about the different steps of the explained methodology and the assumptions to be made.

Fellow cities found the method clear, but the exercise was complex as it had too much text for the given time. Nevertheless, they found it doable with enough time. Most people had a background in building code calculations and were familiar enough to understand the method, those who were not found it very hard (7 out of 9 had experience)

Further questions to be investigated:

- g How to integrate flexibility
- g How to integrate mobility
- g How to deal with national building code differences

SESSION E [WAAG] Citizen Engagement

Date: 6th October 2021

Presenter: Julia Jansen (Waag) and Aranka Dijkstra (AMS)

The workshop started off with an introduction by Aranka Dijkstra (AMS Institute) and Julia Jansen (Waag), who provided a broad sketch of a framework for citizen participation that has been used in Amsterdam. Part of this framework was a 'participation ladder', a version of the ladder based on Burns et al. (2004) ⁷:

⁷ Burns, D., Heywood, F.S., Taylor, M., Wilde, P., & Wilson, M. (2004). Making community participation meaningful: a handbook for development and assessment. Policy Press.

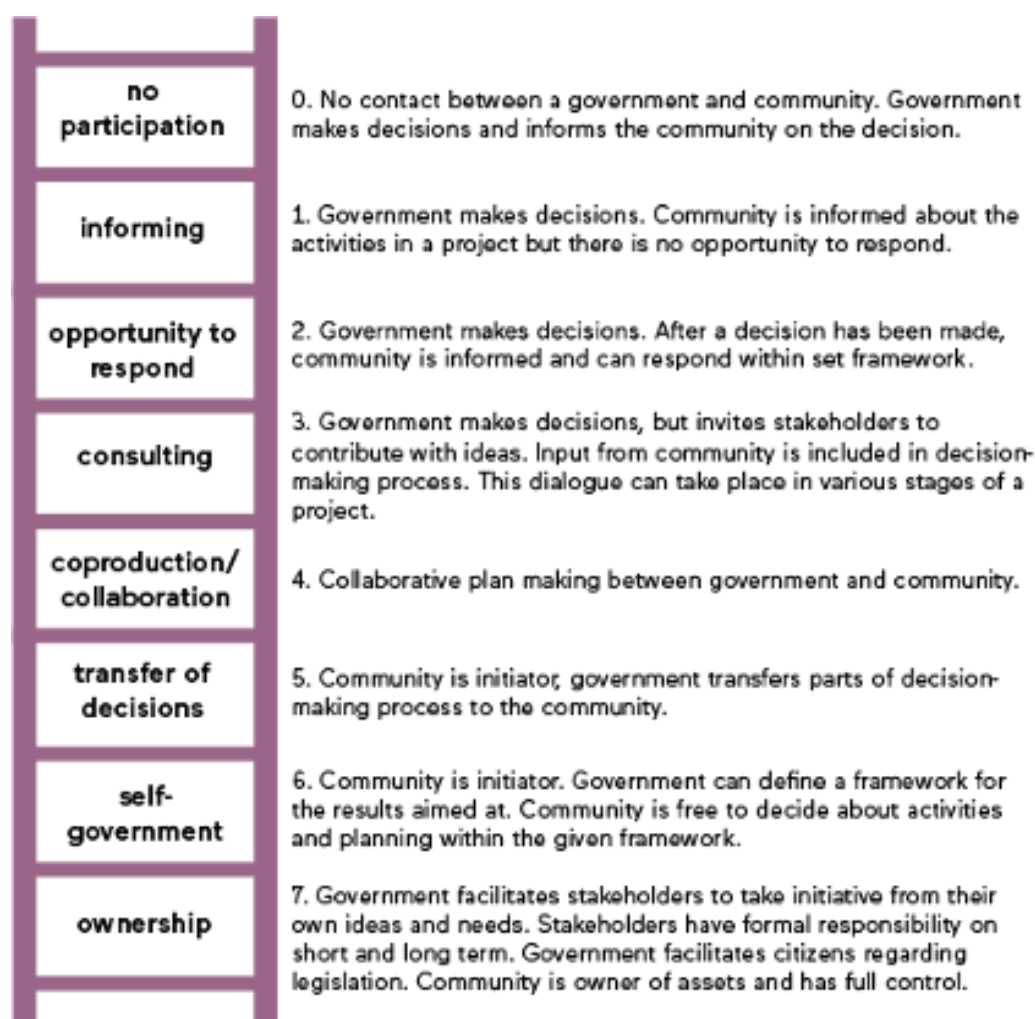


Figure 13. Participation Ladder

Defining ambitions

After an energizing exercise to get to know each other a bit better, we divided in breakout groups to work on formulating our ambitions regarding citizen engagement. We used an exercise called 'ambition ranking' to find out what ambitions regarding citizen engagement were shared amongst participants. Some groups worked out the ambitions of one specific city, others worked on the citizen engagement ambitions in broader terms.

Some outcomes of the breakout groups:

Various types and levels of ambitions related to citizen engagement came by. The ambitions came in a wide variety, which can be clustered under the following themes:

Ways of understanding citizen engagement

'regular meetings with citizens about their needs'

'citizens engaged in actual pilot project retrofitting to their needs'

'finding out what smart grid asks & gives to users/citizens'

'engaging broader public for developing PEDs'

'involve citizen in urban (energy) planning at early stages'

'engage low-income citizens from social housing neighbourhood'

g Strategies for citizen engagement

'engage community leaders'

'ambassadors capacity building'

'regular communication, inappropriate into language'

'building a tool/group of "citizen experts" that are interested in the same topics and ready for participation'

Then, we can discern various goals of citizen engagement. They relate to various levels of engagement of the ladder of participation (above):

Securing acceptance

'citizens engaged in policy/strategy development' acceptance of strategy'

Creating awareness, educating, achieving behavioural change

'involve citizens to educate and achieve behavioural change'

'realise awareness level of citizens'

'participation to teach the public, for example, the vocabulary of city redevelopment'

Designing & creating with citizens on an equal level

'co-create solutions with citizens'

'cocreate needs for staying active after the project'

Supporting the development of energy community

'design an energy community'

'involve citizens in a local energy community'

'engage SME owners in co-creating solutions in energy communities'

'incentivize citizens to be co-investors in energy communities (not only consumers)'

Empowerment

'create ownership on citizen level'

'achieve ownership or at least awareness'

'citizens to get to know their purposes'

'make citizens responsible for some parts of the project' (?)

Then, there were concerns of how engaging other actors such as academia to share knowledge and experts to achieve the best technical solutions.

Realising ambitions

Having formulated our ambitions, we worked on the questions of how to achieve these. Why exactly do we have these ambitions? And in order to achieve them: who needs to be involved? When? And How?

Why

We can divide the answers to this question into the following categories.

1. Focussing on the intermediate goal of creating awareness, understanding, respect of a positive setting for communication, giving an opportunity to everyone. These answers do not yet point to an idea of what citizen engagement should contribute to citizens or the project.
2. Focussing on project goals: achieving PED goals.
3. Focussing on underlying drivers of the whole ATELIER project: behavioural change that leads to climate neutrality, developing knowledge on P.E.D.s/energy efficiency, reducing energy consumption, increasing self-production of renewable energy sources for self-consumption.

For a better understanding, mutual respect, creating awareness, creating a positive setting.

Who

local resident groups

local building managers

owners of (small) businesses)

community leaders

influencers

yet to be defined by stakeholder analysis

all citizens represented (target group approach)

low-income families

When

A frequently mentioned statement: ASAP: "as soon as possible".

How

'a citizen engagement strategy'

'educational programs (video's, blogs, leaflets)'

'local education'

'campaigns tailored to residents'

'incentives'

'statements in media'

'communication via social media'

'communicate on relevant topics for specific target groups on channels that reach them'

Other questions that came up:

'how to engage skeptics?'

'how to include engagement actions in the municipal budget?'

Main takeaways

Closing off the sessions, we asked everyone about an ambition they would take home with them. Some were going to plan a brainstorm in their respective cities to work out the ambitions regarding citizen engagement for their project, and others knew exactly whom to meet to take the next step in realizing their ambitions. Main take-aways for me as organiser:

1. In the next session, we would like to dive into cases and questions of specific cities. Especially as each city is a very specific context in which citizen engagement is organized. These 1,5 hours were insufficient to dive in deep.
2. It requires time and structured discussions to understand **why** we have certain ambitions related to citizen engagement. Moreover, the scope of these ambitions greatly influences what type of activities are relevant to organize or support a city or consortium.
3. Although participants of the workshop formulated ambitions that variate from 'informing' to 'empowering' in terms of the level of engagement, the methods and activities for achieving the engagement ambitions (the **how**), were almost all formulated in terms of *informing* and *one-way communication* from the consortium partners to residents and local communities. The next session could be focused on designing engagement strategies or activities that focus on various engagement levels.

WORLD CAFÉ SESSION [AUAS]

Date: 5th October

Presenters: Marije Poel and Willem van Winden (AUAS)

In the world cafe session, every fellow city brainstormed about their main challenge at this moment and formulated an issue/question they wanted to get advice on in a world cafe setting.

How did the world cafe work:

- g Set up five tables led by the issue holders of that cities
- g Other participants (fellow cities and experts) spread among the other tables
- g The issue holder explains the issue: and answers some questions from the participants.
- Participants on the table write down their ideas in silence; then discussion led by the moderator
- Everything was written down: ideas, deepening questions, examples
- Then round two, participants change the table:
- The issue owner summarizes what happened in the first round
- and then asks to either bring in more, other ideas and or go more in-depth on certain ideas, maybe with examples, etc.

We ended with a plenary round of experience and collected ideas and advice.

Main takeaways:

- g An efficient way of working on issues related to a specific city and going in-depth in a relatively short time
- g Gives room for all kinds of contributions, everyone can contribute (not only experts but also fellow cities gave their peers relevant advice or at least a better understanding of the issue)
- g Makes visible how different and specific and situational the context is of every fellow city (policy, politics, regulations, culture)
- g A couple of shared / collective issues
 - where to start: what kind of development and which main partners
 - how do I develop: related to the market, ownership, kind of techniques, what is the role and mandate of the city?
 - How do we finance the development of the PED

WRAP-UP SESSION [AUAS + AMS INSTITUTE]

Date: 6th October

Presenters: Mark van Wees (AUAS) and Aranka Dijkstra (AMS)

During the presentation and workshop, some questions were asked to the audience using the online tool Mentimeter. The workshop had 6 steps:

- Step 1. Make groups per city and draw a timeline on your paper.
- Step 2. Use 5 minutes in silence to look back at the last two years of ATELIER and fill the timeline with events.

- Events can be anything: highlights and lowlights, insights, emotional highs and lows, challenges, successes, frustrations, stories and surprises, situations, learnings, and anything else that was important to you or the project. You may also include future events.
- Step 3. Take 5 minutes in silence to reflect on your group's timeline. Use five dots each to vote on the most important events.
- Step 4. Discuss the most important events:
 - Why was this an important event? How did it influence the project?
 - What was the most important event for you as an individual? Why?
 - What did go as expected? Due to what?
 - What did not go as expected? Why?
- Step 5. What lessons learned can be abstracted from your reflection? Write down the most important two on the smaller papers. A good lesson learned describes (Maurer, 2012):
 - What is the context?
 - What happened (to whom)?
 - Why did it happen?
 - Why is it important?
 - Who can benefit from this lesson learned?
- Step 6. Share your learnings with the overall group.

Results: Mentimeter Questions

The Mentimeter questions and answers were:

Q1. What 'helix' are you?

- Public Authority
- Business SME
- Business Industry
- RTD (Research & Technological Development)
- University
- Citizen
- Other

Q2. How complex is PEDs/ATELIER project for you and your city?

- Piece of cake
- A bit, but we can handle
- Complex: we have to make a real effort
- Everytime I think about PEDs and ATELIER, my mind explodes!

Q3. Learning: How do you rate the collective learning within the ATELIER project?

- The information is already too much to take in
- Just right for us.
- We could do much more
- I don't know.

Q4. What makes a lesson learned transferable to you? (How do you learn?) (You can choose 2 options)

- Descriptions of successes AND failures of interventions (Read/write medium)
- Newsletters, blogs, etc. (Read/write medium)
- Academic papers, extensive reports, etc. (Read/write long)
- Storytelling via presentations, movies, podcasts, etc. (Auditory)
- Visuals like models, diagrams, infographics, etc. (Visuals)
- Community of Practice (Do/experience)
- Practical guidelines and instructions, etc. (Do/experience)
- Training, workshops, creative sessions, etc. (Do/experience)

Q5. What are your suggestions for ATELIER learning activities?

- *There was no time for this question.*

Results: Timelines & Lessons Learned

Riga





Figure 14. Timeline Riga

Lessons learned:

- "The success of SECAP 2030 relies on Cities4Zero and SCPG methodology."
- "Without a data repository, data accessibility heavily relies on building relationships with data holders/stakeholders."
- "A single project is limited in time and money, therefore you need to create a *process*."

Budapest

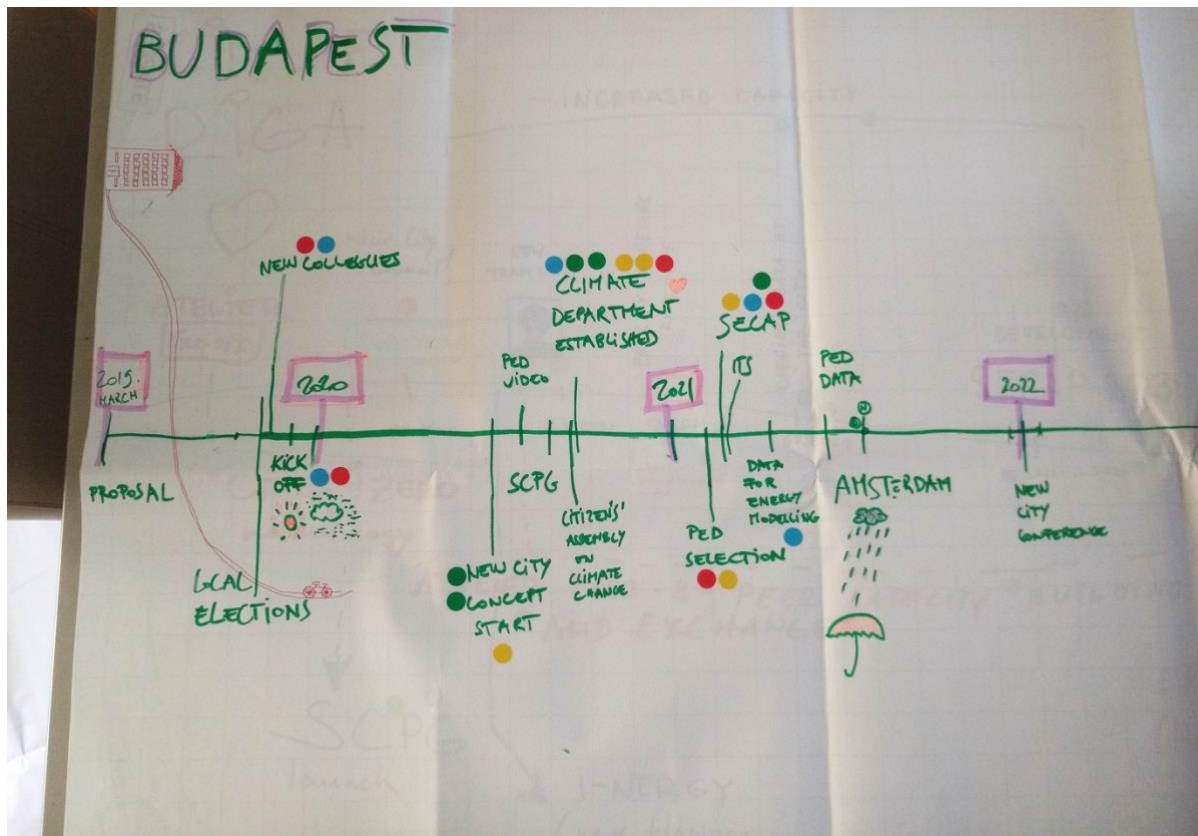


Figure 15. Timeline Budapest

Lessons learned:

Climate department:

- Ownership of the concept
- SECAT
 - As a reference project
 - Political decision
- Subject matter expertise in house

Bratislava

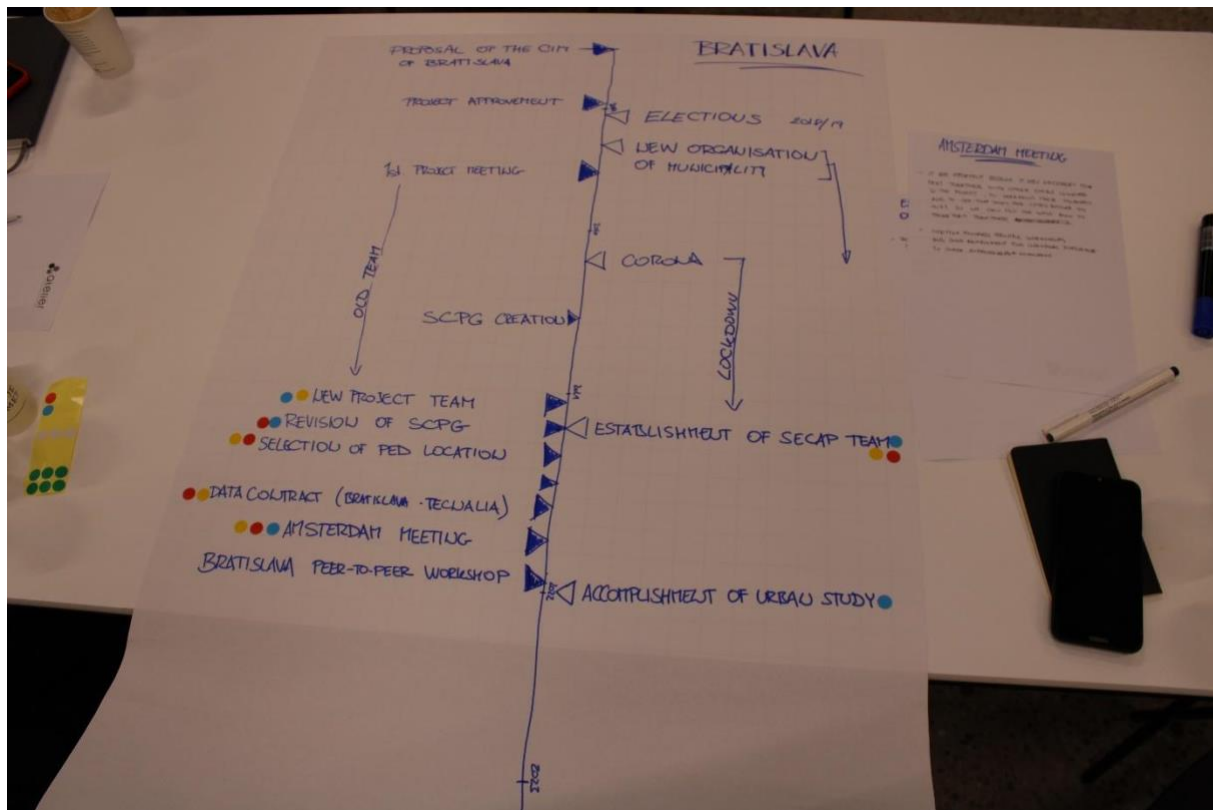


Figure 16. Timeline Bratislava

Lessons learned:

- Establishment of SECAP team
- Revision of SCPG
- PED location selection
- Accomplishment Urban study

Krakow

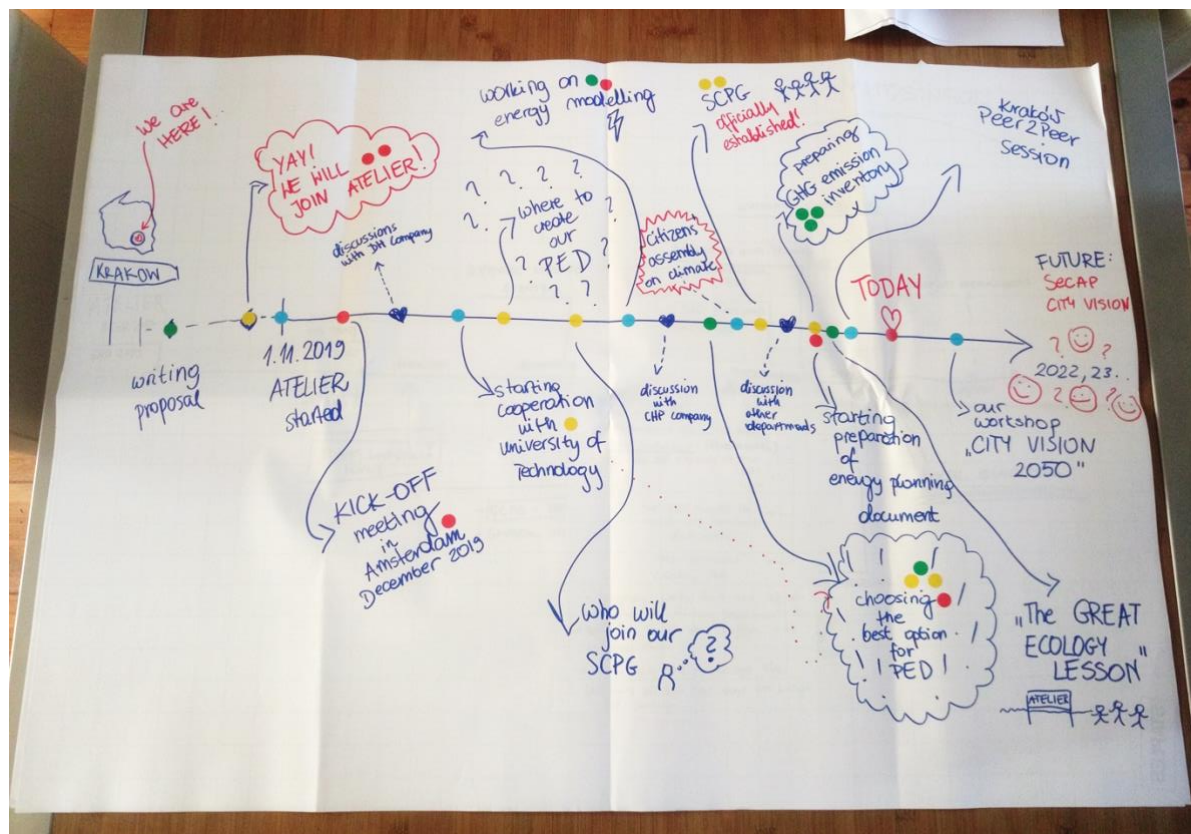


Figure 17. Timeline Krakow

Lessons learned:

- Cooperation with University of Technology
- Citizen assembly on Climate
- SCPG formation planning
- Preparation GHG emission inventory

Matosinhos

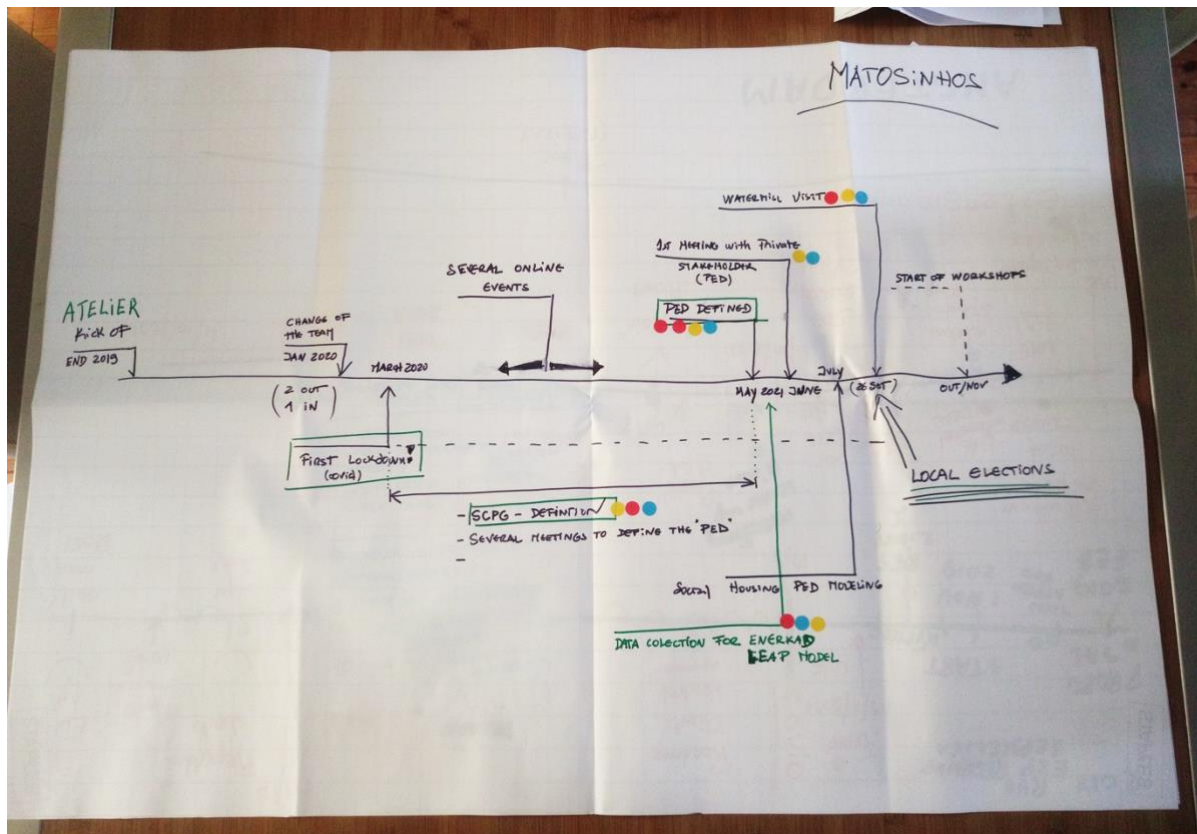


Figure 18. Timeline Matosinhos

Lessons learned: PED Definition

- Stabilisation of the 2 PED areas
- Political commitment > fundamental:
 - We could initiate the contact with the local stakeholders
 - Their involvement
 - Collecting data
- Everything looks hard and difficult but after the political commitment the road starts to get more brighter and somehow clean.
- It was really hard to manage the lockdown and the new ways of living and working.

Copenhagen

Copenhagen did not submit the timeline.

Bilbao

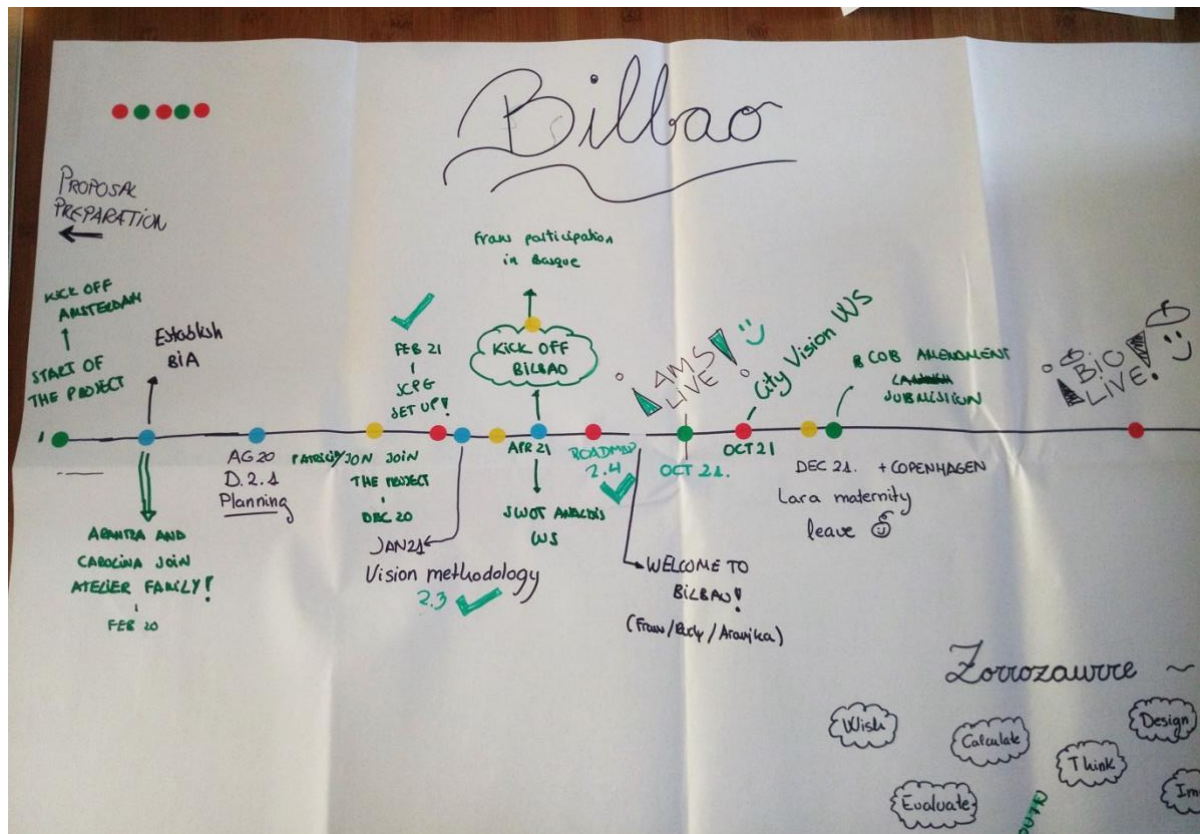


Figure 19. Timeline Bilbao

Lessons learned:

“Kickoff meeting in Bilbao was a chance to communicate the involvement of the city in ATELIER, and join San Sebastian as LH European Cities, what means to show Basque Region as an innovative area. It was the first dissemination of the project in media and first appearance to citizens in the project. The following SWOT analysis was also very enriching, it was expected to be quite static and however was really interactive.”

Amsterdam

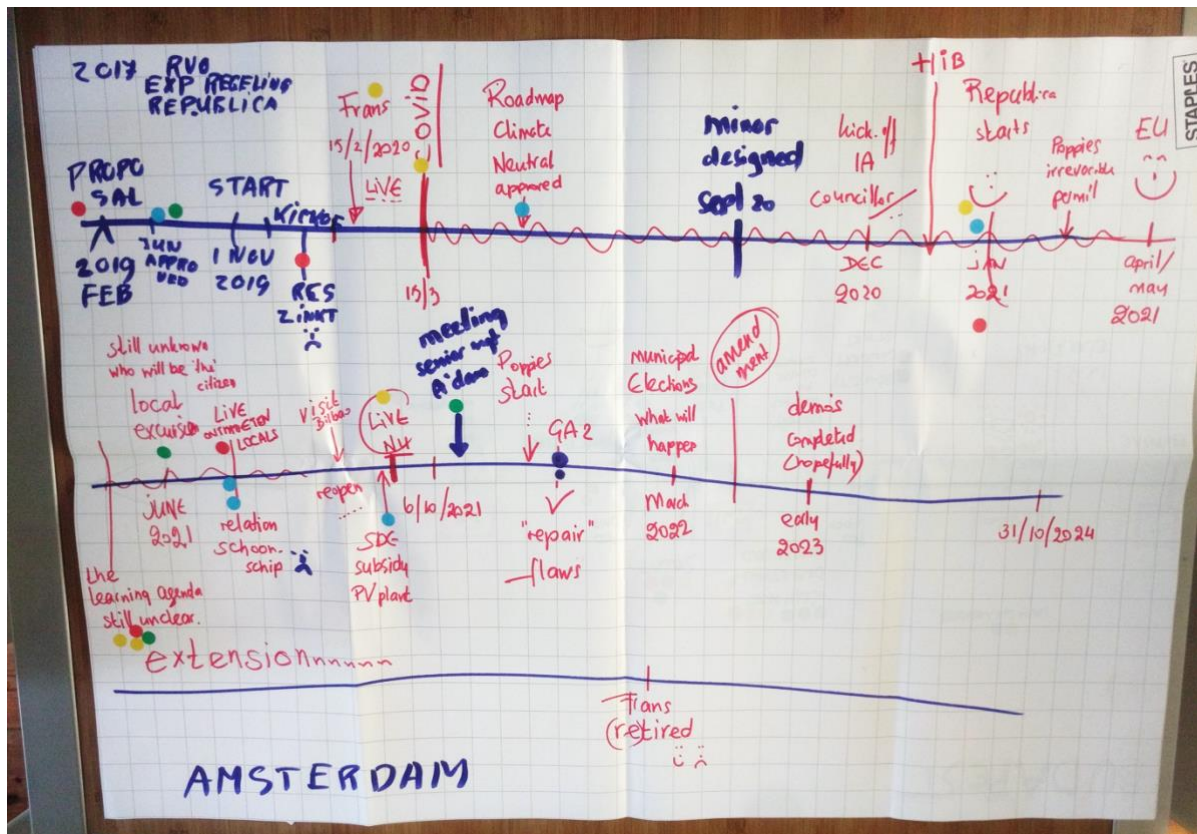


Figure 20. Timeline Amsterdam

Lessons learned:

- Context: Conflict with demo partner (changing)
 - Expectations
 - Lack of respect /recognition
 - Money
 - Different interests
 - Personal
 - No trust
- Suggestions:
 - Discuss expectations
 - Transparency
 - Open in interest at start
 - Data sharing details
 - Monitor! Relation management

Tour #1 PED Buiksloterham: Schoonschip, Republica & Poppies [Rudy/AUAS]

After the fruitful meetings it was time to stretch some legs! In typically Dutch weather (rather rainy), the bus driver dropped off the group of ATELIER partners close to the Republica building, where the construction workers were just finishing their working day. Everybody could see that the basement had almost been completed and that in various places on the 80x80 meter construction site, the ground level has been reached. On the trip to the site of Poppies (the other building block of the PED), the participants were informed of the great variety of private dwellings that were realized under the so-called CPO scheme (Collectief Particulier Opdrachtgeverschap). This scheme is used in Amsterdam to provide more impact to the inhabitants in realizing dwellings of their choice, within boundaries of size and performance level. Some like the variety, some find it messy. Passing by Poppies, the group headed to the Waternet floating office to catch a glimpse of the Resource Recovery Station that is temporarily floating in the Papaverhaven. Finally, a tour of the Schoonschip floating community took place where the group had interesting discussions with the tour leaders (inhabitants of the community) on their experience.

Dry in the meantime, the group then headed to the restaurant in Houthaven under a sunny sky, taking the typical Amsterdam IJ-ferry.

Tour #2 Houthavens [Rudy/Marije]

Houthaven is an Amsterdam development area that started construction back in 2014 and which was the first Amsterdam neighbourhood with a climate-neutral ambition. In the area, where land has been gained from the river IJ, the first stop was the energy positive building, where an enthusiastic inhabitant explained the development track of the building and his living experience since 2018, when the building completed. The building is the result of a tender in which Amsterdam challenged developers to come up with a plan for the most energy positive building they could build. The positive energy balance of the building is realized by a massive amount of around 300 kWp PV (for 17 apartments) and heating by heat pumps in an all-electric architecture.

The Houthaven area is mainly heated by district heating. In order to combat possible overheating in the energy efficient buildings, so-called comfort cooling is provided. This is accomplished by storing cold from the river IJ in winter in the underground and using this coldness in the floor tubing system in the dwellings in the summer. This system is managed by a “cold station”, which was visited too. The tour was rounded off by a walk to the other side of the district, where the bus was waiting.

Extra activities

ArenApoort

On the 4th of October an informal event was organized for those partners who have already arrived in Amsterdam. During the informal event, the partner AMS-Institute presented the LIFE project. This smart energy exchange platform focuses on electricity grid-friendly and community inclusive innovation in the Amsterdam neighbourhood ArenApoort.

CIRCL BUILDING #2 Houthavens [Rudy/Marije]

On the 6th of October, the trainings and workshops took place at the Circl building, the ING Bank's headquarters. ING bank collaborates with AUAS on different projects, so they were very kind to provide a brief guided tour. "The Circl building is a new pavilion in Amsterdam's Zuidas district. A place created by ABN AMRO where it can share the knowledge it has gained about circularity. It is a building designed and constructed according to sustainable and circular principles. Circl has been created to be energy efficient and easy to disassemble, to make as little impact as possible on the planet. Many of the things used to build Circl have already had a previous life".⁸

5.1.5. Evaluation of the Training programme

A survey and interviews (please see Annex 7) were conducted to evaluate the event and get insights for further capacity-building program development. The survey was sent to FCs and partners involved in the event. Once the survey was analysed, interviews were planned with the same participants to dive deeper into the survey's outcome.

Overall all participants were optimistic about the event. Participants expressed the following points:

- FCs felt the topics covered were appropriate and fit their needs.
- All partners appreciated extensively interactive sessions where knowledge exchange and problem-solving occurred.
- The tour visits were appreciated. Participants found them very insightful.
- Participants mentioned that the event contributed to bonding and networking.
- Cities expressed their need to have time to ask questions and shared doubts with other cities and experts.
- Participants pointed out that the program was very intense and would prefer to have a less packed agenda and more time to discuss issues and network.
- Participants found quite challenging to follow one of the sessions whose presenters were online.
- Participants also mentioned that some sessions were too theoretical and complex to follow.
- All participants expressed the need for more live events.

5.1.6. Conclusions

AUAS, as organiser was very satisfied with the event's outcome. We received feedback from participants informally, in person, and via email to express their satisfaction and formally via survey and interview. Definitely, the objective was achieved. However, points of improvement were identified. So the following decision were taken for upcoming events:

- Sessions need to be more interactive in live events.
- Including informal time for knowledge exchange and sharing among participants is a must.
- Presenters need to present on-site – it is too challenging having presenters present online when the audience is on-site.

⁸ CIRCL building: <https://circl.nl/themakingof/en/>

- All sessions need to be aligned. The program has to be cohesive.
- Site visits need to be very relevant and insightful. Otherwise, do not include it.
- Cities need to have a more active role. We need to apply a hands-on approach.

5.2. COPENHAGEN Live event

On the 29th, 30th and 31st March 2022, the Amsterdam University of Applied Sciences (AUAS), together with the City of Copenhagen (COA), organised a series of live workshops and site visits to facilitate the exchange and cooperation between cities and partners. This event was focused on WP6.3 Capacity Building Activities.

5.2.1. Objective

The goal of the event was to facilitate and strengthen the fellow cities' replication potential by deploying a knowledge exchange action through capacity-building activities such as demonstrations and trainings.

5.2.2. Target audience

The live event targeted FCs, LHCs, and Atelier partners (AUAS, TNO, TecNALIA and Waag).

5.2.3. Agenda

Please see agenda in Annex 4.

5.2.4. Sessions reporting

SESSION A [AUAS + CARTIF] PED Development by Fellow Cities + Liaisons

Date: 29th March

Presenters: Sara Rueda Raya and Willem van Winden (AUAS); Carla Rodriguez Alonso (CARTIF)

This session was divided in two parts:

- Part 1 was led by AUAS and was about FCs updating their progress. FCs presented the status quo of the PEDs' developments in the FCs. The cities also shared the planned next steps and the challenges they are currently facing. They had to prepare a presentation beforehand together with their liaisons. They had received the following instructions:

Prepare a presentation covering the following items:

1. Assess your progress regarding your PED:
 - Where were you a year ago?
 - Where are you now?

2. Mention your next steps and open issues, problems & challenges that you are facing try to connect each with the WP that deals with them. :
 - WP2 – city vision
 - WP3 – innovation ateliers
- Part 2 was led by CARTIF. FC discussed barriers to replication and upscaling. Then the groups were shuffled, and the participants provided consultation to the FCs/LHCs by putting themselves in the Cities' situations: "If I were working for the City of Bratislava, I would do X.Y.Z."

SESSION B [TNO] Innovation Ateliers – Workshop

Date: 29th of March

Presenters: Adriaan Slob (TNO)

TNO, leader for the Work Package on Innovation Ateliers, facilitated the next exercise which included a role play on the introduction of measures for energy savings and energy efficiency in an imaginary city. Every participant played a different role and received confidential instructions for the negotiation for which the goal was to come to an agreement which measures should be implemented and financed. Even though every participant had to make sure the interests of the assigned role were sufficiently represented, most of the groups eventually reached an agreement. Despite the exercise not being based on a real example, it still reflected the actual negotiations well and made it possible for city representatives to understand the interests of an energy company or a housing cooperation.

TNO organized a virtual role playing game with all participants in the live city event in Copenhagen, in the virtual context of a sustainable energy city plan, where 5 different roles were described, with each a different objective, means and negotiation target. The main objective of this simulation game was to allow the participating municipality people, that in establishing a sustainable energy plan for a city, many different (and in some cases even conflicting) perspectives are taking part. And learn in a safe virtual simulation environment to deal with these differences in a negotiation round, to put an effort in the end to come to a collective agreement. The reflection of participants after the role playing game ended, was very positive, and many people have inquired for the role playing instructions afterwards for re-playing this in their respective city context again.

Please see instructions in Annex 6.

SESSION C [TECNALIA] Citizen Engagement From SWOT to City Vision and Energy transition narratives of BaU and master scenario

Date: 29th March

Presenters: Arantza Lopez Romo (TECNALIA)

ATELIER FCs were working to define the city vision and develop the master scenario that will drive the pathway for full decarbonization of the city's energy system in different time horizons.

At this stage and beyond the methodology and roadmap for city vision development of the cities, the following supporting information was developed in the context of WP2:

- City SWOT
- City energy system diagnosis
- Business as usual scenario

With all this information as support, it is time for cities to take the lead and apply internally the methods proposed and support the decisions in the available information. WP2 sessions aimed to capacitate the cities in adapting the methods to their specific context in order to be able to apply them successfully.

The sessions aimed to capacitate the cities in how to build a master scenario using methodologies (prioritization process), city diagnosis (SWOT and energy diagnosis), and city BaU scenario developed in ATELIER (this information was included in *D2.5 Prioritization matrix – tool for each city*, submitted in December 2021).

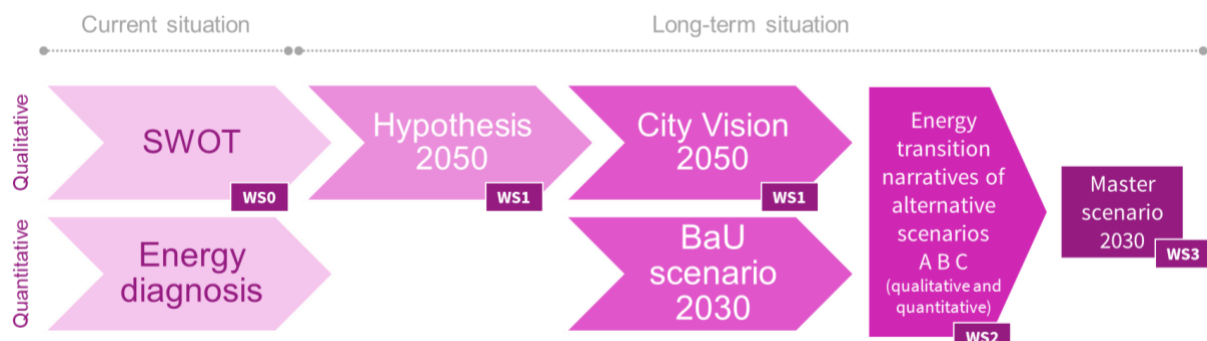


Figure 21. Prioritization Process

The session was divided into two: one qualitative and one quantitative (top and low part of the figure "prioritization process").

Session 1 covered the qualitative part called "From SWOT to city vision 2050". This first session aimed to capacitate the cities in developing the city vision 2050. For that purpose, the working methodology and/or agenda was:

- 1) 5min: explanation
- 2) 60min: try to answer que ice-breaking questions related to "how do you see your city in 2050" in 5 round tables (one per FC, except Copenhagen). 8-12 minutes per topic.
- 3) 25min (5min per city): explain the findings/discussion

On the other hand, session 2 covered the quantitative part called "Energy transition narratives of alternative scenarios". The second session aimed to capacitate the cities in order to be able to improve the BaU scenario and to develop the master scenario. For that purpose, the working methodology and/or agenda was:

- 1) 5min: explanation
- 2) 60min: discuss the assumptions: 10-15min per sector - in 5 round tables (one per F.W. city, except Copenhagen)
- 3) 25min (5min per city): explain the findings/discussion

SUMMARY OF THE SESSIONS:

Session 1: From SWOT to city vision 2050

Each fellow city was sited in a round table with the following boards:

- 1) Board 1: City SWOT: Informative board with information from D2.5
- 2) Board 2: Try to imagine your city in 2050. Working board: Try to answer the questions thinking in how you would like your city to be in 2050 and considering the SWOT. new questions can be added, 2 min per question.
- 3) Board 3/4: City energy vision 2050. Use this board to summarize the findings of board 2 and share with other cities your vision. 5 min per city to explain the conclusions (define one speaker per city).

The cities discussed among their technicians and partners from Atelier how they would like to see their city in 2050. SWOT analysis was used to understand the starting point and over 30 questions helped to drive the discussion. After the discussion, the cities exchanged their vision.

Most of the cities saw very convenient and easy to apply the procedure proposed to create the city vision. They were going to put in place in their municipalities the method by adapting the questions to their specific context.

Session 2: Energy transition narratives of alternative scenarios

Again, each fellow city was sited in a round table in this case with the following boards:

- 4) Board 5: City energy diagnosis and BaU: informative board with information from D2.5
- 5) City assumptions: BaU and Master scenario. 3 working boards:
 - 1) Board 6.1 Built environment
 - 2) Board 6.2 Mobility
 - 3) Board 6.3 Energy generation
- 6) City BaU and master scenario: Use this board to summarize the findings of boards 6.1 to 6.3 and share with other cities your BaU and master scenario. 5 min per city to explain the conclusions (define one speaker per city).

In order to complete the 3 working boards, the following instructions were given:

1. Considering SWOT analysis, energy diagnosis, BaU and City Vision for desired city in 2050, comment the assumptions.
2. Modify the numbers if needed
3. Vote on the most probable BaU and the alternative scenario considering city vision.

The cities discussed among their technicians and partners from Atelier the potential assumptions that can drive their master scenario. The cities realized that the process is very time consuming and specific technical knowledge is needed to define properly the assumptions in each sector (built environment, mobility and energy generation). The cities

were very interested in creating a successful master scenario, but they asked for more capacitation actions.

SESSION D [WAAG] Citizen Engagement Report Storytelling and Stakeholder Engagement Workshop

Date: 29th and 30th March

Presenters: Socrates Houten and Julia Jansen (Waag)

Waag in cooperation with Steinbeis, organised a storytelling & stakeholder engagement workshop. Goal of the workshop was to develop the beginning of a story for each PED that will support the cities in communicating with stakeholders.

The workshop was split over two mornings. During the first session, at the end of a day with a packed program, all cities were challenged to make their creative energy flow. Members of the cities grouped together and had to draw and visualise on three posters WHAT the positive energy district is they are developing, WHERE the site is situated, and WHO will be using, living, working or else in the PED. By forcing everyone to draw, we made sure that the cities could not fall back onto their familiar language but had to look at the story of the PED with a fresh pair of eyes. Although some struggled to keep the drawings simple and focused, it resulted in many clear sketches representing the concepts and ideas for the districts to be developed.

The second morning we continued with the sketches. The cities used the drawings as a starting point to prepare a pitch, each for a stakeholder they needed to get in touch with or on board. The sketches were a means to start the pitch with a short and simple story, but then tailored to make the pitches fit with the stakeholders' needs and interests. By rotating along the groups, all cities got feedback on their pitches from the other participants.

Overall, we took some steps in communicating about the districts that we are developing in ATELIER, why they would matter to stakeholders and how we can keep the narrative short and simple. Next up, we might use the sketches as a starting point to develop infographics about the PED plans for all cities.

Stories – please find a summary of the elements that cities define as core of their PED-stories - Copenhagen is not included - in Annex 6.

SESSION E [CARTIF] Citizen Engagement Prioritization and Selection

Date: 30th March

Presenters: Andrea Gabaldon (CARTIF)

The session's aim was for each Fellow City to create a PED scenario for the area already decided in Task 6.1, where a Positive Energy District is being modelled. This was done using the tool developed by Cartif (PED Tool: <https://tools.cartif.es/ped-tool/>) to create different PED scenarios according to the characteristics of the area in the city, and to some targets of that area, and the outcome is that the tool recommends a set of technologies to implement (a scenario). This scenario of technologies is one of the few that are being considered in the model of the P.E.D. area within task 6.1.

So, the session is being prepared like a game in which they will play with the tool and obtain some results, and after it, a discussion was held to comment on the technologies recommended to each city. Discussion were around whether they have already thought on such technologies, why in some cases the tool suggested a certain technology (because of the conditions they selected through the tool questions), or whether it opened up their minds towards a technology they haven't thought of in the beginning and can be useful for their PED area.

The session started with an ice-breaker through sli.do on "why PEDs?" It was followed by an introduction from Cartif on such topic, with main answer: *PEDs can have an instrumental role in the effort towards a transition to sustainable and climate neutral cities and districts, and this way, contribute to realising the European Green Deal's targets.*

It was followed by some highlights on energy paradigms and trends in communities and cities, and then, by PED Case Studies. In that part, four examples were presented, focusing on four main topics:

1. **ENERGY EFFICIENCY:** in this topic, the focus would be on lower the energy demand, optimise the construction and combine it with smart IoTs. Cartif presented the example of a deep energy retrofitting in the **district of Torrelago** (Laguna de Duero, Valladolid, Spain).
2. **RENEWABLE SOURCES:** Renewable Energy Production with the example of Smart Energy in **municipality of Aland**, where a 100% RES and self-sufficient system has been developed through public private partnership, as well as through active promotion of investments in renewable generation capacity and the decarbonisation of the heating and transport system (e.g. solar and wind energy, bioenergy, geothermal energy, etc.).
3. **ENERGY FLEXIBILITY:** following with the example of **Smart Energy Aland**, they included P2X (to heat, to H₂, etc.) technologies to manage the interdependencies between subsystems (electrification, decentralisation, flexibility and digitalisation).
4. **ELECTRIC MOBILITY:** with the example of **Aland municipality**, they also include carbon sinks of CO₂ to produce synthetic fuels, as well as increasing the storage capacity of the transport system thanks to BEV's (Battery Electric Vehicle) fuel tanks and H₂ ferry.

Example were also showed on multipurpose buildings and networks, with nearly-zero energy buildings combined with district heating, and on energy communities.

After this inspiring presentation, Fellow cities were provided with the materials:

- Web address of the PED Tool to open it in their computers
- User and Password already created, one per city, to log-in
- Summary of the information already gathered in task 6.1 about their selected PED area. It was structured in the way the tool asks the questions, so that they can refresh their memories if they don't remember certain area data.

Then, they have time to play with the tool with their Fellow groups, Cartif colleagues were around there to solve doubts or questions. The tool has different batteries of questions and then finally obtains a PED scenario, which is saved within their user log-in.

Finally, each Fellow City briefly presented the results they obtained, commenting if they expected such technologies, which type of PED they selected for their area (linked with the scenario obtained), and an interesting and dynamic discussion was held.

The session was successfully held. Fellow cities were interested both in the first presentation with the different examples of actual implementation in case studies and enjoyed the tool. They find the PED Tool interesting and useful and use it to show scenarios in municipal interdepartmental or with stakeholders. They were also keen to use it within their municipalities, with other colleagues from other departments, as well as selecting different parameters to some of the questions, to explore how the scenario changes.

SESSION D [COB] Citizen Engagement Decarbonisation Feasibility Analysis

Date: 30th March

Presenters: Jon Gonzalez (COB)

The session consisted on an exposition followed by a series of questions. The aim was to expose the work conducted by the city of Bilbao in the project DecarbCityPipes 2050. DecarbCitPipes 2050 is a european project where several cities take part (Bilbao, Vienna, Dublin...) and whose objective is to define strategies to decarbonise the thermal sector and phase out the natural gas in urban areas. The exchange of knowledge among cities and also from experts is really fruitful in order to progress on the challenge of decarbonisation.

Jon González, energy technician from the Municipality of Bilbao, presented a Power Point based on a decarbonisation feasibility analysis of solutions per district for the city of Bilbao. It must be underlined that this a first preliminar analysis for the city and hopefully in the future will lead to more specific and comprehensive studies.

The feasibility analysis considers three strategies for the decarbonisation: centralized district heating systems, individual systems such as heat pumps and the total refurbishment of the building sector. With the aim of indentifying which solution is more suitable for each district of the ciy, the analysis comprises of four layers: the renewable energy resources potential of the city, buildinbs characteristics, the urban design of the city and energy demand data.

As it is seen in the Table below, each layer is break down into several sublayers.

For example, for the buildings characteristics some subaspects are taken into account; the level of protection of buildings, which buildings are public, the current the fuel of the buildings chanhe and the configuration of the building energy system (individual or centralized boilers)

All that data has been collected in the project and included in the GIS tool controlled by Tecnalia.

Resources – Exchange of heat potential	Free spots and Green areas
	Cauce fluvial distancia
Buildings characteristics	Protected buildings
	Public buildings
	Fuel
	Configuration of the Heating system

Urbanismo	Degradada areas
	Planes futuros /incorporados - PGOU
Demanda energía	Heating demand (kWh/m2)
	Heating density
	Heating/cooling ratio

Table 3 GIS tool data

The evaluation of this variety of features was undertaken by a Pair to Pair approach. This strategy is particularly interesting and was accomplished individually for each of the three proposed solutions. The aim is to compare all the layers and sublayers by pair and assign a proportion among them and that finally shows each sublayer's importance for the three solutions.

For example, the table in green below (in Spanish) shows each sublayer's influence percentage (free spots and Green areas, degraded areas, heating demand...) for implementing a centralized DH systems solution.










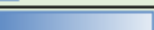

Peso final de la capa		
Espacios libres y zonas verdes		10,1%
Cauce fluvial distancia		10,1%
Edificios protegidos		5,2%
Edificios públicos		1,7%
Combustible		0,9%
Configuración de BES		10,9%
Áreas degradadas		0,7%
Planes futuros /incorporados - PGOU		4,7%
Heating demand (kWh/m2)		5,5%
Heating density		41,8%
Heating/cooling ratio		8,3%

Table 4 Sublayers percentages

Given the percentages above and their application into the GIS programme, the image below depicts the hotspots where DH systems will be more favourable in Bilbao.

Conclusions

The work was presented as a preliminary analysis carried out by the Municipality and Tecnalia. It does not involve any commitment in the short term, but the target is to focus on more specific feasibility reports of each area.

SESSION E [AUAS] Q&A SESSION

Date: 30th March

Presenters: Sara Rueda Raya and Willem van Winden (AUAS)

Cities had expressed they wanted to have time to share doubts and ask questions to other cities and experts. Therefore, AUAS decided to include time for that purpose. Cities were asked the following:

1. Each FC sits together.
2. Discuss and collect questions and doubts (3/5 questions).
3. Write each of them down on a sticky note.
4. Place them on the board under the right category.

Then an open Q&A took place where experts and cities could help each other and share their knowledge. Cities' questions helped the capacity-building team to pinpoint areas where cities are struggling and need the partners' help and further development.

Tour #1 Nordhavn area [Copenhagen]

The group visited the North Harbour district of Copenhagen through a guided tour by a representative of "EnergyLabNordhavn – New Urban Energy Infrastructures" – a project from 2015 until 2019 that turned the district into a full-scale smart city energy lab and demonstrated how electricity and heating, energy-efficient buildings and electric transport could be integrated into an intelligent, flexible and optimized energy system. The tour also included presentations on an app for more convenient charging of electric vehicles and the transformation of the City of Malmö in Sweden.

Tour #2 Heat Pumps [Copenhagen]

A smaller number of participants stayed one day longer to conduct a site visit to a medium sized heat pump and the heat pump of the Charlottehaven hotel. They discussed Charlottehaven's perspective on the balance between planning permissions and building integrated renewable energy production

5.2.5. Evaluation of the Training programme

AUAS included time during the event to conduct an evaluation session. We asked to write down the following questions to all participants:

- What did you like the most?
- What can we improve for the next time?
- What will you tell the rest of your Atelier team once you are back (your main takeaways)?
- Based on your takeaways, what action(s) will you propose to your municipality to take?

- What actions would you suggest to us to take?

Once participants wrote their answers. Then we had an open discussion to share and exchange thoughts. After analysing all the answers this is the outcome:

- Most participants liked the most getting to know each other better and having interactive sessions.
- Some participants found the agenda still too long and intensive.
- Most participants emphasised the importance of having more practical-oriented sessions.
- Partners expressed the need to involve more FCs in activities such as the steering committee.
- Some FCs indicated the need to have time to discuss essential topics in smaller groups.

5.2.6. Conclusions

Overall all participants and organizers were very satisfied. During this event, we tried to have a less intensive agenda, so participants could have time to get to know each other better and bond. We saw the positive outcome of this decision quite fast. Most FC tended to sit, interact, and stay among themselves during the first live event. However, during this event, participants mingled more, and there were more informal exchanges. Clearly, the group was more cohesive and bonded.

Regarding content, during this event, all sessions were better integrated and more aligned. Overall, the program had more cohesion. Sessions were also more interactive, with a clearly defined hands-on approach.

Still, there are improvements to take into account for future activities. We still need to work on the following:

- Having less intensive sessions. Keeping in mind the importance of informal knowledge exchanges. So cities and partners can continue bonding.
- Continue emphasizing the importance of practical sessions and alignment among the sessions.
- Integrate better the feedback received.
- Develop better mechanisms to dig more into what FCs really need. We tend to ask them what they need; however, sometimes they do not even know their needs since they lack the knowledge to assess that.

6. Coaching

- Coaches selection
- Coaching process

This activity was not fully implemented yet due to time constraints. It will be further developed and implemented in a new work package. The objective is to have coaches assigned to each city; they will act as a liaison to guide the city to connect with the right expert to facilitate knowledge sharing and problem-solving. In that way, the capacity building program can be more personalised and customized to the cities' needs. The coaches were linked to a city based on familiarity with that city, country, or culture. These are the current coaches + city:

FELLOW CITY	PARTNER/COACH
Riga	Cartif – Estefania Vallejo
Budapest	AUAS – Mark van Wees
Copenhagen	CoA – Rudy and Frans
Matosinhos	Tecnalia – Arantza Lopez
Krakow	Waag – Julia Jansen
Bratislava	TNO – Jeroen Brouwen

Table 5. FC + Coach

7. Deviations to the Plan

1. There were some deviations from the initial plan, mainly due to COVID restrictions:
2. The staff exchange activity did not take place.
3. During live events trainings and workshops were combined with site visits so time was used more efficiently and less traveling was required.
4. More events than expected took place online.

8. Outputs for Other WPs

By fostering knowledge sharing, problem-solving, skill enhancement, and relationship building, the capacity building task provides valuable outputs that enrich and empower other work packages in the following ways:

- g Knowledge Database: The capacity building task resulted in a wealth of shared knowledge and expertise. This has been collated into a comprehensive repository that can be accessed by other work packages for reference and application.
- g Best Practices and Guidelines: The learnings and experiences from the capacity building task has been used to develop best practices and guidelines, which has guided the strategies and actions in other work packages.
- g Human Resource Development: The capacity building task enhanced the skills and competencies of the staff involved, creating a pool of well-trained personnel. These individuals can then contribute effectively to the different work packages, bringing in their newly acquired expertise and insights.
- g Solution Identification: As the capacity building task involves identification of barriers and problem-solving, it generated practical solutions and innovative approaches that were implemented in other work packages.
- g Network and Partnerships: The connections and partnerships formed during the capacity building program were leveraged in other work packages. This facilitated collaboration, resource sharing, and joint problem-solving.
- g Feedback and Recommendations: The capacity building task generated valuable feedback and recommendations for improvements that were applied to other work packages to increase their effectiveness and efficiency.

All these outputs are directly interconnect to the following Atelier Workpages (see figure):

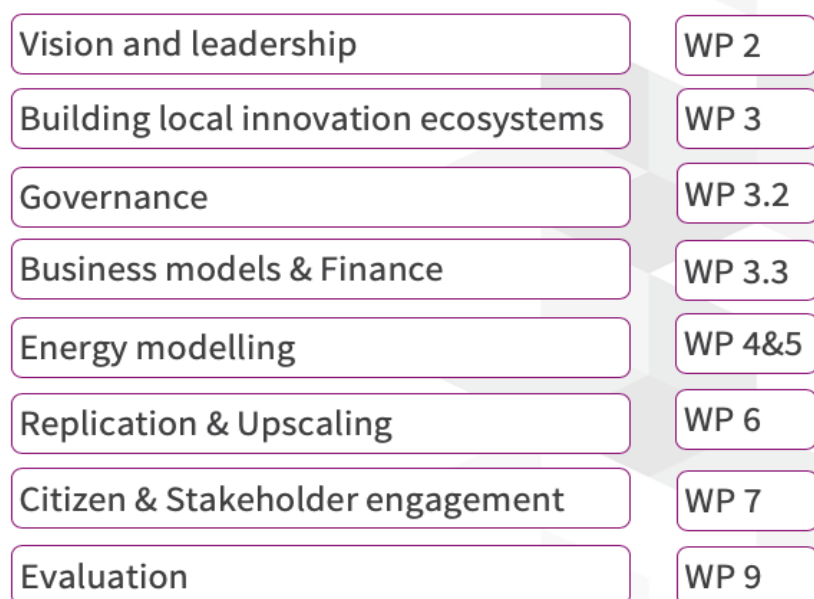


Figure 22. Connection with other WPs

9. Annexes

Annex 1 - Intake interviews reporting

City:	Budapest
Date:	05.11.2020
Name interviewee(s) and position	Kinga Toth – Project manager – shared with Rita; prepared proposal with Rita; working in climate affaires department Orsolya Nóra Fülöp – climate affaires department; develops climate strategy Rita Laduverné Andrasek – project managent unit Dóra Anna Kókai – project management unit
<p>A.U.A.S.: What do they already know and have in terms of P.E.D.s? (prepare for this question from survey material) BUD: Potential P.E.D. 1: Fehérdűlő [industrialised area, with huge potential] Fehérdűlő [industrialised area, with huge potential]</p> <p>A.U.A.S.: What are their existing plans in terms of replicating P.E.D.s from the L.C.s? BUD: Most actions to be taken by A.M.S. or B.I.L. could be good experience; would like to use in our investments, e.g. when preparing H2020 project for green deal on PEDS; we are preparing solar investments, have a project on solar energy integration into city live</p> <p>A.U.A.S.: What knowledge and skills do you think you need for executing your plans? Or do you maybe need help in identifying which elements from the L.C. P.E.D.'s you could replicate? BUD: We are interested in all areas of the P.E.D.s. Have knowledge on solar energy integration and stakeholder involvement, but would like to learn in all other areas. Most relevant at the moment seem Energy modelling and Monitoring&Evaluation.</p> <p>A.U.A.S.: Who are the staff members that you want to be trained? At which levels? Do you already have specific people in mind? What are their names? BUD: The three of us (Kinga, Orsolya and Dora) include the urban planning department (most architects, not engineers).</p> <p>A.U.A.S.: Train-the-trainer idea? Or do you prefer group trainings? BUD: Better to have group trainings, better for knowledge transfer. Good to have mix between training and coaching. Knowing that a training is followed up by coaching motivates us more.</p> <p>A.U.A.S.: Staff exchange? Do staff members want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards? BUD: Would be great, but don't know how long it could be. Would prefer do to it in person, but cost wise it only makes sense if there are specific things which you can only learn at the site (and not technical things that can be transferred via online meetings).</p> <p>A.U.A.S.: Would you like to receive staff from the L.C.s or more advanced F.C.s (in terms of P.E.D.s) to train/consult? BUD: Depends on know-how of that person. But would be good to have someone from Copenhagen.</p>	

A.U.A.S.: Can/Will you participate in the kick-off day during G.A. online [formerly in Copenhagen? Who will participate from your municipality?

BUD: We will be there, at least one person, possibly more. Discussed idea of sharing best practices, they are up for this. Can prepare a short presentation, e.g. on stakeholder involvement or solar integration.

A.U.A.S.: Would you like to be involved in a peer-2-peer coaching group (interview group)?

BUD: This was initial issue, it would be useful. But we already have many online meetings. We should allocate these tasks within this organization. We are interested. (-> discuss frequency during kick-off session.)

A.U.A.S.: Do you prefer coaching or group-training sessions (online or during demonstrations visits in F.C.s)? Or a combination?

BUD: s.a.: a combination

A.U.A.S.: In which areas would you like to be coached?

BUD: O: We started on Energy modelling, Spanish colleagues will present their two models. (Tecnalia). District level modelling. Also city level. -> coaching would be useful!

Dora: this is not my field as project manager

Kinga: Evaluation and monitoring is a huge issue; how to measure the impact of a new project, where to interrupt the new project. We need more experience.

Expertise: City and Stakeholder engagement., have presentation and share best practices We have best practice on Stakeholder engagement. We could use this. Budapest could present.

A.U.A.S.: Would you also like to act as coach? If yes, in which areas and on which subjects?

BUD: Citizen engagement, we had a project with De Waag. We can present this journey together. Climate assembly is a bit different way of engaging the people. Would prefer Presentation and not coaching.

We have a different department who works on citizen engagement.

A.U.A.S.: Would you like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would you like to act as a mentor?) What would you expect from the mentor/from this relationship?

BUD: Really depends on the topics. So, coaching would be better.

City:	BRATISLAVA
Date:	16/10/2020
Name interviewee(s) and position	
A.U.A.S.: What do they already know and have in terms of P.E.D.s? (prepare for this question from survey material)	
A.U.A.S.: What are their existing plans in terms of replicating P.E.D.s from the L.C.s?	
A.U.A.S.: What knowledge and skills do you think you need for executing your plans? Or do you maybe need help in identifying which elements from the L.C. P.E.D.'s you could replicate?	

A.U.A.S.: Who are the staff members that you want to be trained? At which levels? Do you already have specific people in mind? What are their names?

A.U.A.S.: Train-the-trainer idea? Or do you prefer group trainings?

A.U.A.S.: Staff exchange? Do staff members want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards?

A.U.A.S.: Would you like to receive staff from the L.C.s or more advanced F.C.s (in terms of P.E.D.s) to train/consult?

A.U.A.S.: Can/Will you participate in the kick-off day during G.A. online [formerly in Copenhagen? Who will participate from your municipality?

A.U.A.S.: Would you like to be involved in a peer-2-peer coaching group (interview group)?

A.U.A.S.: Do you prefer coaching or group-training sessions (online or during demonstrations visits in F.C.s)? Or a combination?

BUD: s.a.: a combination

A.U.A.S.: In which areas would you like to be coached?

A.U.A.S.: Would you also like to act as coach? If yes, in which areas and on which subjects?

A.U.A.S.: Would you like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would you like to act as a mentor?) What would you expect from the mentor/from this relationship?

City:	COPENHAGUEN
Date:	26/10/2020
Name interviewee(s) and position	
<p>A.U.A.S.: What do they already know and have in terms of P.E.D.s? (prepare for this question from survey material)</p> <p>A.U.A.S.: What are their existing plans in terms of replicating P.E.D.s from the L.C.s?</p> <p>A.U.A.S.: What knowledge and skills do you think you need for executing your plans? Or do you maybe need help in identifying which elements from the L.C. P.E.D.'s you could replicate?</p> <p>A.U.A.S.: Who are the staff members that you want to be trained? At which levels? Do you already have specific people in mind? What are their names?</p> <p>A.U.A.S.: Train-the-trainer idea? Or do you prefer group trainings?</p>	

A.U.A.S.: Staff exchange? Do staff members want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards?

A.U.A.S.: Would you like to receive staff from the L.C.s or more advanced F.C.s (in terms of P.E.D.s) to train/consult?

A.U.A.S.: Can/Will you participate in the kick-off day during G.A. online [formerly in Copenhagen? Who will participate from your municipality?

A.U.A.S.: Would you like to be involved in a peer-2-peer coaching group (intervision group)?

A.U.A.S.: Do you prefer coaching or group-training sessions (online or during demonstrations visits in F.C.s)? Or a combination?

BUD: s.a.: a combination

A.U.A.S.: In which areas would you like to be coached?

A.U.A.S.: Would you also like to act as coach? If yes, in which areas and on which subjects?

A.U.A.S.: Would you like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would you like to act as a mentor?) What would you expect from the mentor/from this relationship?

City:	KRAKOW
Date:	06/11/2020
Name interviewee(s) and position	
A.U.A.S.: What do they already know and have in terms of P.E.D.s? (prepare for this question from survey material)	
A.U.A.S.: What are their existing plans in terms of replicating P.E.D.s from the L.C.s?	
A.U.A.S.: What knowledge and skills do you think you need for executing your plans? Or do you maybe need help in identifying which elements from the L.C. P.E.D.'s you could replicate?	
A.U.A.S.: Who are the staff members that you want to be trained? At which levels? Do you already have specific people in mind? What are their names?	
A.U.A.S.: Train-the-trainer idea? Or do you prefer group trainings?	
A.U.A.S.: Staff exchange? Do staff members want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards?	
A.U.A.S.: Would you like to receive staff from the L.C.s or more advanced F.C.s (in terms of P.E.D.s) to train/consult?	

A.U.A.S.: Can/Will you participate in the kick-off day during G.A. online [formerly in Copenhagen? Who will participate from your municipality?

A.U.A.S.: Would you like to be involved in a peer-2-peer coaching group (intervision group)?

A.U.A.S.: Do you prefer coaching or group-training sessions (online or during demonstrations visits in F.C.s)? Or a combination?

BUD: s.a.: a combination

A.U.A.S.: In which areas would you like to be coached?

A.U.A.S.: Would you also like to act as coach? If yes, in which areas and on which subjects?

A.U.A.S.: Would you like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would you like to act as a mentor?) What would you expect from the mentor/from this relationship?

City:	RIGA
Date:	20/10/2020
Name interviewee(s) and position	
A.U.A.S.: What do they already know and have in terms of P.E.D.s? (prepare for this question from survey material)	
A.U.A.S.: What are their existing plans in terms of replicating P.E.D.s from the L.C.s?	
A.U.A.S.: What knowledge and skills do you think you need for executing your plans? Or do you maybe need help in identifying which elements from the L.C. P.E.D.'s you could replicate?	
A.U.A.S.: Who are the staff members that you want to be trained? At which levels? Do you already have specific people in mind? What are their names?	
A.U.A.S.: Train-the-trainer idea? Or do you prefer group trainings?	
A.U.A.S.: Staff exchange? Do staff members want to be exchanged? To where? To learn what? How long? Should the exchanged staff member act as a trainer afterwards?	
A.U.A.S.: Would you like to receive staff from the L.C.s or more advanced F.C.s (in terms of P.E.D.s) to train/consult?	
A.U.A.S.: Can/Will you participate in the kick-off day during G.A. online [formerly in Copenhagen? Who will participate from your municipality?	
A.U.A.S.: Would you like to be involved in a peer-2-peer coaching group (intervision group)?	

A.U.A.S.: Do you prefer coaching or group-training sessions (online or during demonstrations visits in F.C.s)? Or a combination?

BUD: s.a.: a combination

A.U.A.S.: In which areas would you like to be coached?

A.U.A.S.: Would you also like to act as coach? If yes, in which areas and on which subjects?

A.U.A.S.: Would you like to be connected to a mentor (for the duration of the ATELIER project)? (Possibly: Would you like to act as a mentor?) What would you expect from the mentor/from this relationship?

Annex 2 – Attendance P2P sessions

P2P SESSION COPENHAGEN	
Attendees	Company /City
Aija Zucika	City of Budapest
Begoña Molinete Cuezva	CEPV (Bilbao LHC)
Bodzási Péter	City of Krakow
Jeroen Brouwer	TNO (Amsterdam LHC)
Emanuel Sá	City of Matoshinos
Evita Riekstina	City of Bratislava
Patxi Hernández Iñarra	TECNALIA (Bilbao LHC)
Janis Andins	City of Bratislava
Jon Gonzalex	CEPV (Bilbao LHC)
Kirsten Dyhr-Mikkelsen	City of Copenhagen
Stefan Koczka	City of Krakow
Kristaps Kaugurs	City of Budapest
Kusiak Franciszek	City of Krakow
Laduverné Andrasek Rita	City of Bratislava
Andrzej Lazecki	City of Krakow
Lubica Simkovicova	City of Bratislava
Mara Reca	City of Riga
Nika Kotovica	City of Riga
Carol Pascual Ortiz	TECNALIA (Bilbao LHC)
Pedro Santos	City of Matoshinos
Renée Heller	AUAS (Amsterdam)
Sara Rueda Raya	AUAS (Amsterdam)
Marta Soluch	City of Krakow
Tore Gad Kjeld	HOFOR (Copenhagen)
Peter Bodzási	City of Budapest
Tyzcka Gabriela	City of Krakow
Estefanía Vallejo	CARTIF
Frans Verspeek	City of Amsterdam
Willen Van Widen	AUAS (Amsterdam)
Sara Rueda Raya	AUAS (Amsterdam)

P2P SESSION RIGA	
Attendees	Company /City
Aija Zucika	City of Budapest
Begoña Molinete Cuezva	CEPV (Bilbao LHC)
Bodzási Péter	City of Krakow
Jeroen Brouwer	TNO (Amsterdam LHC)
Emanuel Sá	City of Matoshinos
Evita Riekstina	City of Bratislava
Patxi Hernández Iñarra	TECNALIA (Bilbao LHC)
Janis Andins	City of Bratislava
Jon Gonzalex	CEPV (Bilbao LHC)
Kirsten Dyhr-Mikkelsen	City of Copenhagen
Stefan Koczka	City of Krakow
Kristaps Kaugurs	City of Budapest
Kusiak Franciszek	City of Krakow
Laduverné Andrasek Rita	City of Bratislava
Andrzej Lazecki	City of Krakow
Lubica Simkovicova	City of Bratislava
Mara Reca	City of Riga
Nika Kotovica	City of Riga
Carol Pascual Ortiz	TECNALIA (Bilbao LHC)
Pedro Santos	City of Matoshinos
Renée Heller	AUAS (Amsterdam)
Sara Rueda Raya	AUAS (Amsterdam)
Marta Soluch	City of Krakow
Peter Bodzási	City of Budapest
Tyzcka Gabriela	City of Krakow
Estefanía Vallejo	CARTIF
Frans Verspeek	City of Amsterdam
Willen Van Widen	AUAS (Amsterdam)
Mark van Wees	AUAS (Amsterdam)

P2P SESSION BRATISLAVA	
Attendees	Company /City
Aija Zucika	City of Budapest
Begoña Molinete Cuezva	CEPV (Bilbao LHC)
Bodzási Péter	City of Krakow
Jeroen Brouwer	TNO (Amsterdam LHC)
Emanuel Sá	City of Matoshinos
Evita Riekstina	City of Bratislava
Patxi Hernández Iñarra	TECNALIA (Bilbao LHC)
Janis Andins	City of Bratislava
Jon Gonzalex	CEPV (Bilbao LHC)
Kirsten Dyhr-Mikkelsen	City of Copenhagen
Stefan Koczka	City of Krakow
Kristaps Kaugurs	City of Budapest
Kusiak Franciszek	City of Krakow
Laduverné Andrasek Rita	City of Bratislava
Andrzej Lazecki	City of Krakow

Lubica Simkovicova	City of Bratislava
Mara Reca	City of Riga
Nika Kotovica	City of Riga
Carol Pascual Ortiz	TECNALIA (Bilbao LHC)
Pedro Santos	City of Matoshinos
Sara Rueda Raya	AUAS (Amsterdam)
Marta Soluch	City of Krakow
Peter Bodzási	City of Budapest
Tyzcka Gabriela	City of Krakow
Estefanía Vallejo	CARTIF
Frans Verspeek	City of Amsterdam
Willen Van Widen	AUAS (Amsterdam)

P2P SESSION KRAKOW	
Attendees	Company /City
Aija Zucika	City of Budapest
Begoña Molinete Cuezva	CEPV (Bilbao LHC)
Bodzási Péter	City of Krakow
Jeroen Brouwer	TNO (Amsterdam LHC)
Emanuel Sá	City of Matoshinos
Evita Riekstina	City of Bratislava
Arantza Lopez	TECNALIA (Bilbao LHC)
Janis Andins	City of Bratislava
Jon Gonzalex	CEPV (Bilbao LHC)
Kirsten Dyhr-Mikkelsen	City of Copenhagen
Stefan Koczka	City of Krakow
Kristaps Kaugurs	City of Budapest
Kusiak Franciszek	City of Krakow
Laduverné Andrasek Rita	City of Bratislava
Andrzej Lazecki	City of Krakow
Lubica Simkovicova	City of Bratislava
Mara Reca	City of Riga
Nika Kotovica	City of Riga
Carol Pascual Ortiz	TECNALIA (Bilbao LHC)
Pedro Santos	City of Matoshinos
Renée Heller	AUAS (Amsterdam)
Marta Soluch	City of Krakow
Peter Bodzási	City of Budapest
Tyzcka Gabriela	City of Krakow
Estefanía Vallejo	CARTIF
Frans Verspeek	City of Amsterdam
Willen Van Widen	AUAS (Amsterdam)

P2P SESSION BUDAPEST	
Attendees	Company /City
Aija Zucika	City of Budapest
Begoña Molinete Cuezva	CEPV (Bilbao LHC)
Bodzási Péter	City of Krakow
Jeroen Brouwer	TNO (Amsterdam LHC)

Emanuel Sá	City of Matoshinos
Evita Riekstina	City of Bratislava
Janis Andins	City of Bratislava
Jon Gonzalex	CEPV (Bilbao LHC)
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Pedro Santos	City of Matoshinos
Luis Magallanes	City of Matoshinos
Sara Rueda Raya	AUAS (Amsterdam)
Marta Soluch	City of Krakow
Peter Bodzási	City of Budapest
Estefanía Vallejo	CARTIF
Frans Verspeek	City of Amsterdam
Willen Van Widen	AUAS (Amsterdam)
Mark van Wees	AUAS (Amsterdam)

P2P SESSION MATOSINHOS	
Attendees	Company /City
Juanita Devis	AMS Institute
Kim Nathalia	Amsterdam
Corry Dekker	Amsterdam
Rudy Rooth	Amsterdam
Frans Verspeek	Amsterdam
Mark van Wees	AUAS
Sara Rueda Raya	AUAS
Darren Sierhuis	AUAS
Amagoya Madariaga	Bilbao
Jon González	Bilbao
Lubica Simkovicova	Bratislava
Jan Slimak	Bratislava
Andrea Borska	Bratislava
Reka Virag-Prokai	Budapest
Orsolya Fulop	Budapest
Barbara Kovacs	Budapest
Carla Alonso	Cartif
Gema Hernández Moral	Cartif
Angelo Giordano	Civiesco
Jon Romanilles	Cluster Energia
Begona Molinete	Cluster Energia
Kirsten Mikkelsen	Copenhagen
Cruz E. Borges	Deustotech

Deitze Otaduy	Deustotech
Marcel Eijgelaar	DNV
José Ramón López	EVE
Jesus Casafo	EVE
<i>Jurgen Duivenvoorden</i>	<i>Greenchoice</i>
Ana Yurena Garcia Gonzalez	Iberdrola
Uxue Goitia	Iberdrola
Alberto García Casa	Iberdrola
Andrzej Łazęcki	Krakow
Marta Soluch	Krakow
Franciszek Kusiak	Krakow
Kannan Ramachandran	PSI
Tom Kober	PSI
Machiel Brautigam	Republica
Māra Reča	Riga
Nika Kotoviča	Riga
Leva Kalniņa	Riga
Nienke van der Werf	Spectral
Julian Croker	Spectral
Fernando Barrientos	Steinbeis
Despoina Ntagiakou	Steinbeis
Regine Wehner	Steinbeis
Arantza Lopez	Tecnalia
Eduardo Miera	Tecnalia
Ane Sainz-Trapaga	Telur
Iñigo Arrizabalaga	Telur
Jeroen Brouwer	TNO
Eva Winters	TNO
Socrates Schouten	Waag
Tessel van Leeuwen	Waag
Julia Jansen	Waag
<i>Ellen Breed</i>	<i>Waternet</i>
Lorena Iglesias	Zabala
António Emídio	Matosinhos
Emanuel Sá	Matosinhos
Luís Magalhães	Matosinhos
Pedro Santos	Matosinhos
Tiago Lopes	Matosinhos
<i>Edwin Oostmeijer</i>	<i>Oostmeijer</i>
<i>Thomas Olszamowski</i>	<i>Fraunhofer</i>

Annex 3 – P2P sessions agendas

Copenhagen

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374



Agenda




Atelier Peer2peer session - Flex heat – Heat pumps - February 9th 2021

- 1:00 pm – Opening
- 1.10 pm – Presentation - city district heating company HOFOR
- 1.50 pm – Lighthouse cities – heat pumps experiences
- 2.00 pm – Q&A session
- 2.20 pm – Closing
- 2.30 pm - End


3

Riga

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374



Agenda



- **Mobility Management in Riga: Status Quo and Best Practices.** Nika Kotoviča, Urban Planning Expert, Riga Municipal Agency “Riga Energy Agency”
- **Mobility Point as the Public-Private Collaboration Platform and the Testbed for Collecting Open Urban Data.** Viesturs Celmiņš, Managing Director of Innovation movement “VEFRESH”
- **Reflections from ATELIER partner cities: Amsterdam and Bilbao**
- **Sprint Workshop:** (on the miro.com board, assisted by 2 coaches from the Riga team – Viesturs Celmiņš and Nika Kotoviča)
- **Q & A**
- **Closing**

3

Budapest

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374



Agenda



- **Joint planning experience in the case of the new Integrated Urban Development Plan** - Máté Szűcs, Municipality of Budapest.
- **Mobility points - from pilot to real life** - Kinga Lőcsei-Tóth, Municipality of Budapest.
- **Experiences and outcomes of the first Citizens' Assembly on Climate Change in Budapest** - Orsolya Fülöp, Municipality of Budapest.
- **Reflections from ATELIER partner cities: Amsterdam and Bilbao**
- **Q & A**
- **Closing**

3

Krakow

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374



Agenda



- **Presentation by Krakow – Climate Quarter**
- **Q&A**
- **Closing**

3

Bratislava

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 864374





atelier
Positive Energy Districts

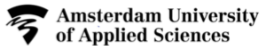
Agenda

- **Welcome**
- **Presentation by Bratislava – Experiences and plans of the city – creation of new urban spaces**
- **Q&A**
- **Closing**

6

Annex 4 – Live events Agendas

Amsterdam Live Event



Amsterdam University
of Applied Sciences

ATELIER Live event Amsterdam 4th – 5th – 6th October 2021

Name: Sara Rueda Raya & Shakila Dhauntal
Date: 30 August 2021

Creating Tomorrow

Planning Day 0 – 4th October

- Participants' arrival at Schiphol airport (instructions on how to get to hotels will be provided)
- Check-in – hotel - Bijlmer Arena area (we will reserve hotels for guest):
 - a. Hampton by Hilton
 - b. 16.30 - Social event at BLVD 020
 - Drinks and meet
 - Welcome by Frans and Mark
 - Presentation LIFE project in the ArenaPoort by Hans Roeland
 - Dinner

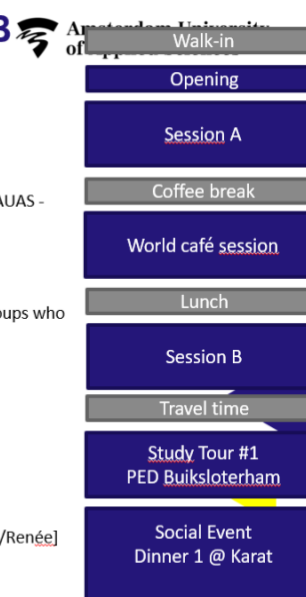

 Amsterdam University
of Applied Sciences


2

Creating Tomorrow

Planning Day 1: Amsterdam Bijlmer Arena - FMB

- 08.45-09.00 **Walk in:** with coffee
- 09.00-09.15 **Official opening:** Welcome! – [Frans Verspeek/Mark/Estefania]
- 9.15-10.45 **Plenary session (90 min):**
 - **SESSION A: The energy system of a PED** [AUAS – Karen/Renée]: Components of PED energy systems [AUAS – Karen/Renée]; Amsterdam's experience [COA – Rudy], Bilbao's experience [COB – Jon] + Q&A session
- 10.45-11.00 **Coffee break**
- 11.00-12.30 **World café session:** Each FC will bring a specific challenge (one person explains to rotating groups who will provide advices/recommendations) [Marije/Willem]
- 12.30-13.15 **Lunch Break**
- 13.15-14.45 **Plenary session (90 min):**
 - **SESSION B: Workshop on Innovation Ateliers** [WP3]
- 14.50-15.20 **Travel time**
- 15.30-17.30 **Study tour #1 PED Buiksloterham:** demonstration de Ceuvel, Schoonschip & Repubblica [Rudy/Renée]
- 17.30-18.00 **Travel time**
- 18.00-21.30 **Social event #1:** opening Frans Verspeek and Mark and dinner at Karaat



3

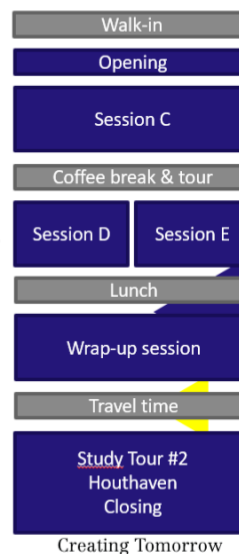
Creating Tomorrow

Planning Day 2: Amsterdam Zuid – Circl


 Amsterdam University
 of Applied Sciences

- 08.30-08.45 **Walk in:** with coffee and **Day Opening:** Welcome back
- 08.45-09.45 **Plenary session (60 min):**
 - **SESSION C:** City vision [Rudy & Tecnalia]
- 09.45-10.30 **Coffee break and building tour**
- 10.30-12.00 **Parallel Workshops (90 min):**
 - **SESSION D:** How to calculate PED balance [Cartif] - examples COA & COB [Rudy + Jon/Tecnalia] + Rénee helps due to online
 - **SESSION E:** Workshop on Citizen Engagement [Waag]
- 12.00-12.45 **Lunch Break**
- 12.45-14.00 **Wrap up session:** FCs what have you learnt? What are you going to work next? Future exchanges? [Mark/Aranka]
- 14.00-14.30 **Travel time**
- 14.30-16.30 **Study tour #2 Houthaven** [Rudy /Marije]
- 16.30 **Closing speech** [Frans]
- Informal Social event possible – nothing is officially planned

4





Copenhagen Live Event

2nd ATELIER Fellow Cities Event (28) – 29 – 30 – (31) March, 2022 Copenhagen

Time	What (description)	Who (lead / moderator)
	MONDAY - DAY 0	
19.00	Social event (OPTIONAL): Restaurant Yaffa, Gråbrødre Torv 16	Copenhagen
	TUESDAY - DAY 1 Location Nordhavn area Østerbrohuset, Århusgade 103, 2100 København Ø, Room 1 + Room 2 (Nearest S-train and metro station is Nordhavn Station)	
08:30 – 08:45	Opening remarks	Coordinator / Copenhagen
08:45 – 10:30	WP6/6.3 Part 1: FCs + Liaisons presentations (+ONLINE) 1. Assess your progress regarding your PED: a. Where were you a year ago? b. Where are you now? 2. Mention your next steps and open issues, problems & challenges that you are facing try to connect each with the WP that deals with them. Part 2: Barriers replication/upscaling (interactive act.) (NO ONLINE)	AUAS/CARTIF

10:30 – 10:45	Short break	
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 ATELIER Positive Energy Districts - GA No. 864374		
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10:45 – 12.15	WP3 - Innovation Ateliers - Role play (1) – Virtual city – different roles – negotiations [NO ONLINE]	TNO
12:15 – 13:00	Lunch break	
13:00 – 14:30	WP2 - City Vision (1) [NO ONLINE] Energy transition narratives of BaU and alternative scenarios: pathways for decarbonization – qualitative and quantitative sessions	TECNALIA
14.30 – 14.45	Short break	
14.45 – 16.15	WP2 - City Vision (2) [NO ONLINE] Energy transition narratives of BaU and alternative scenarios: pathways for decarbonization – qualitative and quantitative sessions	TECNALIA
16.15 – 16.30	Short break	
16:30 – 17:30	WP7 – PED Narrative + Stakeholder mapping (1) – Cartoons activity + Stakeholder related to roleplay activity [NO ONLINE]	WAAG

17.30 – 18.00	Short break + picture	
18:00 – 19:00	Site visit – Nordhavn area Guided tour around EnergyLab Nordhavn and informal networking	Coordinator / Copenhagen
19.15 – 22:00	Dinner - Restaurant Fryd & Gammen , Hamborg Plads 8, 2150 Nordhavn	Copenhagen
	WEDNESDAY - DAY 2 Waterfront area - Islands Brygge Kulturhus (cultural centre), Islands Brygge 18	



ATELIER | Positive Energy Districts - GA No. 864374



08:30- 08:45	Opening remarks	Coordinator Copenhagen
08:45 – 10:45	WP6 - Prioritization and Selection (ONLINE with constraints) 1. PED technologies prioritization; 2. Discuss specific Technologies	CARTIF
10:45 – 11:00	Short break	

11:00 – 12:30	WP3 - Innovation Ateliers (2) (ONLINE – presentation part only) What energy communities are in terms of typologies + framework	TNO
12:30 – 13:15	Lunch break	
13:15 – 14:30	WP7 – PED Narrative + Stakeholder mapping (2) (NO ONLINE)	Waag
14:30 – 14:45		
14:45 – 16:30	WP6.3 - Q&A session/Evaluation and moving forward (+ONLINE)	AUAS
16:45 – 19:30	Free time to socialise + drinks	Copenhagen
	THURSDAY - DAY 3	
8.00 – 9.00	Heat pumps expert meeting (OPTIONAL) Site visit to medium sized heat pump Oceankaj Cruise Terminal 1. Nearest Metro is Orientkaj and nearest bus 164 stop xxx We meet at Orientkaj Metro Station and walk together from there.	Copenhagen



ATELIER | Positive Energy Districts - GA No. 864374

9.00 – 9.30	Charlottehavens perspective on the balance between planning permissions and building "integrated" renewable energy production + visit to Charlottenhøven's heat pump Charlottenhøven Hotel, Hjørtinggade 12C, 2100 København Ø, room "Tårnet"	Copenhagen
09:30-12:00	Experiences with large heat pumps in Denmark and Copenhagen in particular Charlottenhøven Hotel, Hjørtinggade 12C, 2100 København Ø, room "Tårnet"	Copenhagen
To be organised	FCs + Coordinator bilateral talks	Coordinator



Annex 5 – Live events Attendance

Amsterdam

Attendees	FELLOW CITIES
	COPENHAGEN
HVA	Kirsten Dyhr-Mikkelsen
Renee Heller	RIGA
Mark van Wees	Nika Kotoviča
Shakila Dhauntal	Māra Reča
Sara Rueda Raya	Elīna Sergejeva
Karen Williams	BUDAPEST
Willem Winden	Orsolya Fülöp
Marije Poel	Dóra Kókai
TECNALIA	Johanna Maczák
Carolina Garcia	Kinga Lőcsei-Tóth
Arantza López	BRATISLAVA
TNO	Ingrid Konrad
Jeroen Brouwer	Lubica Simkovicova
Eva Winters	Viktor Kasala
Adriaan Slob	KRAKOW
AMS.ORG	Gabriela Tyczka
Aranka Dijkstra	Marta Soluch
Leendert Verhoef	Franciszek Kusiak
WAAG	
Socrates Schouten	
Julia Jansen	
Tessel van Leeuwen	
COA	
Frans Verspeek	
Rudy Rooth	
Corrie Dekker	
Kim Nathalia	
COB	
Jon Gonzalez	MATOSHINOS
DNV	Emanuel Sá
Ganesh Sauba	Antonio Emidio
AMS	Luis Magallanes
Hans Roeland	Pedro Santos

Copenhagen

ORGANIZATION	PARTICIPANTS
Amsterdam	Frans Verspeek
Amsterdam	Rudy Rooth
AUAS	Sara Rueda
AUAS	Willem van Winden
Bilbao	Jon Gonzalez
Bilbao	Amagoya Madariaga Olea
Cartif	Andrea Gabaldon
Cartif	Gema Hernandez
Cartif	Carla Rodriguez
PSI	Kannan Ramachandran
Steinbeis	Regine Wehner
Tecnalia	Arantza Lopez
Tecnalia	Eduardo Miera
Tecnalia	Patxi Hernandez
TNO	Eva Winters
TNO	Adriaan Slob
TNO	Jeroen Brouwer
Waag	Socrates Schouten
Waag	Julia Jansen

ORGANIZATION	PARTICIPANTS
Bratislava	Lubica Šimkovicová
Bratislava	Miroslav Dolnák
Bratislava	Andrea Borská
Budapest	Orsolya Fülöp
Budapest	Réka Virág-Prokai
Budapest	Barbara Kovács
Copenhagen	Kirsten Dyhr-Mikkelsen
Copenhagen	
Copenhagen	
Krakow	Andrzej Łazecki
Krakow	Franciszek Kusiak
Krakow	
Matosinhos	Luís Magalhães
Matosinhos	Pedro Santos (AdEPorto)
Matosinhos	Emanuel Sá
Matosinhos	Antonio Emidio
Riga	Nika Kotoviča
Riga	Elīna Sergejeva
Riga	Māra Reča

Annex 6 – Live events Activities Instructions

SESSION B [TNO] Innovation Ateliers – Workshop Instructions

Confidential instructions Energy coordinator, also chairman of the consultation

You have recently been appointed energy coordinator of the municipality of Oak Ridge. You were recruited 'fresh from outside' by the municipality for this position and you have just been employed for 2 months. You have several years of experience as a policy officer at another municipality and you have excellent knowledge of energy issues because you have a background in energy technology. So you are 'the right person in the right place'.

You have thoroughly read the municipality's sustainable energy plan. Since you have just been hired, you are not aware of the exact history, but you have already discovered an imbalance in the plan, which may have to do with the changes of objectives that have been made during the discussion in the City Council at the last minute. According to your calculations, a 50-50 split between energy savings and renewable energy cannot be made cost effective (meaning the cost of the measure can be recouped over the course of a number of years through the achieved cost savings) and the share of energy savings will have to be much higher. You don't know how high exactly, but it doesn't matter much to you either. You want to find out together with the invited parties which measures are required to create a total package of 100 eus, whether this is achieved through a ratio 80/20, 70/30, 60/40, or 50/50.

Although you lack the historical context, you do know that the aforementioned 50/50 split came about politically. The local green party managed to get the target of 50 eus sustainable energy in the energy plan during the meeting of the Municipal Council, through deft political maneuvering. Your alderman must appear in the Municipal Council with a compelling set of arguments if the ratio becomes anything other than the agreed 50/50. You have discussed this imbalance with your alderman. During this meeting with the interested parties, she has instructed you not to be satisfied with a plan of measures that does not meet the combined 100 eus through savings + renewable energy in total. Your alderman is willing to take charge of defending a different division between sustainable energy and energy saving in the Municipal Council, provided all parties are behind a combined 100 eus through savings + sustainable energy and that there is a sound financing plan in place (this was also one of the requirements of the City Council). The City Council will meet tonight about the "Sustainable energy plan Oak Ridge" and expects announcements from the alderman this evening about the progress made. You must therefore brief your alderman immediately after this meeting and you will only have 45 minutes to discuss the measures with the invited parties.

The sustainable energy plan includes a measure for the municipality itself that the municipality is responsible for energy savings of 5 eus. The costs of 2.5 million euros are included in the municipal budget. An amount of 150,000 euros per year has also been included to supervise and monitor the energy plan (so you will be paid from this item). Furthermore, the municipality has no means to pay for the measures. Possibly another 200,000 euros per year can be found in the municipal information budget for communication measures, but that is about it. You are therefore dependent on financing by the parties themselves and you also count on the bank being able to provide loans for cost effective measures.

As an energy coordinator, you chair this meeting. You intend to open the meeting by asking each party to briefly introduce themselves and tell them what measures they prefer. Then you want to ask each party to further explain the broader interest of his/her organization or constituency, in order to find overlapping interests. After all interests are clear, you want to discuss which (combinations of) measures are possible.

To ensure that the meeting runs smoothly, keep the following communication rules in mind:

- do not interrupt other stakeholders when they have been given the floor
- stay polite at all times
- no personal attacks
- speak only when you are given the floor by the chairman (that is, you)

It is up to you whether you want to share these rules with the participants in advance, or whether you want to see how things are going and intervene in the meantime, if necessary.

As mentioned, you only have 45 minutes to jointly formulate a feasible and affordable package of measures. Good luck!

Confidential instructions Energy company director also local grid operator

You are the director of the energy company and you are also responsible for managing the – outdated – local electricity grid.

You have been involved in the preparation of the Municipality's sustainable energy plan and are still very surprised about what happened in the Municipal Council during the adoption of the energy plan. Without any consultation, the already ambitious goals have been adjusted and you have not been contacted afterwards. You simply feel insulted by it. You think the current goals are very ambitious and you know that they can never be achieved through equal use of energy savings and sustainable energy generation. The share of energy savings will have to be much higher. One of the technical employees – someone you know to be very knowledgeable – has calculated the following potential effects of various measures, which you can take as an energy company:

	Easily achievable		Difficult to achieve	
	Energy (eus)	Cost (million)	Energy	Cost
Energy saving	20	10	30	20
Renewable energy	10	25	20	50

These effects can be achieved through unilateral actions by your company (and this table thus says nothing about the potential contributions of other parties). The difficult-to-achieve measures include the "easy ones": it is therefore not the case that both columns may be added together.

As a company, you have made 25 million available in the budget for the measures. If you take more measures than you can afford, you must seek financing from the bank. You have no objection to that, but you never want to borrow more than the amount you invest yourself.

There is one big “caveat”: the current, outdated electricity grid can only absorb a share of sustainable energy at a maximum of 15 eus. If more sustainable energy generation capacity is installed, a grid reinforcement is required, which entails a considerable investment, namely 30 million euros. This is an exorbitant amount that you do not want to borrow or finance yourself. You therefore want to avoid grid reinforcement at all costs. Energy saving measures postpone the need for grid reinforcement and is therefore a great measure in your view.

You see a formidable “competitor” in the local energy cooperative, and one that might erode your position in the local energy market over time. They strive for the lowest possible energy price and can achieve this by collectively purchasing electricity and gas from another energy company at low rates. You also know that the energy cooperative has wind energy and PV solar energy high on its wish list. Their own plan states the objective that they want to realize at 50 eus of sustainable energy, but that is only possible if you make significant (and costly) investments in the electricity grid. You would therefore like to move the energy cooperative in the direction of energy savings, where higher savings can be achieved at a much better rate of return. You even see opportunities for collaboration here if that means that the cooperative purchases the energy from you. Furthermore, you would rather install sustainable energy yourself than leave it to the energy cooperative. After all, that is your core business and that way you can earn money yourself.

Confidential instructions Director of the local bank

You are director of the local bank (which was founded as a credit union, with a strong emphasis on local and socially responsible investments). Your bank aims to finance socially important projects and responsible companies by means of profitable loans. From the national office of the association of credit unions, the sustainable energy plan of the municipality is seen as an interesting socially responsible project, in which the bank is happy to play a role. You have therefore received clear instructions:

- The bank has reserved a maximum amount of 60 million euros for loans for profitable investments. The bank is prepared to provide these loans on favorable terms;
- In light of the financial crisis, the loans you provide must be “good” and there must be a clear prospect that they will eventually be repaid. So they shouldn't be risky
- Because of this moratorium on loans deemed “risky”, you prioritize lending to sound institutions such as the housing corporation and the energy company. The energy corporation can borrow a maximum of 30 million euros from you. You are not prepared to provide more, as the risk then becomes too great. You do not intend to say this openly, because you do not want to offend the parties present. They will hopefully turn into long-term clients!;

You were not involved in the drafting of the energy plan and the history is not of much interest to you. More importantly, there is an opportunity here to make the municipality of Oak Ridge climateproof, a goal to which you are happy to contribute.

An energy expert consulted has indicated to you that 100 eus in total savings of fossil energy should in principle be feasible, but that a 50-50 split between energy saving measures and renewable energy measures will not be profitable. The share of energy savings will have to be much higher. More close to 70/30 or 80/20 than the 50/50 from the energy plan.

In the meeting you want to agree on a feasible package of measures with the other parties, for which you would like to provide some form of financing. However, the package must then be feasible and provide some (potentially modest) level of return on investment.

Confidential instructions chairman of the energy cooperative “Tailwind”

You are chairman of the energy cooperative “Tailwind”. As an energy cooperative, your members can jointly purchase energy at a lower price and start collective energy-saving and sustainable energy projects. The cooperative thus fulfills an important social function, also for people in the lower income brackets. Your cooperative's membership mainly consists of private home owners (as opposed to institutional or corporate members), which means that there is no capital available to finance projects. You have to borrow everything on the market.

You were involved in the development of the municipality's sustainable energy plan in two ways. You took part in the consultation on the draft energy plan of the municipality. At the time, however, you considered the stated objectives to be very conservative and far too "weak". In advance of the formal consideration of the plan in the City Council, you used your influence and encouraged a local party colleague of the “Green Party” to argue that much higher shares of sustainable energy are possible. Your own plans state that you (as an energy cooperative) want to realize 50 eus in sustainable energy and these goals have ultimately ended up in the sustainable energy plan during the discussion in the Municipal Council. You see this as an important victory for your cooperative. Your members are convinced of this contribution.

You therefore strive for as much sustainable energy as possible in the municipality. The problem for you, however, is that you feel opposed by the local energy company, which gives very low reimbursements for electricity supplied. You also have problems finding the financial means for the wind and solar power stations that you want to realize locally. You have not yet given much thought to the possibilities of energy saving. Your members tend to get much more excited about sustainable energy generation, as opposed to measures that result in energy savings. However, you are curious about the possibilities that energy savings might offer your cooperative and you have had a friend in an engineering firm do a rough calculation. This shows that energy saving measures offer a very interesting potential reduction, and that hypothetical reduction is even higher and more profitable than that of generating additional electricity using renewable sources. But you will have to convince your members of this.

From the engineering firm's report:

	Easily achievable		Difficult to achieve	
	Energy (eus)	Cost (million)	Energy	Cost
Energy saving	10	5	20	15
Renewable energy	10	20	20	40

These outcomes can be achieved by implementing measures within your cooperative and its membership (and therefore says nothing about potential contributions by other parties). The

difficult-to-achieve potential includes the "easy part": it is therefore not the case that both columns may be added together.

You would like to contribute to the goals set in the municipality's sustainable energy plan. It would be a shame if it didn't work now! You will have to borrow the necessary investments in full from the bank.

Confidential instructions Director Housing Corporation "Oak View"

You are director of the non-profit housing corporation "Oak View". Your organization is facing turbulent times, both because of persistent scandals about financial mismanagement at other housing corporations in the region and more directly due to sharp reductions in subsidies you receive from the national government. There is also gossip and backbiting within your own municipality about the financial management of Oak View itself, which, however, was based on nothing (except on the behavior of other "irresponsible corporations"). In the sustainable energy plan of the municipality you see the opportunity for rehabilitation by showing that housing corporations, or at least Oak View, can produce socially and environmentally beneficial outcomes in a fiscally sound manner through collaborative service delivery.

You have been involved in the preparation of the Municipality's sustainable energy plan and are still quite surprised about what happened in the Municipal Council during the adoption of the energy plan. Without any form of consultation, the already ambitious goals have been adjusted. There was never any contact with you after that, until this meeting. However, you do not intend to escalate this issue: the housing association is already subject to constant public scrutiny and criticism, you don't want to contribute to a general sense of mistrust in institutions. You think it wiser to show how a range of organizations and institutions can deliver tangible results for the community. You would therefore like to contribute to achieving the goals from the municipal sustainable energy plan. However, you have serious doubts about the expected equivalent shares of energy saving and renewable energy. In your opinion, the share of renewable energy has been estimated at unrealistically high levels, but since you have nothing to do with it, don't worry too much about it.

One of the housing corporation's technical employees has calculated the following energy savings potential that you as a housing association can realize in your own housing stock:

	Easily achievable		Difficult to achieve	
	Energy (eus)	Cost (million)	Energy	Cost
Energy saving	20	10	30	20

These savings can be achieved by your organization alone, within current housing stock, (and therefore says nothing about the contributions of other parties). The difficult-to-achieve potential includes the "easy part": it is therefore not the case that both columns may be added together. The difficult part involves a major renovation operation, which is quite expensive, hence the cost increases almost exponentially. Renewable energy is of no direct value to your organization's bottom line, and you consider this an "unrelated activity". The energy company or the energy cooperative (which you think is a bit of an "elitist" association: mainly home-owners are members) should take care of that share. However, joint arrangements will not work against you. If proper agreements are made about it, it is best to place solar energy on "your" roofs.

You can make 5 million available in your own budget for energy-saving measures. This is really the maximum, since you are already operating with little or no margin. You will have to borrow the rest of the required money from the bank. However, the amount of the loan is not a problem for you. You would like to learn more about the conditions attached to such a line of credit.

As mentioned previously, you would like to contribute to the stated goals of the municipality's sustainable energy plan, as this could significantly improve your organization's reputation.

SESSION D [WAAG] Citizen Engagement Report Storytelling and Stakeholder Engagement Workshop – FCs PED Stories

Amsterdam



Where

Buiksloterham, dense area, demolition & rebuild. 'Regeneration of former industrial area'

For whom

High income class, connected, busy.

Question is how to integrate these new residents in current population.

What is the main innovation

Energy trading & flexibility solutions

Awareness, sustainability conscious

Most important challenge

Involvement of resident community Schoonschip

Trading with Republica inhabitants

Stakeholder needed in challenge

Schoonschip & republica population

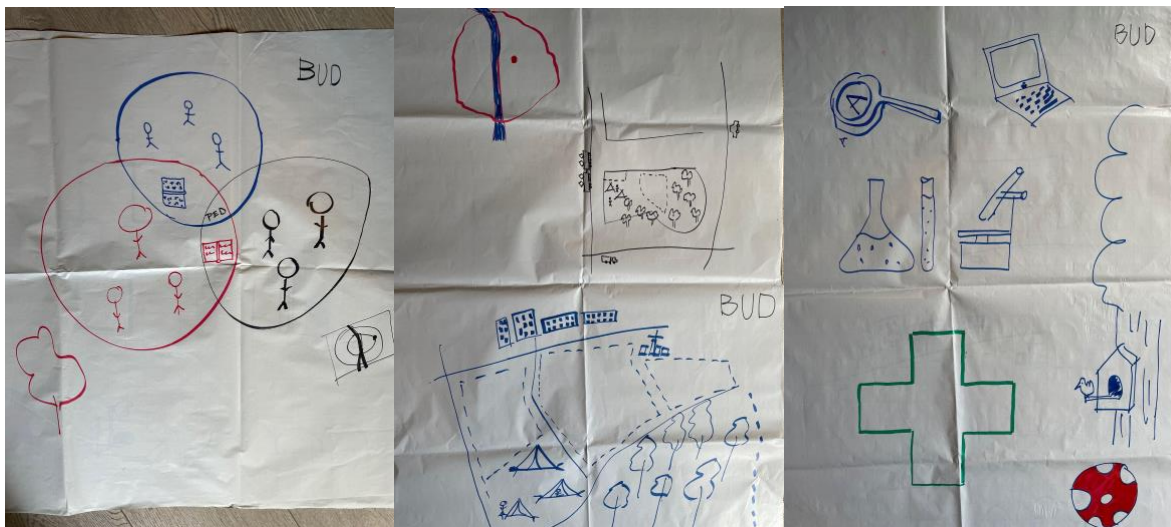
Needs of stakeholder:

- Recognition
- Risk reduction
- Reimbursement

Pitch

We offer working together, a sound privacy agreement and an intervention meeting with answers to your questions.

Bilbao



Where

Zorrozaurre, as example of urban regeneration

- island connected with rest of the city
- 3 PED zones: north, center, south of the Island
- new construction & refurbishment
- mis of uses: educational, residential & cultural

For whom

- citizens
- students
- cooperativism

What is the main innovation

Geothermal ring & network connected to it

Further:

- PV
- EV chargers

- Smart poles
- Energy Management System

Main challenge

Connection of new residential developments (developers, cooperations, users, ...) to the geothermal ring.

Stakeholders we need

Technology developer

Developers

Final users

Pitch to stakeholders

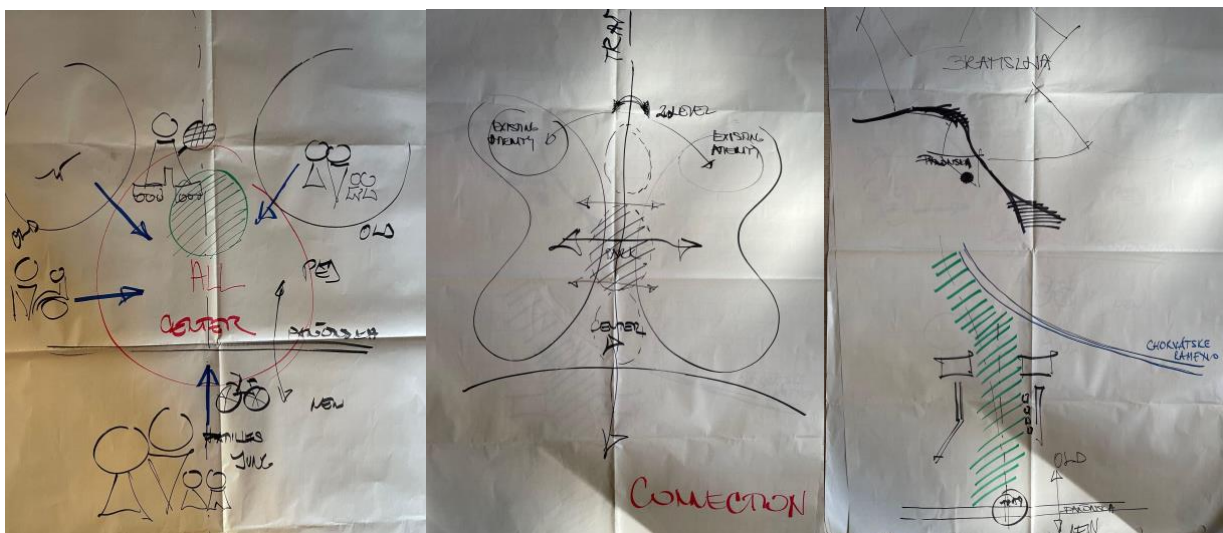
To technology developer:

- This is an initial phase with ambition to expand to bigger area and make more profitable investment
- side ecobenefits: improvement of social benefits

To users & developers:

- more sustainable energy system (zero emissions)
- in current situation competitive
- stability in prices - autogeneration

Bratislava



Where

District of Petržalka Janíkove Dvory - [new area / greenfield](#)

Who

Families, new and existing

Citizens

What

Connection: among people, different functions, different district parts & different levels.

Main challenge

The most important challenge we want to tackle: to realise our pilot P.E.D. according to our planned concept

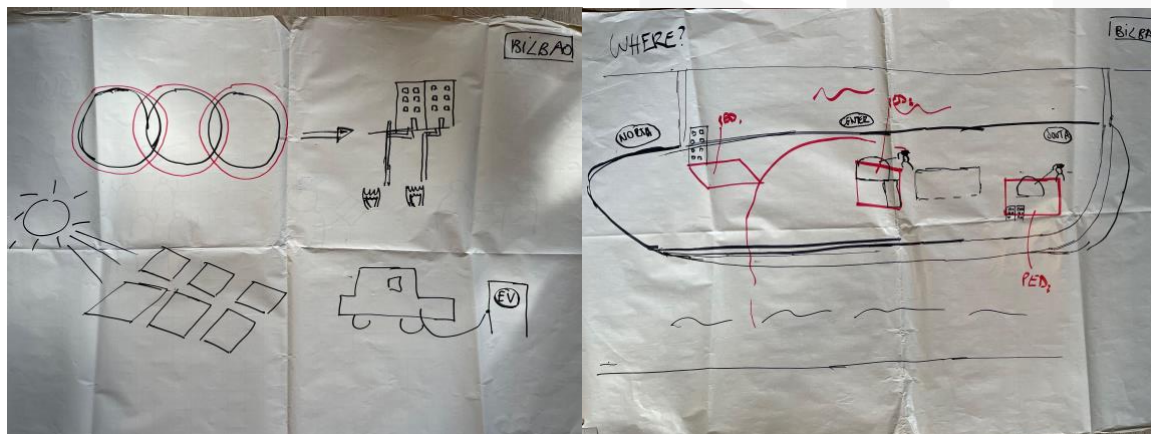
Stakeholders

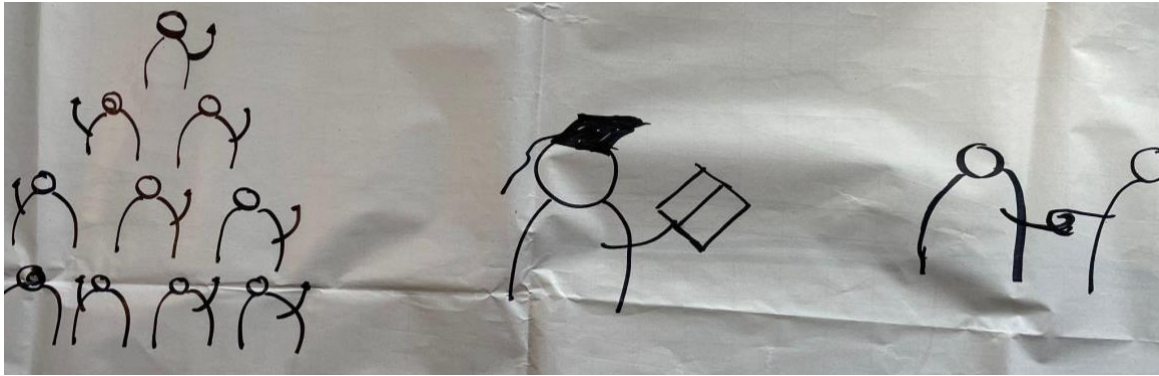
- neighbouring housing associations
- developers
- renewables companies & producers
- public transport company
- water company Bratislava
- Infrastructure company
- Lighting company
- D.H.N. company

Pitch towards stakeholders

- Better quality of life
- Energy Independency
- pilot project
- integrating missing functions of the area
- connections of the old and new part of petralka
- new district center
- new leisure activities & park

Budapest





Where

- [abandoned brownfield area](#)
- [central location in Budapest](#)
- [surrounded by several traffic lines \(rail, tram, road\), well connected](#)
- [mixed ownership of land](#)

For whom

[Commercial](#) activity, [leisure](#) activity and [R&D](#). There is proximity to pharmaceutical companies.

What is the main innovation

Cooperation between various departments of the municipality in the planning process, from an early stage on.

Main challenge now

Convincing the decision makers in the municipality not to sell the land, but consider various options for development. By developing a business model to demonstrate how the city can generate income from the land / P.E.D. project (without selling the land)

Stakeholders needed

Head of property management company of Budapest.

Interest: maximising income, minimising costs and tasks related to maintenance of the area

need: business model

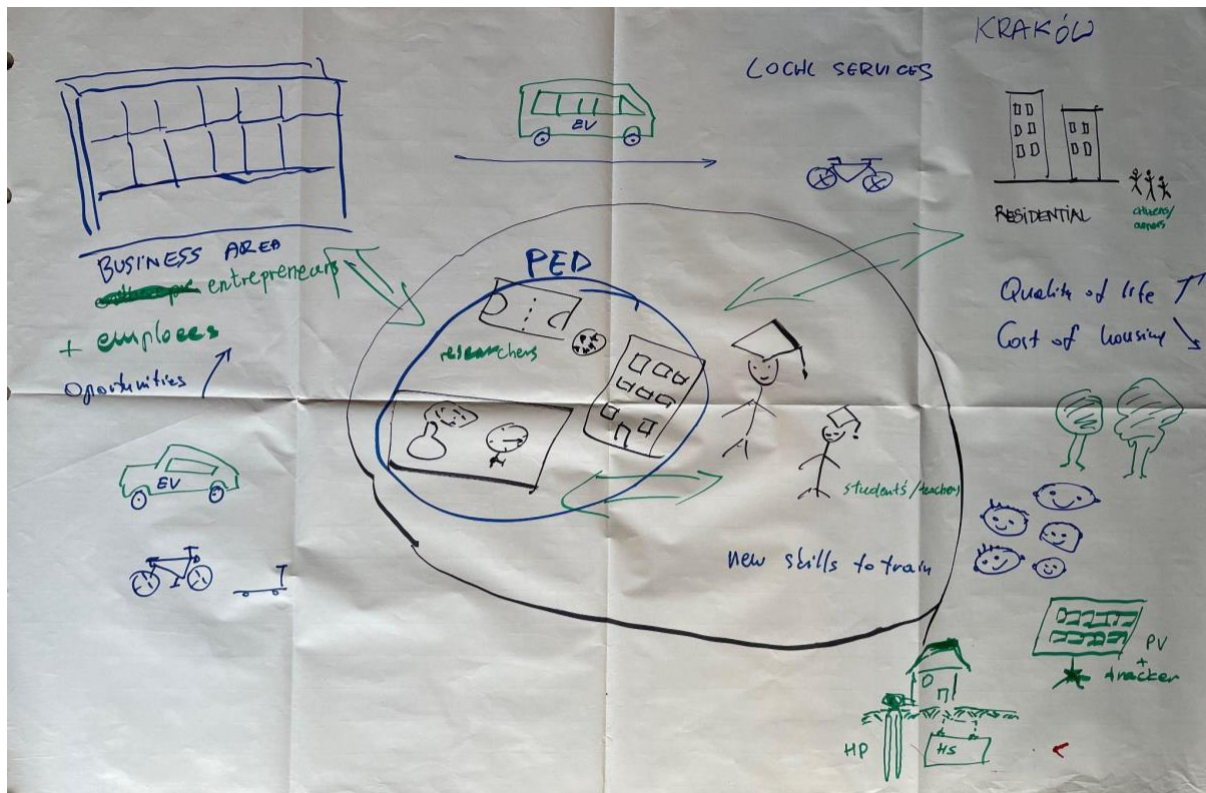
Pitch

Urgency: this is one of the last large areas owned by the municipality. We should get the best out of it. By developing the area, we might generate more income in the long term than when we sell the area.

Offer: let's make a decision based on various options and business models

Question: who can you delegate to our team to explore possibilities before the decision?

Krakow



Where

University Campus, in the neighbourhood of a residential and business area.

For whom

Entrepreneurs: new job opportunities & new job places

Residents: energy community

Researchers and students: training possibilities

What is the main innovation

System integration

New business models

System optimisation

Heat storage and batteries

Most important challenge

Business involvement in the establishment of an Innovation Atelier

Main stakeholders needed

Technology supplier, with needs & interests:

- Product optimization in terms of production cost
- Demo that shows possibilities in the real world

Pitch to stakeholder

Stay ahead of competitors by joining the Innovation Atelier and creating partnerships

Use this opportunity to development of products for a real world situation

Matosinhos



Where

Pilot area 1: [business center](#)

Pilot area 2: [social housing](#)

[River banks](#): walking & cycling

Water mills

[Green areas](#)

For whom

Workers (business center)

Residents (social housing)

General people

What is the main innovation

River banks recovery (green corridor / ecoway)

Recovery of water mills (production of energy)

Refurbishment of social housing (energy poverty)

Implementation of energy community

Public lighting & E.V. charging

Most important challenge

Community involvement and engagement in de PED's concept

Stakeholders we need

Private stakeholders who invest – LEONESA Business Hub

Their needs & interests:

- space rentability
- sustainable hub to capture new tech enterprises
- sustainable mobility for workers & consumers

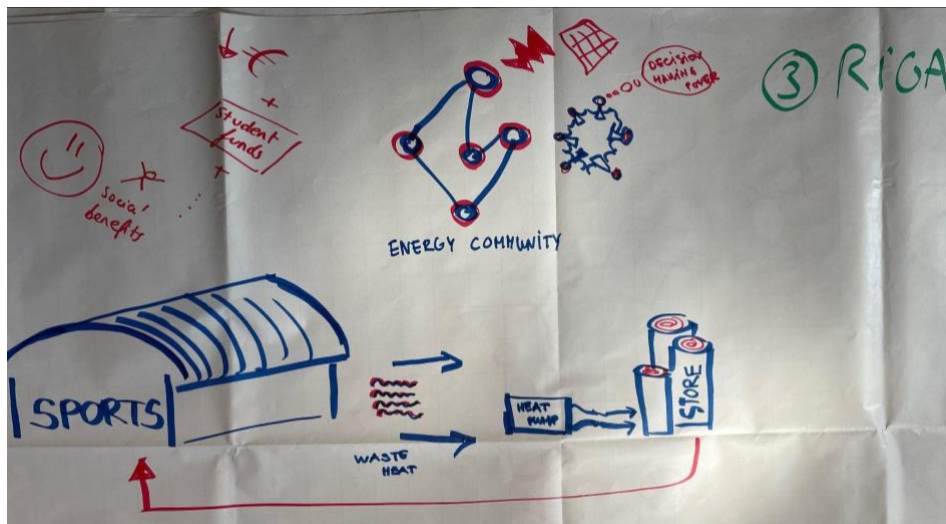
Pitch

- Urges to resolve mobility issues
- energy transition towards carbon neutrality

"If you really want to become a sustainable hub, do you embrace the challenge of the municipality, invest in becoming greener and commit to these goals?"

Riga





Where

Skanste - 21st century urban development site (huge development potential)

For whom

Local residents, business entertainment consumers (due to large sports facilities and concert hall in the area)

What is the main innovation

Energy community

- self sufficient
- public & private
- innovative

Challenge

Setting up the functional business model. How to offer an attractive business case for the largest stakeholders? Those who might be able to invest private funding in PED development?

Urgent need for self-sufficiency & new national subsidy program for renewable energy sources.

Stakeholders needed in next step

Local businesses, locals:

- Olympic center
- concert hall / sports center

Annex 7 – Evaluation Live event Amsterdam

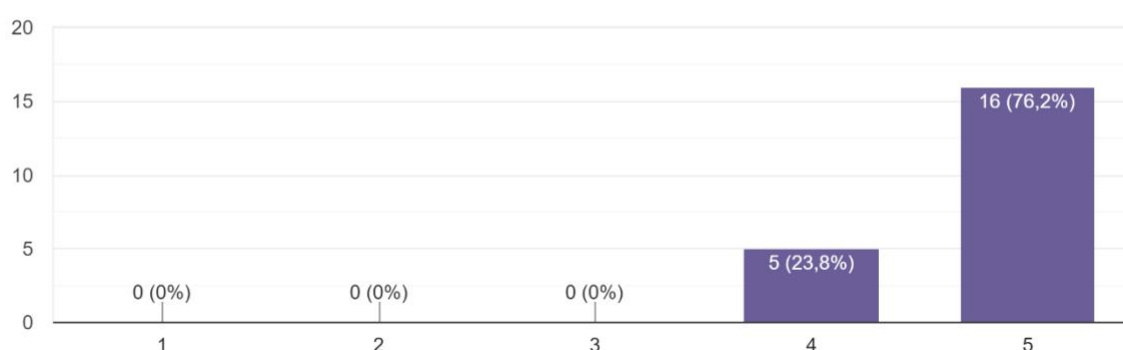
Results Evaluation Form Atelier Live Event 4-5-6 October 2021 Amsterdam

After the event, the AUAS has sent out an online evaluation form to assess whether the event measured up to the needs and expectations of the participants. The evaluation consisted of three sections: (1) the overall level of satisfaction and relevance of the event, (2) the participants' experience of the workshops, excursions, and social activities, and (3) general remarks and recommendations for future events. This evaluation form was completed by 21 participants.

Section 1: The overall level of satisfaction and relevance of the event

How satisfied are you with the event?

21 antwoorden

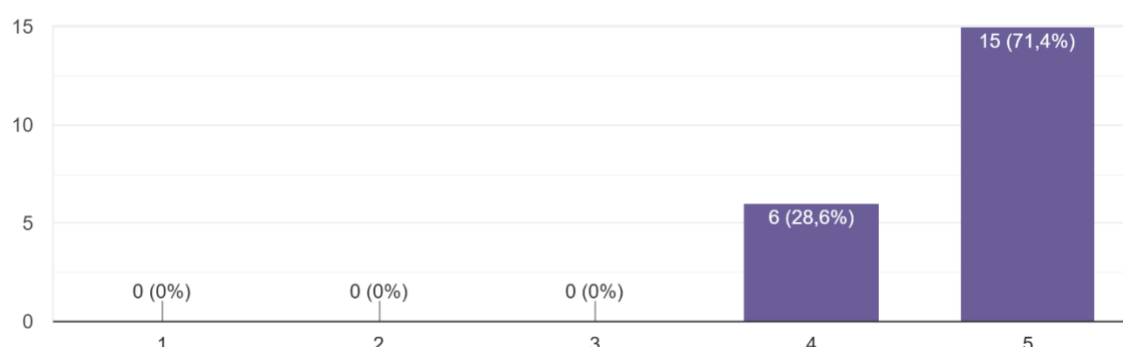


Graph 1: Level of Satisfaction Event

The majority of the participants was satisfied with the event ranking it a 5/5.

How relevant and useful do you think this was for your activities?

21 antwoorden



Graph 2: Level of Relevance Event For Activities

The majority of the participant found the event useful for their work activities.

Upon asking why this event was important, participants replied:

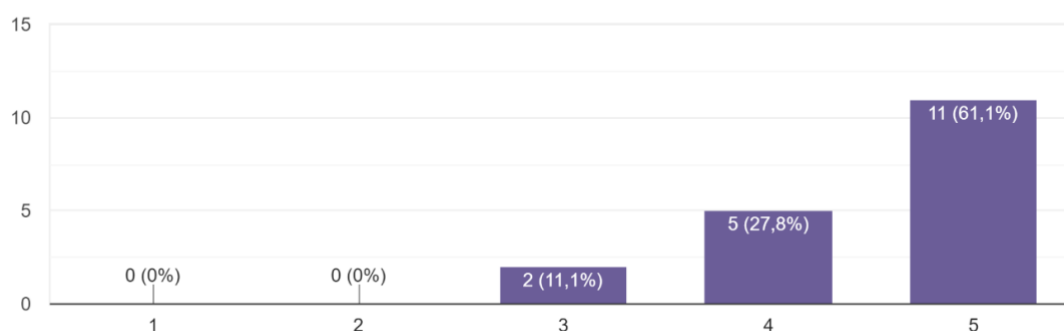
- “Better understanding of PEDs”
- “The sharing of projects from each city for the first time in the form of personal and live contact.”
- “It was useful to have a better understanding of Bilbao's and Amsterdam's PED project. Besides, it was very interesting to learn more about the practicalities of urban design during the city walks”
- “Several aspects: better understanding of PED concept; new knowledge of activities implemented in Lighthouse cities and Fellow cities, insight in the activities of Amsterdam... and much more!”
- “detailed information about the project and challenges of project partners”

Section 2: Evaluation of the seminars

Session A

How satisfied are you with Session A: PED Energy System?

18 antwoorden



Open answers

What was good?

- Better picture of PEDs
- Clearly presented, well explained

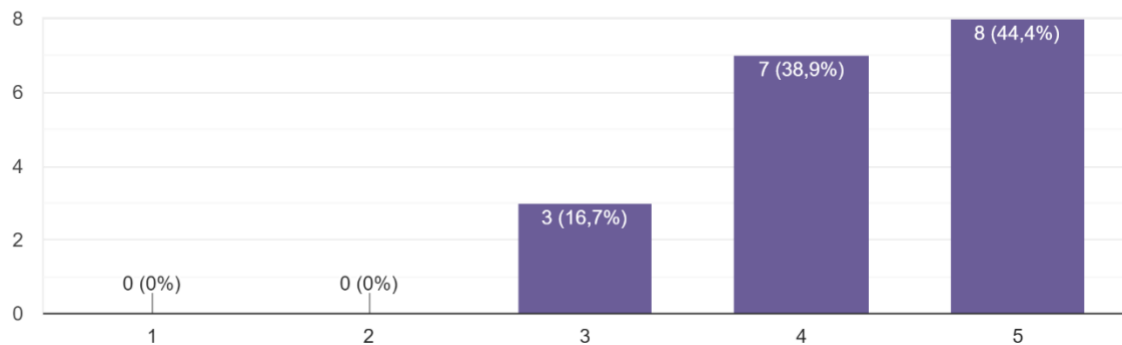
What could be improved?

- Too theoretical to some people
- Could have been more interactive

Session B

How satisfied are you with Session B: Innovation Ateliers?

18 antwoorden



Open answers

What was good?

- Interactive
- Theoretical part well explained

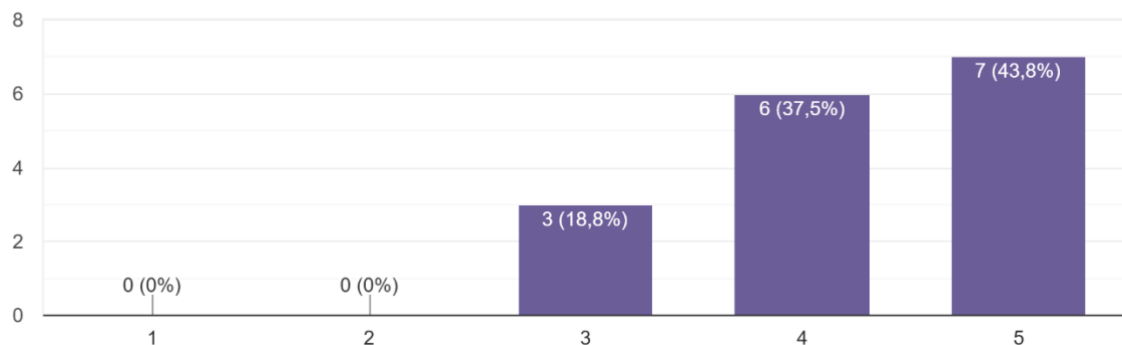
What could be improved?

- Unclear about Innovation Ateliers in terms of purpose, course, and expected results

Session C

How satisfied are you with Session C: SWOT Analysis & 2050 Vision?

16 antwoorden



Open answers

What was good?

- Inspiring presentation
- clear information about goals and expectations
- Nice to see progress

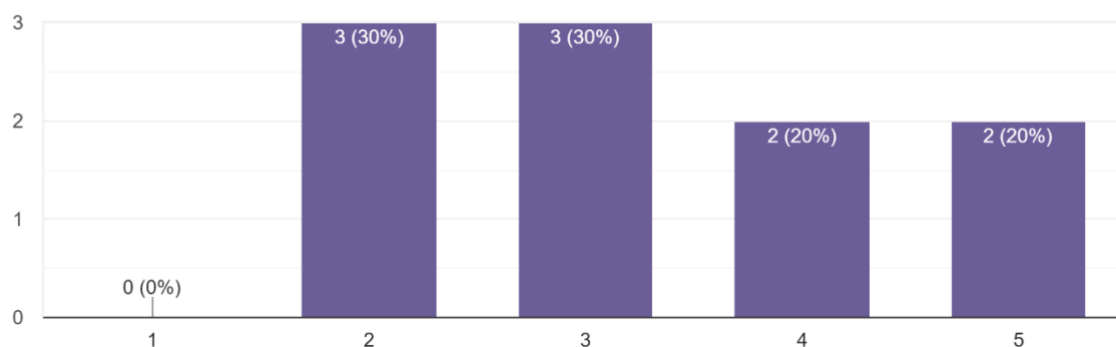
Points of improvement

- too specific for one area

Session D

How satisfied are you with Session D: PED Calculations?

10 antwoorden



Open answers

What was good?

- It provided a basis to understand how PED balance is viewed
- Well prepared methodology
- Good examples

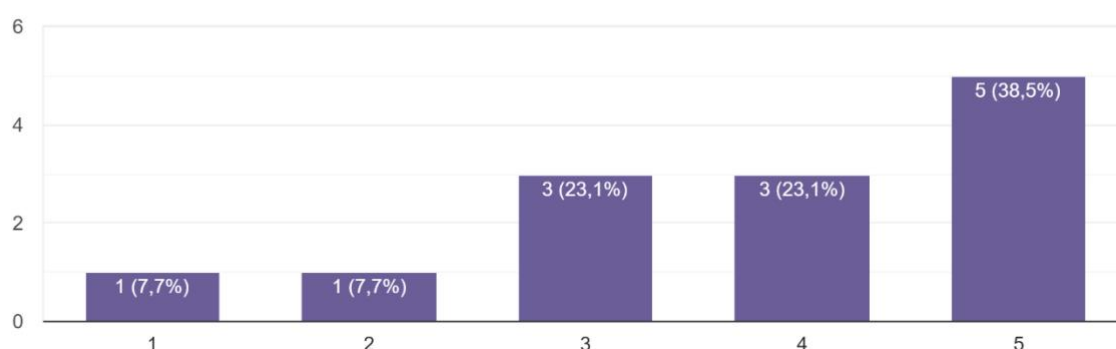
Points of improvement

- Task given was not suited for group work
- Not enough time
- focus calculations at district level would have been better

Session E

How satisfied are you with Session E: Citizen Engagement?

13 antwoorden



Open answers

What was good?

- Good exercise
- Learning new methods

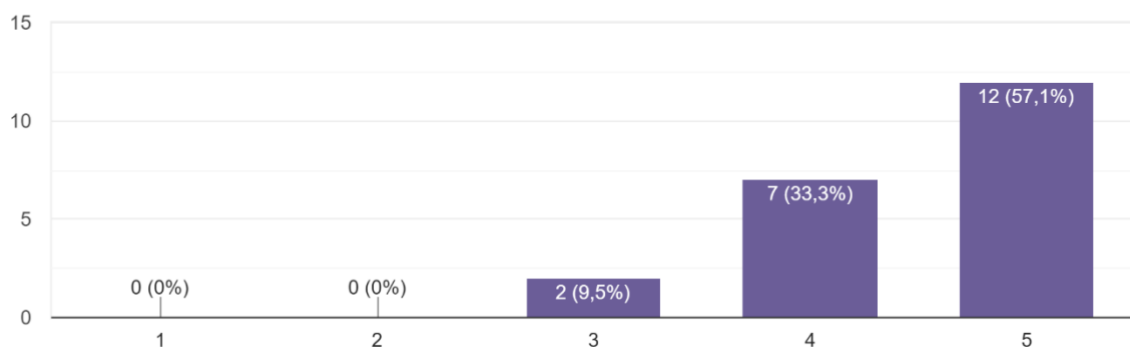
Points of improvement

- Insufficiently aligned to what WP7 will contribute to Atelier
- Exercise meagre attempt

World Café Session

How satisfied are you with the World Café Session?

21 antwoorden



Open answers

What was good?

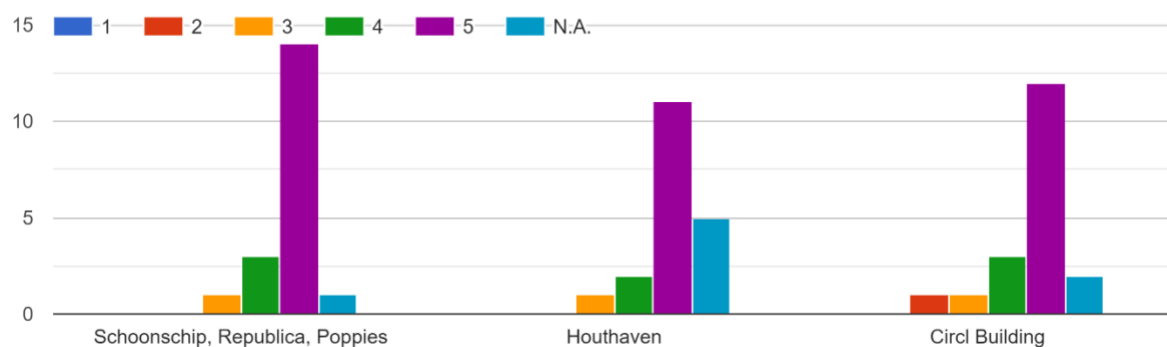
- Sharing experiences between cities
- City to city and person to person exchange was nice
- Received useful feedback and advice

Points of improvement

- A bit unclear and messy

Level of Satisfaction Study Tours

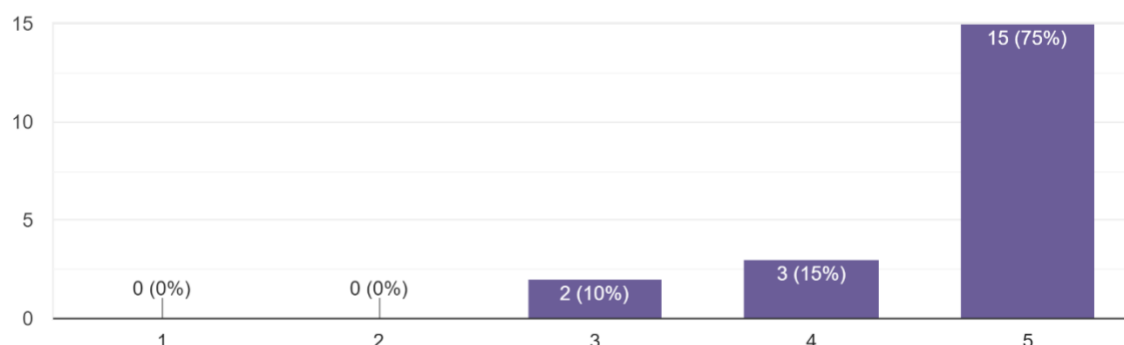
How satisfied were you with the Study Tours?



Level of Satisfaction Social Events/Dinner

How satisfied are you regarding the social events?

20 antwoorden



Open answers

Points of improvement:

- schedule more time for social activities such as networking

General Remarks for future WP6 Events

- we need to visit the other lighthouse city.
- Important is making the connection, interaction. Setup learning among each other.
- I would try to present more examples or practical results and less time for theoretical presentations. We should bet more on cases like the Schoonschip, Republica, and Poppies tour, or like the Circl building tour, instead of very extensive theoretical presentations.
- The ATELIER cities should be more involved in preparation of the workshops - each city could prepare/host one... Also, the homework before the workshops would allow cities to prepare better, as well as to intensify the mutual exchange...
- The agenda was a bit tight, maybe one more day or a half a day would be better.
- Build upon this event - create a continuum in capacity building via sequencing topics during different events; opting for at least 1 physical event every half year for the upcoming 1.5 years. That will help the FC's further develop their involvement in ATELIER
- Leave some extra time for networking during the day
- capacity building is also about creating bonds and connections between people (partners). Only then will it be possible to involve the different partners and develop skills that will culminate on a good Capacity Building
- Should be part of an overarching training/education programme
- We are very much interested in knowing more about how other cities handle investors, what specific requirements do they impose on them when selling/renting/leasing land or other properties, e.g. regarding climate neutrality or the PED concept.
- Record parallel sessions so that all have the opportunity to benefit even if they are in another of the parallel sessions OR avoid parallel sessions.
- More examples.
- Build on the knowledge from the world cafe session to further explore the needs and challenges.
- I would recommend to continue in interactive way of meetings and sessions (workshops). I think it's the best way how to keep participants focused and cooperative.
- The focus could be more on Innovation ateliers, their business models, as well as the municipality staff involvement.
- Improve the collaboration with potential presenters to have all of them involved in early stages and have more clear the content and relation between the sessions

Annex 8 – Live events pictures

Amsterdam







Copenhagen





