

# SPARCS

## City Vision 2050 - Draft

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Description of the related task and the deliverable. Extract from DoA	<p><b>T1.7 City Vision 2050 (SPI) M1 – M60</b></p> <p>The objective of this task is to define a City Vision for 2050 - what the city wants to be and look like ideally in the future, through an optimal evolutionary progress of all dimensions comprising its urban ecosystem. This process is developed together with the city diagnosis, its outcomes and specific demands for action (Task 1.1). The City Vision includes urban, technical, financial, and social aspects, as well as a roadmap on planning, implementation, replication and scale-up of successful solutions in both Lighthouse Cities (LHCs) and Fellow Cities (FCs). It is also relevant to note that each city is expected to make a progressive effort to support the City Vision. A participative methodology combining exploratory scenarios and back casting methods was developed, including the following:</p> <ul style="list-style-type: none"> <li>• Adaptation of the framework to each SPARCS city's needs and contexts;</li> <li>• Development exploratory scenarios, through the organization of workshops, sketching plausible and ambitious future scenarios for 2050 in key strategic areas, comprising both qualitative (e.g. storyline) and quantitative methods;</li> <li>• Conducting back casting to develop the roadmap.</li> </ul> <p>This framework encompasses the organisation of workshops in each LH and FC, involving policymakers, relevant stakeholders, citizens and communities. This allows cities to provide their views and feedback regarding the City Vision and what they have planned for future application. The interactions taking place in each city were planned to be sequentially developed in an On-site Strategic Week, with the team technical experts providing all the necessary support tools that allow the collection of quality contributions. As a result of this task, a Draft City Vision 2050 was defined for each LH and FC (D1.11) and synthesised in a comprehensive document that covers urban, technical, financial and social aspects. Subsequently, a Final City Vision (D1.12), fed with inputs from other Work Packages, Tasks and Deliverables, will be finalized in M60.</p> <p>This specific deliverable (<i>D1.11. City Vision 2050 - draft</i>) focuses on developing a Draft City Vision for Lighthouse and Fellow Cities, comprising key strategic areas and associated relevant aspects, on the basis of participative methodologies and methods involving relevant stakeholders in each one of them. Initially foreseen for M16, this deliverable was delayed for M19 due to the constraints related to the COVID-19 pandemic.</p>		
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Comments			



V	Date	Authors	Description
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2	24/03/2021	SPI	Solid Draft Version
3	31/03/2021	SPI	Deliverable leader final version for internal project review
4	12/04/2021	VTT	Reviewer comments, inputs and suggestions
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7	30/04/2021	VTT	Coordinator submits the deliverable to the EC

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PU	Public	<b>X</b>
CO	Confidential, only for members of the consortium (including the Commission Services)	



## About SPARCS

Sustainable energy Positive & zero cARbon Communities demonstrates and validates technically and socioeconomically viable and replicable, innovative solutions for rolling out smart, integrated positive energy systems for the transition to a citizen-centred zero carbon & resource efficient economy. SPARCS facilitates the participation of buildings to the energy market enabling new services and a virtual power plant concept, creating VirtualPositiveEnergy communities as energy democratic playgrounds (positive energy districts can exchange energy with energy entities located outside the district). Seven cities will demonstrate more than 100 actions turning buildings, blocks, and districts into energy prosumers. Impacts span economic growth, improved quality of life, and environmental benefits towards the EC policy framework for climate and energy, the SET plan and UN Sustainable Development goals. SPARCS co-creation brings together citizens, companies, research organizations, city planning and decision-making entities, transforming cities to carbon-free inclusive communities. Lighthouse cities Espoo (FI) and Leipzig (DE) implement large demonstrations. Fellow cities Reykjavik (IS), Maia (PT), Lviv (UA), Kifissia (EL) and Kladno (CZ) prepare replication with hands-on feasibility studies. SPARCS identifies bankable actions to accelerate market uptake, pioneers innovative, exploitable governance and business models boosting the transformation processes, joint procurement procedures and citizen engaging mechanisms in an overarching city planning instrument toward the bold City Vision 2050. SPARCS engages 30 partners from 8 EU Member States (FI, DE, PT, CY, EL, BE, CZ, IT) and 2 non-EU countries (UA, IS), representing key stakeholders within the value chain of urban challenges and smart, sustainable cities bringing together three distinct but overlapping knowledge areas: (i) City Energy Systems, (ii) ICT and Interoperability, (iii) Business Innovation and Market Knowledge.

## Partners



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## EXECUTIVE SUMMARY

Sustainable energy Positive & zero cARbon CommunitieS (SPARCS) demonstrates and validates technically and socioeconomically viable and replicable, innovative solutions for rolling out smart, integrated positive energy systems for the transition to a citizen-centered zero carbon & resource efficient economy.

The overall objective of Work Package 1 (WP1) is to develop a methodological approach that supports and informs the process of urban transformation and energy transition in cities, making them citizen-centered, zero carbon ecosystems. The approach comprises the following specific objectives:

- Defining a shared City Vision for 2050, tailored and embedded in the specific context of each city;
- Supporting and informing the process of urban transformation, focusing particularly in a sustainable energy transition;
- Ensuring inclusive and meaningful engagement of local stakeholders, governments, communities and citizens in a strategic thinking process contributing to an effective co-designing, co-implementation, awareness and acceptance of the innovative energy solutions to be implemented;
- Identifying, analysing and adopting innovative and effective business models, so that the developed tools and solutions can be scaled up to the city level and replicated in Fellow Cities and other European and Worldwide cities;
- Defining a visualisation framework for assessing city performance allowing an appropriate performance monitoring of the implementation process of the solutions;
- Developing a strategy for creating ecosystems and interoperable ICT platforms and interfaces essential for cities energy transition, aiming at digitally integrating all the involved energy data, services and infrastructures of the city.

Within this context, Task 1.7 City Vision 2050 focuses on the definition of a City Vision for 2050 in each one of the SPARCS partner cities, tailored and embedded in the specific context of each city. To do so, a structured process was implemented, with the first step being the development of a guideline document (Appendix 1. T1.7. City Vision: Guidelines for Participating Cities in SPARCS). This document provided important information about the Vision process and how to conduct it, including aspects such as creating a schedule, forming a Task Force, selecting Key Strategic Areas, stating the Status Quo, setting up a participatory process or even conducting the Visioning Workshops.

Building upon this, the *D1.11. City Vision 2050 - draft* reports on the whole process from the methodological approach to the main outcomes of each city, passing through the workshops and engagement activities developed. As a result, a Draft City Vision 2050 for each one of the LHCs (Espoo and Leipzig) and FCs (Lviv, Kladno, Kifissia, Maia, Reykjavik) was developed.

Each partner city was responsible for running its own workshops and related engagement activities by following the methodology proposed. This approach was technically developed under this task, and then adapted to the specific context and specificity of each city along with the local Task Forces.



Aimed at testing the approach developed, the methodology was first piloted in the LHC of Leipzig. The validated methodology, along with the lessons learnt from the pilot case, was then deployed in all the other partner cities, either via physical or remote webinars, depending on the restrictions determined by the COVID-19 pandemic.

The Draft City Visions 2050 and the Vision Statements of each partner city reported in this deliverable are the main results of these participatory processes that each city has organized, having been first developed in their local language and later translated to English so to integrate the full version of D1.11. The visioning workshops and associated interactive activities were developed in the local, national language of each of the partner cities in order to ensure the ownership of the process by the local actors and to maximize the potential of quality inputs from the stakeholders involved.

The definition of the *status quo*, the identification of the *key strategic areas* and the development of the *vision statements* are the main outcomes of the city vision workshops. Thus, this deliverable provides important relevant information and references for the many activities foreseen in other WP1 tasks, as well as in other Work Packages and associated tasks.

Finally, *D1.11. City Vision 2050 - draft* will be later reworked, revised and fine-tuned, integrating important results and outputs of WP1 and other WPs and tasks, leading to the delivery of *D1.12. City Vision 2050 – final* by M60.

*D1.11. City Vision 2050 – draft* is structured into 4 main chapters:

- Chapter 1. Introduction;
- Chapter 2. City Vision 2050 Methodology;
- Chapter 3. City Vision 2050 Reports;
- Chapter 4. Conclusions.

**Chapter 1** explains the purpose and main target groups, by detailing how the city vision process fits into the SPARCS framework. Furthermore, it details the contribution of the relevant partners in the development of this deliverable, while specifying the related Tasks and Work Packages that provided information used as a starting point to build the document. Finally, it also describes the upstream and downstream relations between Task 1.7. and D1.11 with other WPs, Tasks and Deliverables across the SPARCS project.

**Chapter 2** details the methodological approach in the backbone of the City Vision 2050 in partner cities, generally describing the overarching objectives, the scope, dimensions and the step-by-step nature of the whole process, together with the engagement model, the specific methods to be used and the shape in which the outcomes should be presented.

**Chapter 3** provides a detailed description of the visioning workshops/webinars, interactions and exercises deployed in each one of the partner cities, using a common structure: an overall description on how the city looks like in 2050, together with sectoral vision statements aligned with the Key Strategic Areas in each one of them.

Finally, building upon the process described on the previous point, **Chapter 4** focuses on a general horizontal analysis of the achievements reached with the whole City Vision process, the impacts of this process at the project and at the city level, along with other relevant conclusions and lessons learnt.



## 1. INTRODUCTION

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### 1.1 Purpose and target group

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The development of a City Vision 2050 (WP1, T1.7) as stated in the project proposal of SPARCS, serves the purpose of *supporting and informing the urban transformation and energy transition in cities towards a zero carbon ecosystem*.

The City Vision is expected to cover the key strategic areas and associated aspects considered relevant by the city authorities. The City Vision and the whole SPARCS project are closely linked to the long-term objectives of the new EU climate neutrality and energy strategy and the global UN 2030 Sustainable Development Goals.

Fraunhofer IMW (FHG), together with SPI, developed a methodology that allowed the definition of a shared City Vision for 2050, to ‘generate a bold City Vision 2050 in line with the new EU carbon neutrality climate and energy strategy’ (SPARCS consortium, 2019, p. 4).

The process can be characterized as a ‘co-creation process between cities, industries, innovative SMEs, entrepreneurs and citizens, tailored for each Lighthouse and fellow city’ (SPARCS consortium, 2019, p. 6). Ultimately, the City Vision 2050 in partner cities will aim at reaching out to all citizens, playing a critical role in informing, raising awareness and empowering them to play an insightful proactive role in promoting structural change in the urban ecosystem, towards reaching the desired future scenario.

The main expected outcomes for this task – consolidated in this *D1.11. City Vision 2050 - Draft* - are therefore the execution of a tailored City Vision process in each partner city and the City Vision 2050 Report for every participating city. It includes a written narrative and supplemental material describing the process.

### 1.2 Contributions of partners

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The methodology supporting and guiding the preparation and realization of the City Vision Workshop in each partner city was initially provided by Fraunhofer IMW (FHG), with inputs by SPI, and made available to partner cities in the form of a “City Vision Package” (see appendixes 1, 2, 3 and 4).

Based on the methodology provided, LHCs and FCs – in a form of *local task forces* created for this task - have executed their respective City Vision Workshops by adapting the methodology to the specific context, needs and challenges of their cities.

The results of each workshop were reported in a “City Vision 2050 Report” for each city (see section 3), developed by each city and integrated in this document. Partner cities have developed a more systematic version of the city vision reports in their own language for local and national dissemination, focusing on the main results of the SPARCS, where local technical partners have supported partner cities in the preparation and execution of the city vision workshop, and in the development of the city vision reports, depending on their respective expertise.





### 1.3 Baseline

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The task is informed across many work packages in SPARCS. This deliverable makes use of the baseline information collected for LHCs under *WP1 Urban Transformation Strategy / Task 1.1. City diagnosis, data collection & preliminary analysis* (namely from the *D1.1 City Characterization Report*) and for FCs under the diagnosis process deployed on the *WP5 Replication / Task 5.2. Fellow City Training Mission / Subtask 5.2.1. Identification of FCs' needs and knowledge gaps*.

### 1.4 Relations to other activities

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This task is embedded with other upstream and downstream tasks (see Figure 1) informing tasks across many work packages in SPARCS.

As already mentioned above, this particular deliverable makes use of the baseline information collected for LHCs under *WP1 Urban Transformation Strategy* and for FCs under the diagnosis process deployed on the *WP5 Replication*.

As the *D1.12 City Vision 2050 - final* is scheduled for M60, Task 1.7 will be mainly informed by the outcomes of the following Work Packages / Tasks:

- Task 2.4. *Socio-economic, environmental and technological Impact Assessment*, which will provide evidence from the impact assessment in LHC demonstrations for the development of the Final City Vision;
- Task 5.3. *Fellow City Replication Strategy*, which will provide critical inputs to the Final City Vision through the Implementation Plans in FCs;
- Task 7.3. *Governance model for smart city business ecosystem*, in which a governance model will be co-created with partner cities to assist the achievement of the City Vision in 2050;
- Work Packages 3 and 4, whose results, progress and impact in the project implementation in LHCs will play a key role in shaping the Final City Vision.

On the other hand, Task 1.7 and particularly the D1.11. will provide a key reference for activities to be deployed in following WPs and tasks:

- Task 1.2. *Urban Transformation*. The city vision will work as the ideal future scenario to which the *D1.2. Roadmap for Urban Transformation* (generally understood a bridging element between the current day and 2050) should lead to;
- Task 5.3. *Fellow City Replication Strategy*. The City Vision will work a reference for the development of the Implementation Plans in FCs;
- Task 5.5. *Project Upscaling and replication in LHCs*. The City Vision will work a reference for the development of the Replication and Upscaling Plans in LHC.



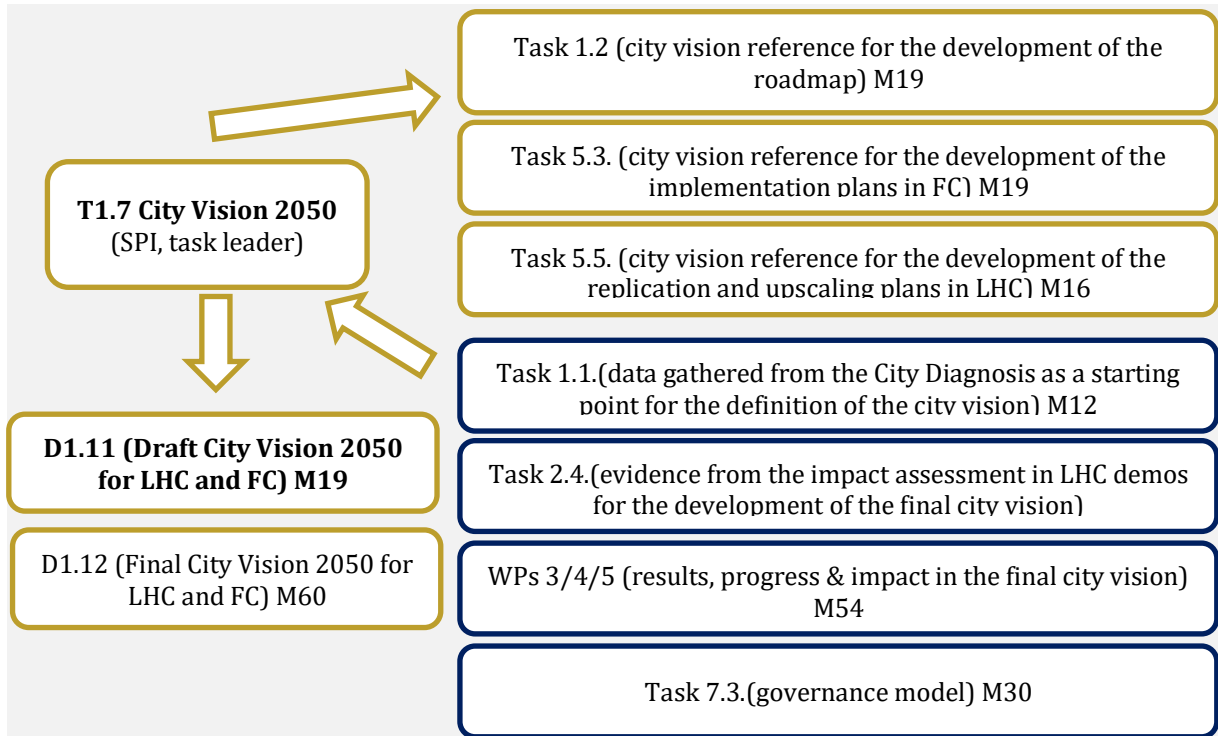


Figure 1. Relation between T1.7 and other activities



## 2. CITY VISION 2050 METHODOLOGY

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The City Vision 2050 methodology has enabled the participating cities to develop a shared bold city vision for 2050 as a co-creation process between cities, industry, innovative SMEs, entrepreneurs, and citizens, tailored for each Lighthouse and fellow city.

In order to contribute to this bold goal, Fraunhofer IMW (FHG) developed a methodology that allows the definition of a shared City Vision for 2050.

The City Vision 2050 methodology can be described as:

- a processual, participatory framework;
- a toolbox and a manual to come up with a City Vision 2050;
- an accompanying set of actions to transfer the methodology and learnings.

The methodology has been developed in parallel to the implementation of the pilot City Vision 2050 process with the lighthouse city of Leipzig. Learnings from the methodology's pilot have been transferred to six participating cities. Cities received sustained support to implement the transferred methodology. Formats like webinars, presentations, bilateral and multilateral calls have been conducted by Fraunhofer IMW and SPI in order to make the methodology available and ready to use and adapt for participating cities (see section 2.3 and 2.6)

### 2.1 Approach

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#### Managing the unexpected

The approach of the methodology is based on the recognition of the fact that it has become increasingly important to consider longer-term possibilities to help anticipate the unexpected whilst trying to achieve ambitious goals in a complex and demanding environment. The overarching question is how a group accomplishes to coordinate a common effort in a complex endeavour never seen before.

One answer is to create a shared future vision of what exactly a group wants to achieve in the long-term future to achieve an almost unthinkable goal and why. A future vision describes the desired future state in detail to all stakeholders. It is both a process and the result of it.

As a **process** and method 'visioning' is a structured and collective exercise to 'create a set of common aims and objectives for a project and to describe what the future will be like if they are delivered' (Government Office for Science, 2017, p. 57). It is systematically structured, embedded, and participatory in nature.

The **result** of a future vision can consist of 'vibrant descriptions of audacious goals and targets, as well as reflective statements addressing the aspired future' (Bibri & Krogstie, 2019, p. 6).

The stakeholders themselves create their future vision. 'Participants choose to use their capabilities beyond their personal and professional comfort zone in order to reach a far fetching goal. The future vision enables them to do so.' (Bezold, 2009, p. 84). It is a shared vision, reflecting their concerns and hopes.



The **aim** of the process is to make oneself aware of the future, and at the same time to create that future.

### **Changing Perspectives**

Conducting a visioning process puts participants into a different perspective: instead of thinking about *what to do* and *how to do* it to reach a goal, the main task is to think about questions of *why* and *what for*.

*Why* means to address the greater purpose. Thinking about the *why* first, intentionally influences the resulting questions of *how* and *what* to do. This may seem trivial, but boiling it down to the greater purpose on a normative level gives a complex endeavour a clear, shared and meaningful goal, which in turn informs strategic and operative proceedings.

Therefore, a future vision is not a forecast, not an interpolation of the present, nor a strategy or a mission.

### **Visioning cities futures - City Vision 2050**

The transformation of our cities to sustainable habitats is a difficult and visionary undertaking, because of the manifold fields of actions such as energy infrastructure, mobility and much more. These interrelated complex systems on different scales with many stakeholders involved are sometimes hard to grasp and even harder to manage; the transformation is a very demanding task.

By applying the aforementioned approach of a future vision to the context of cities, the cities' transformation can be supported and guided by implementing the City Vision 2050 methodology.

A City Vision 2050 is an 'attempt to generate a momentum for change, and a core element for success is to develop a widespread culture of institutionalized leadership to promote continual self-improvement. In this way, it is suggested that visioning becomes a change agent, which has to manage public participation, generate flagship ideas, establish benchmarks for success and trigger goal-setting.' (Ratcliffe & Krawczyk, 2011, p. 651)

The City Vision 2050 is embedded in the very place conceived by local stakeholders and rooted in the logic of its location. They are the results of a diverse participation and a collective effort. As a mode of thought, the development of a City Vision is about 'exploring the long-term purpose and role of a place' (Government Office for Science, 2016, p. 36).

## **2.2 Scope of the Methodology**

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The City Vision 2050 was developed in order to cover different aspects of the urban realities (e.g., energy, participation, mobility) and to make it work in the context of planning, implementing and scaling-up of successful smart-city solutions in line with the global UN 2030 Sustainable Development Goals.

Nevertheless, the scope of the methodology is not universal, but adapted to the specific context of SPARCS. The SPARCS City Vision 2050 is normative in nature, has a pre-set time horizon (30 years or to the year 2050) and is embedded on a municipal level in the respective SPARCS cities. The methodology was designed specifically to fit the needs and purpose of the project SPARCS. Therefore, the following dimensions of the scope have been set out for the methodology, as shown in the table below.



Table 1. The scope of the City Vision 2050 methodology in its dimensions

The whole city	The City Vision 2050 encompasses the whole city in each case and is therefore not restricted to single city districts or single demo sites.
Time horizon	The City Vision is determined to reflect the shared vision of the city for the year 2050.
A normative future vision	<p>The goal of carbon neutrality is a predetermined, <i>normative</i> goal of the methodology and the project SPARCS. That is why the City Vision process is about coming up with a long-term (normative) description of how a <i>zero-carbon</i> urban setting in the year 2050 should look like: How do the participants of the individual cities <i>want</i> their city to be like in 2050?</p> <p>A City Vision is not a strategic or technical document, describing how to reach a zero-carbon future until 2050 in detail. This is not part of the T1.7.</p>
Format: How does the City Vision materializes itself?	<p>The core element of the City Vision 2050 methodology is a so-called City Vision 2050 <i>workshop</i>. The workshop can be characterised as a comprehensive visioning exercise for the creation of a City Vision. It can last one full day or up to two days. It is organised by every city respectively by its local stakeholders in their respective native language. It can take place on-site or remotely (online).</p> <p>The workshop is embedded in the overall City Vision 2050 process. It encompasses several steps before and after the City Vision 2050 workshop. Please see section <b>Error! Reference source not found.</b> <b>Error! Reference source not found.</b> for further details.</p>
Exploratory scenarios and back casting methods	In order to take into account and prepare for the downstream Task 1.2 (Roadmap for Urban Transformation), a participative methodology involving exploratory scenarios and back casting methods have been set up as additional core elements of the City Vision process. Please see chapter <b>Error! Reference source not found.</b> <b>Error! Reference source not found.</b> .

## 2.3 Development and Implementation

### Overview

The Fraunhofer IMW team developed the City Vision 2050 methodology continuously since the beginning of the SPARCS project. Early coordination efforts had been made beginning in September 2019 together with the task leader SPI and the City Vision 2050 pilot city Leipzig (which would form the Leipzig City Vision Task Force subsequently). In early 2020 an early methodology draft has been proposed to SPI and the Leipzig City Vision 2050 Task Force. In parallel, the organisational implementation of the Leipzig City Vision 2050 pilot workshop had begun, where Fraunhofer IMW took a co-lead role in, to learn from example.

In April 2020, the first extensive overview for every participating city in SPARCS had been given. Soon after, a preliminary *guiding document* had been published by Fraunhofer IMW. Both served the goal to prepare the cities for what is to come, to organise and to



expect. Both SPI and the Fraunhofer IMW team continuously made an effort to keep participating in the loop over and in parallel with the developing City Vision 2050 methodology, e.g. by updating the *guiding document*.

Setbacks in the transfer of the methodology to the cities because of the evolving COVID-19 situation could be reduced effectively because of the early state of the preparation progress. Even though the COVID-19 situation has been less severe in the summer of 2020 in most parts of Europe, the Fraunhofer IMW team responded to the possible demand of having a remote City Vision 2050 workshop instead of an on-site workshop (as previously planned) by giving recommendations and instructions.

After the completion of the pilot City Vision 2050 workshop in Leipzig, a webinar had been offered to every participating city in July 2020. Learnings and insights from the piloting workshop and the general City Vision process has been transferred to the participating cities, who planned to begin to prepare their City Vision 2050 processes. The provision of the final and extensive City Vision 2050 package, including templates, manuals, schedules, guidelines (see Appendix 1) happened in the same time. By providing the package the Fraunhofer IMW completed the delivery of every necessary component for the preparation and implementation of the City Vision process.

Table 2. Dates of the City Vision Workshops in partner cities

City	City Vision 2050 workshop date	On-site (S)/ remote (R)
Espoo	18/11/2020	R
Kifissia	2 and 3/11/2020	S
Kladno	15 and 16/10/2020	R
Leipzig	25 and 26/6/2020	S
Lviv	24 and 25/9/2020	S
Maia	24 and 25/11/2020	R
Reykjavik	26/11/2020	R

Many bilateral online calls had been made to ensure every participating city received the attention to be able to implement their City Vision 2050 on its own.

After the first City Vision 2050 workshop in June 2020 in Leipzig, another six workshops had been conducted successfully in the period from September to November 2020 (see Table 2). Every workshop has been built upon the methodology provided by Fraunhofer IMW.

After the completion of the City Vision 2050 workshops in every of the seven participating cities follow up calls have been made. The goal has been to learn from the experiences made and give support with the completion, if needed.

The results of the City Vision processes including the workshop are part of the City Vision 2050 reports (one for every city). These reports cover the overall process, its



participation process, materials for illustration and the City Vision 2050 texts. The texts consist of a number of vision statements, complementary explanations and some introductory remarks by each city. It marks the main result of the task 1.7.

Even though the results of the task City Vision 2050 are marked as a draft and preliminary, the City Vision 2050 process in the year 2020 in SPARCS has been completed. The results are subject to change because the participating cities will most likely update their City Vision 2050 within the SPARCS project period in the following years. The development of the methodology has ended during 2020. Work on this task will continue to producing the Final City Vision 2050, by the end of the project (M60).

Table 3. Development and exemplary implementation steps of the City Vision 2050 methodology

Developing the City Vision 2050 methodology	Coordination of goals, methods and schedules
	Early methodology draft
	Publication of guidelining document
	Implementation of the pilot City Vision workshop
	Publication of City Vision 2050 package
	Webinar, general calls and support calls with participating cities
	Follow-up calls, feedback
Implementation on an exemplary City Vision 2050 process	Forming a task force
	Selecting key strategic areas
	Setting up a participatory process
	Collection of status quo documents
	Conducting Visioning workshop(s)
	Reconciling results into a City Vision
	Writing City vision Report

The City Vision 2050 has been developed with the goal of providing a practical and applicable methodology for the participating cities to use. Thereafter, the Fraunhofer IMW team began a simultaneous process of both developing the methodology and preparing the cities to implement their City Vision 2050 early on. That way, both the Fraunhofer IMW team and the participating cities had been able to give continuous updates and feedback.



## 2.4 Participatory Framework

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To create a shared and effective City Vision 2050 the methodology has been developed in such a way that participation is firmly at the centre stage of attention, while still making sure to come up with many statements about a common desirable future in 2050.

The projects proposal stated clearly that the City Vision 2050 process needed to be a ‘co-creation process between cities, industry, innovative SMEs, entrepreneurs and citizens, tailored for each Lighthouse and fellow city’ (SPARCS consortium, 2019, p. 6). It should involve local stakeholders of each city in an on-site strategic week, ensuring the development of a vision deeply embedded in each city particular context. That is because “the strategic process of transforming cities is to a large extent still disintegrated and unevenly distributed – local authorities’ “rule” while public engagement is more ad-hoc than strategic”, as stated in the projects-proposal document (p. 126).

The methodology for the City Vision 2050 has been set out in a way to enable the existing participatory frameworks in each city. Fraunhofer IMW offered an extensive explanation and several consultations on what the participation within the City Vision 2050 process entails and what its practical implications are. This addresses the preparation, the implementation of the workshop and the post-workshop activities.

At the beginning of the City Vision process, cities began to form their opinion on how to integrate the participatory potential of the City Vision 2050 in relation to their existing participatory activities and strategies. Every city found different approaches on how to implement the participatory element of the City Vision 2050 process. The task force of each city made sure to check how to align the City Vision with existing strategic processes to offer an additional benefit.

The City Vision 2050 methodology in part provided a starting point for participating cities to engage in the process of integrating the City Vision into their city. Extensive efforts by the cities have been made to include stakeholders from different sectors. The most important playing field, beside the existing local consortium, has been the city administration in each city. The goal of each city has been to include different city departments in order start a joint strategic thinking process. Moreover, cities showed some initiative to include stakeholders of academia, representatives of NGOs, private companies and many more. Some ensured to involve the public indirectly via other methods such as surveys.

In order to achieve a greater impact, each city made extensive efforts to legitimise and integrate the City Vision process into the general framework of political and strategic processes in the municipalities. Most cities stated that the integration of the City Vision 2050 results and process are still ongoing tasks, due to the City Vision 2050 participation which has been complicated by regulations in the result of COVID-19. The participatory measures of each city continue after the workshop.

As a result, local stakeholders have been involved through workshops towards systematizing each city’s specific ambitions, shared vision and desired future scenarios towards carbon neutrality.





## 2.5 Exploratory Scenarios and Backcasting

Inherent to the City Vision methodology is the task to create a future oriented environment. The City Vision 2050 workshop serves that purpose. It directs the focus towards a common but unknown future. Fraunhofer IMW made sure to prepare and implement exploratory future oriented elements into the City Vision workshop and the methodology in general. These future trends are forward looking, rooted in the present but ultimately inspiring the participants to look a few years ahead into the future.

The participating cities have been provided with ten posters that Fraunhofer IMW created for the workshop pilot in Leipzig, based on an analysis of more than 50 trends.

An exercise using posters that briefly presented the potential development of the relevant trends has been introduced. Participants of the workshop took the current state of the defined key areas into account and selected relevant socio-economic and technological trends. It consequently enabled the participants to investigate possible future pathways (scenarios) during the City Vision workshop. The City Vision Task Force was able to add trends on their own.

Afterwards participants of the City Vision workshop created their common vision statements for the carbon neutral 2050.

The vision statements are the starting point for the so called backcasting, a method to formulate strategic goals and ways achieve the objectives including milestones (see Task 1.2).

## 2.6 Knowledge Transfer

### Internal Transfer

The most important transfer in this task happened between Fraunhofer IMW, SPI and the participating cities, more specifically the leaders of the local consortiums of the SPARCS project. This project internal knowledge transfer has set in with the beginning of the project in M1 and has continuously been increased up until directly after the completion of the City Vision 2050 workshops in seven participating cities.

Fraunhofer IMW made sure to offer several formats and consultations to transfer the City Vision 2050 methodology. This transfer of knowledge has been crucial in order to ensure the success of the City Vision 2050 process as a whole. The cities have been curious about the process. Cities have taken up the offers by Fraunhofer IMW and adapted the methodology to their localised needs.

To give a short overview over the extent of the knowledge transfer the following table (Table 4) can be consulted.

Table 4. City Vision 2050 preparation and follow up workshops/interactions

Transfer effort	Date or Number (total)
Continuous communication with the task leader SPI on organising the City Vision process with participating cities.	Approx. 20 consultations



Consultations with the Leipzig local Task Force for the City Vision 2050 in Leipzig (mainly between January and August 2020)	Approx. 14 consultations
Bilateral consultations with participating cities	Approx. 5 consultations
City Vision <u>Preparation Webinar</u> (or similar): to inform cities about the City Vision 2050 workshop methodology and the following steps	27/5/2020, 13/7/2020
SPARCS – General Assembly and Consortium Meeting – Hosting of Session MyUrbis with SPI and approx. 50 participants	8/10/2020
<u>Follow up</u> consultations with cities after the completion of the City Vision 2050 workshops	Approx. 6 consultations

### City Vision 2050 Package

The City Vision Package includes a number of written documents to ensure knowledge transfer and inform the participating cities about the process. The sum of its documents is called the *City Vision 2050 Package*. It is addressing the task forces of each participating city.

In summer 2020, the package has been updated with hints and instructions on how to set up a remote-only City Vision 2050 workshop (see Table 5) in order to address the pressing need to overcome hurdles in result of COVID-19 regulations for on-site workshops.

Table 5. City Vision 2050 Package - Contents

Content
00_General Instructions <ul style="list-style-type: none"> <li>• City Vision Guidelines.pdf (26 pages, version 1.1)</li> </ul>
01_City Vision Preparation: Including several templates and checklists <ul style="list-style-type: none"> <li>• Checklist City Vision.docx</li> <li>• Key Strategic Areas.docx</li> <li>• Schedule (Participants).docx</li> <li>• Schedule (Task Force).xlsx</li> <li>• Task Force members.docx</li> </ul>
02_City Vision Workshop <ul style="list-style-type: none"> <li>• Template Posters to use for the Status Quo input by experts</li> <li>• Attendance list.docx</li> <li>• Graphic Template newspaper.pptx</li> <li>• Methodological manual.pdf (27 pages)</li> </ul>



03\_Post Workshop

- Contradiction\_check\_matrix.xlsx
- City Vision Report Template.docx

Additionally:

- An update of the methodology for a remote City Vision 2050 workshop



## External Transfer

Besides the many publications in every possible format in every participating city (e.g., on sparcs.info), the IMW Fraunhofer team added some external publications to add on to the already existing publications and inform target groups about the City Vision 2050, its contents and its purpose.

Table 6. Publications about the City Vision 2050

Publication	Place of Publication
“In an interview, Nadja Riedel, head of the Leipzig SPARCS consortium in the Digital City Department of the City of Leipzig, and Annamaria Riemer (Fraunhofer IMW) explain what City Vision Leipzig 2050 is and how it helps to achieve the goal of a climate-neutral city.”	<a href="https://www.imw.fraunhofer.de/en/science-talk/sparcs.html">https://www.imw.fraunhofer.de/en/science-talk/sparcs.html</a>
Publication of the Leipzig City Vision 2050, on behalf of the Digital City Department of the City of Leipzig	<a href="http://digitalesleipzig.de/wp-content/uploads/2020/11/20201002-City-Vision-Leipzig-2050-English.pdf">http://digitalesleipzig.de/wp-content/uploads/2020/11/20201002-City-Vision-Leipzig-2050-English.pdf</a>

## 2.7 Results: Summary

The results of the City Vision 2050 task can be divided into two parts. One part encompasses the expected results from the Fraunhofer IMW team and the other revolves around the results the cities came up, along the City Vision 2050 process.

The following results have been delivered by the Fraunhofer IMW team - *City Vision 2050 methodology*:

- a processual, participatory framework for visioning
- a ‘City Vision 2050 package’ including a manual to support cities with implementing their City Vision 2050, and
- an accompanying set of actions and documents to transfer the methodology and learnings to the partners.

The following results have been made by the participating cities or have been the result of the general City Vision process:

- a City Vision 2050 report, including the results of the City Vision 2050 workshop,
  - several vision statements including explanatory texts
  - and a description of the City Vision 2050 process in each respective city.
- City Vision reports to inform the public of each respective city (optional)
- Publications announcing the City Vision 2050 or presenting results



### 3. CITY VISION 2050 REPORTS

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This chapter integrates the City Vision Reports developed by each partner city – via a specific template provided by FHG IMW as the main tangible outcomes of the City Vision Workshops. These reports were developed between M15 (December) and M17 (February) of the SPARCS and delivered to SPI and FHG IMW for internal review. After this review process, bilateral calls were organized between FHG IMW, SPI and each one of the partner cities, allowing the fine tuning of the reports. Each report is structured as follows: *Introduction; Overall vision; Vision Statements; Implemented methods and procedures in the respective city; Description of Task Force and Participatory Process; Key Strategic Areas; Stating the Status Quo; City Vision Workshop Overview; Making Use of the City Vision for Years to Come.*

#### 3.1 Leipzig City Vision 2050 Report

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Leipzig carbon-neutral: the city's great transformation by the year 2050 is a complex and long-term undertaking. In this document – *City Vision Leipzig 2050* – we begin with the question of how the future *should* look before addressing how we get there: How do we wish the city will be in 2050– the year, in which we assume Leipzig to become fully carbon-neutral? 32 vision statements based on five key strategic areas describe what the city of Leipzig should be like. The Leipzig SPARCS consortium has developed this City Vision.” They produced statements and marked them as important and relevant. The statements have been agreed upon jointly. Each vision statement is supplemented by short explanatory texts and some visualisations. The resulting ideal image of climate neutral Leipzig 2050 is called *City Vision Leipzig 2050*. This vision is in the context of the goals and measures of the SPARCS project.

Enjoy reading and get inspired by the *City Vision Leipzig 2050!*

##### 3.1.1 Overall City Vision

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In Leipzig, the year 2050 will be a year like any other: children will go to school, tourists from all over the world will visit local sights, and the Christmas market will still be widely popular. All will be the same, that is, except for the fact that Leipzig will be a different city. A city, in which people live with carbon neutrality. The consequences of climate change have made the residents reconsider their priorities, and the most urgent goals are climate-friendly and ecological action, sustainable business, and a community oriented towards the common good. Residents are aware of their position in the world and take responsibility for it.

Not only has the attitude of Leipzig's citizens changed: social and technological innovations have been implemented to facilitate ecological and economic advantages in many ways. At the same time, the quality of life for Leipzig's population has been maintained. Almost invisible, yet still of great ecological impact is the climate neutral generation of energy and heat from exclusively renewable sources. Numerous private energy producers, who have installed facilities on their roofs, generate their own energy and heat demands, sell surpluses, or store them for colder seasons. Green hydrogen is



used as a key technology for sector coupling between industries, mobility, electricity, and heating.

A comprehensive and optimised energy management system fulfils the increased coordination requirements of a complex network of small producers and large suppliers.

The resulting high amounts of data are processed in underground data centres, which produce waste heat that is also used. The data networks are owned by the municipality and serve the provision of digital public services.

To get from A to B, the vast majority of people in Leipzig use their bicycles or the tailored services by the public transport system. Public transport is for free, autonomous and climate neutral. In the city centre and adjacent neighbourhoods, cars are no longer visible. Instead, large bicycle lanes connect the city and former parking spaces are available to residents as multifunctional areas.

Leipzig's residential and commercial buildings have been extensively renovated and are at least climate neutral. Efficiency savings benefit the residents and can even be credited through CO<sub>2</sub> emission trading.

### 3.1.2 Vision Statements

The vision statements are the main results of the Leipzig City Vision 2050 and are described below.

Table 7. Leipzig Vision Statements – Energy and Heat

Vision Statement	Detail
Local energy companies sell one hundred percent CO <sub>2</sub> -neutral heat and electricity from regional sources.	Electricity and heat providers offer energy from one hundred percent carbon-neutral and regional sources.
In summer, climate-neutral heat surpluses are stored in seasonal storage facilities to be used in winter.	Local seasonal storage facilities cover heat demands in winter. Heat is fed into the grid stems from surpluses that are generated in Leipzig during summer months with low heating demand.
The solar potential of Leipzig's real estate is fully exploited and has become the new standard under the building law.	Domestic energy generation represents a significant contribution to the sustainable urban energy balance: every available and suitable surface is used for the generation of solar power and heat. Existing and new private or public buildings are assessed with regard to their potential and upgraded.
Local energy research provides innovation for the global solar industry.	Leipzig as a region for science and business, is closely interlinked with the energy industry. Leipzig's broad innovation landscape can provide impulses for innovations in the field of climate-friendly energy supply, both globally and locally.



Vision Statement	Detail
The circular economy ensures self-sufficiency in raw materials and creates new local economic sectors in the field of electricity storage.	Due to a circular economy, Leipzig has become largely self-sufficient regarding raw materials. New regional branches of industry have emerged in the field of innovative power storage solutions.
Green hydrogen closes the gap to carbon-neutral mobility and heat supply.	In Leipzig, green hydrogen is utilized as a clean energy carrier for industrial processes, for mobility, for the supply of electricity and heat as well as sector coupling. The electrolytic H2 production is based on renewable energy sources; the only exhaust gas is water vapour.
Carbon-neutral absorption chillers cover the increasing need for cooling.	Leipzig's seasonal mean temperatures have risen significantly. Absorption chillers cover the need for more cooling, especially in summer. Coolers convert carbon-neutral waste heat into useful cooling.

Table 8. Leipzig Vision Statements – Mobility

Vision Statement	Detail
Public transport operates around the clock, quietly, free of charge, one hundred percent autonomously, climate-neutral, need-based, and intelligently controlled.	The backbone of urban mobility is public transport, which offers citizens the possibility to reach all places throughout the city free of charge. A large fleet of autonomous and exceptionally quiet buses and vans enables customers to get from point A to B according to their needs – even directly to their front doors. An intelligent control enables the public transport system to meet citywide mobility needs, at different times. The public transport fleet is powered by energy from renewable sources only.
Microbuses connect the fringe city and city centre as needed. They are an optimal supplement to cars with alternative drive systems.	The public transport network is laid out regionally. It connects peripheral sites of the city to urban areas. It always offers a needs-based alternative to cars for the customers’ highly individual mobility requirements. Thus, it supplements car use with alternative, carbon-neutral drive systems.
The share of bicycle traffic is over seventy percent. Thirty percent of this is accounted for by bike sharing.	Most trips are covered with bicycles. Even ahead of public transport and MIV, the share of bicycle traffic accounts for seventy percent of all trips in urban areas. Bicycle traffic thus makes a significant contribution to carbon neutrality. Rental bikes account for one third of all bicycle trips. They are available in the whole city. They cover the demand for flexible use with different bicycles for various purposes
Former parking areas offer open spaces for the population.	Public parking spaces for cars have been removed. They now serve as places for multi-purpose use by the city’s population. The need for parking is greatly reduced due to a decline in motorised private transport. The remaining demand is covered by dedicated district parking with areas for sharing providers, bicycles, and private cars.



Vision Statement	Detail
	Enjoying public spaces in close proximity to their homes, residents' profit from new opportunities e.g. for places to meet and sit, micro-parks, places of small business and other local businesses.
A comprehensive network of bicycle garages fosters intermodal mobility.	Leipzig's citizens are able to seamlessly use different means of transport. Intermodal mobility has become the norm for all citizens. The fact that bicycle is the most used transport mean in Leipzig is a key aspect in the high level of intermodal mobility shown by the City. Therefore, bicycle garages are a widespread and important element. They are located close to residential areas and at important transport nodes. They are safe and offer reliable parking spaces to everyone.
The inner city and neighbouring areas are free from motorised private transport. In peripheral areas, only cars with alternative drive systems are allowed.	Leipzig's city centre and its close surroundings will offer a new quality in public space: they are reserved for public transport, bicycles and pedestrians. With a few exceptions, these parts of the city are free from motorised private transport. Cars are no longer part of the city landscape. Only in fringe areas of the city will cars with alternative drive systems are allowed.
In the city centre, car roads are generally converted into bicycle highways.	Major streets in the city centre have lost their character as multi-lane car roads. They are now attractive bicycle highways, which, along with public transport areas, shape the image of the cities' major urban lifelines. Expressway cycle paths are the most important form of transport shaping the urban landscape.
Bicycles are produced locally from renewable resources.	Bicycles have become everyday objects, means of transport and status symbols that every Leipzig citizen uses regularly. The necessary resources for bicycles are sourced from regional and renewable raw materials. Bicycles are produced, assembled and sold locally to meet the diverse customers' demands.

Table 9. Leipzig Vision Statements – Urban Society

Vision Statement	Detail
Climate action is the overriding common objective.	The impacts of climate change are increasingly being felt worldwide and in Leipzig. The certainty of needing to implement fundamental changes is omnipresent. Climate action and mind-set is focussed on the primary common goal, thus permeating all areas of daily life.
Climate-friendly behaviour is the new normal.	On both individual and institutional levels, people work, drive and live in a climate-friendly manner. In everyday life, the term climate protection is hardly used anymore because it has become the 'new normal' in Leipzig some time ago.
Sustainability as the top priority goal is reflected in the regulatory framework, for example, in laws and strategies.	Legislation has adjusted the regulatory framework towards sustainability as a top priority in all areas of living and economic activities. This enables the city of Leipzig to effectively implement sustainable strategies in balance with social, ecological and economic aspects.





Vision Statement	Detail
Leipzig's food supply is predominantly organic and regional.	Regional food producers supply Leipzig's citizens with carbon-neutral food. They offer high-quality organic products that complement the product range from imports and urban agriculture. Many foods are increasingly grown where they are consumed. A great variety of fresh products like regional vegetables and fruits are being offered and are well received by consumers.
Leipzig is actively engaged in town twinning agreements to meet the challenges in "climate crisis regions".	In Leipzig and elsewhere, climate change requires cities to adapt continuously. By cultivating good relations with partner cities, Leipzig benefits from experiences of those living in climate-crisis regions. At the same time, Leipzig gives something back to these localities: challenges in climate crisis areas are actively overcome with the help of town partnerships.
Leipzig's population is aware of its global climate responsibility.	The world in 2050 is globally linked. Products and services from all over the world continue to be imported and used in Leipzig. Leipzig's residents are aware of the effects of global value chains and their influence, which stems from their personal spending power. Unintended consequences, such as regional conflicts and crises, can be consequences of citizen's action. The citizens of Leipzig are aware of their responsibility and act accordingly.
Strategies and resources for a win-win integration of climate migrants are available and being practiced.	The successful integration of new Leipzig citizens is the usual case. Residents and the municipality have resources and strategies at their disposal to integrate climate migrants successfully. This works to their mutual advantage.
The Leipzig post-growth model allows for a larger share of activities oriented towards the common good.	With the abandonment of a purely growth-oriented economic model and lifestyle, charitable action and public service become a greater share of all activities.

Table 10. Leipzig Vision Statements – Digital City

Vision Statement	Detail
Digital solutions serve the climate-resilient city and optimal energy management.	Efficient digital solutions promote Leipzig's climate resilience and ensure optimal energy management, for example, by linking urban small producers to large producers in virtual power plants.
The digital transformation process and data networks are part of the municipality's public services.	Data storage and data flows are part of the essential urban data infrastructure, such as roads and public transport. The municipality's public services take over substantial tasks of the "Digital Leipzig" into their area of responsibility. The city of Leipzig drives the holistic digital transformation forward through official acts and with the help of municipal companies.
Leipzig's data is processed in an underground data	Local digital data storage and processing is an essential part of the municipal infrastructure. The reuse of waste heat from large



Vision Statement	Detail
centre, reducing pressure on land usage. It supplies districts with carbon-neutral waste heat.	underground facilities is sustainable and carbon neutral. Urban districts are supplied with low-temperature heat.

Table 11. Leipzig Vision Statements – Housing

Vision Statement	Detail
All existing buildings are carbon-neutral and energy-efficient. New buildings are energy positive.	The private and public building stock in Leipzig is renovated to carbon-neutral standards and energy efficient. Buildings have an extremely low energy demand, which is covered exclusively by renewable energies. Carbon-neutral energy standards in construction are established, so that new buildings are always energy positive. Generated efficiency savings are fed into the local grid and can be sold.
Efficient land use brings significantly more green space for everyone.	The city of Leipzig efficiently and sustainably manages potential land areas in the city. Former traffic areas have been reduced and partly replaced by green spaces and multifunctional areas. In some places, residential and commercial uses are "piled up". They thus reduce the pressure on the city's consistently protected green and recreational areas. Some of the renewable energy is produced from the city's roofs. Additional areas from across the region supplement the energy production. Citizens within and around Leipzig participate in land use decisions. Diverging interests between Leipzig and the surrounding areas are balanced.
Rental costs remain affordable through CO2 trading.	Clean energy, e.g., from PV systems on rooftops, provides an energy surplus that can be traded on a market. The residents of Leipzig thus become participants in a CO2 trading system and can offset revenues directly against their rental costs.
Leipzig's housing stock is largely owned by its inhabitants and the municipality.	A large part of Leipzig's residential real estate is possession of its inhabitants and the municipality. The city of Leipzig has a noticeable influence on the residential property market in terms of quality, scope, and price level.

### 3.1.3 Implemented methods and procedure

The purpose of the City Vision workshop and the whole City Vision process was to come up with several normative statements about a common definition of a desirable city of Leipzig in the year 2050, where climate neutrality will be achieved. The results contribute towards the goals of WP1 and the overall goal of the project SPARCS.

The City Vision process consists of not only the City Vision 2050 workshop. It can be described as upstream and downstream processes of coordination, participation, and feedback loops, where the City Vision 2050 workshop marks the most important and broadest point of participation.



The following timeline displays the City Vision process up until now (November 2020).



Figure 2. Timeline of the Leipzig City Vision process until October 2020

The proposed methodology by FHG IMW was implemented as planned, as this workshop has been the pilot workshop, the first of its kind in the SPARCS project. In addition to the methodology the workshop has been enhanced by letting participants preview how the workshop results could inform quantitative simulations done by the University of Leipzig (ULEI). Another add-on has been the use of a graphic recording specialist, who accompanied the City Vision workshop and the subsequent creation of a Leipzig City Vision 2050 PDF result.

### 3.1.4 Description of the Task Force and Participatory Process

The task force of the Leipzig City Vision 2050 consists of:

Leader: Digital City Unit, City of Leipzig (RDS)

- Nadja Riedel
- David Bausch

Co-Leader with regards to methodology: Fraunhofer IMW (FHG)

- Jörg Kosinski



- Annamaria Riemer

An industry partner (LVV, management holding of the local public utilities company) has assisted the task force early on.

The task force aligned the City Vision process from the beginning with the University of Leipzig (ULEI) partner regarding their effort to simulate supply and demand networks in Leipzig.

Fraunhofer IMW (FHG) has played a central role in the coordination and conceptualization of the City Vision 2050 Leipzig process. Fraunhofer IMW's task has been to draft a methodology for the City Vision 2050 for the whole SPARCS project and consequently to transfer the methodology to every participating city. Our Leipzig City Vision 2050 has been the methodological pilot in order to test the methodology and to learn from the experiences made. As a result, Fraunhofer IMW has been engaged in the whole Leipzig City Vision process from the beginning, through the implementation of the workshop, to the drafting of the City Vision Leipzig document and the incorporation of its feedback. Fraunhofer IMW has been co-hosting the Leipzig City Vision 2050 workshop.

### **Stakeholder participation and co-creation**

To enable a strategic thinking process, stakeholders have been invited to take part in a closed City Vision 2050 session in June 2020 to co-create a vision of a climate neutral Leipzig in 2050.

The participatory approach ensured that the expert's knowledge and their professional capability to assess complex situations and to come up with normative statements about a common climate-neutral future. The provided City Vision methodology contributed to the success of the process and the workshop. Interactive plenary and group discussion formats as well as thought provoking impulses and creative co-creation techniques have made an ambitious and rather unusual format like the City Vision 2050 a fruitful endeavour. This has been positively reflected in the outcome of the Leipzig City Vision 2050 workshop.

The participatory approach for the Leipzig City Vision process including the workshop was to gain and match insights and opinions of stakeholders across the municipality's departments and partners of the local Leipzig SPARCS consortium. These stakeholders have been deemed necessary to conduct the City Vision process in 2020 successfully. However, it can be seen as a starting point and the Leipzig City Vision 2050 can be updated or extended together with other stakeholders in the future.

This rather narrow approach has been decided on because of COVID-19 restrictions (limited participants for on-site workshop) and the need to introduce and offer a participatory format to get other departments of the Leipzig city administration on board. This way the task has become manageable, considering the resources and time at hand for every participating city in SPARCS.

The following stakeholders have been part of the Leipzig City Vision 2050 workshop:

- Several departments of the municipality of Leipzig
  - Urban Planning Office (responsible for city wide strategic planning)
  - Climate Protection Unit, Office for Environmental Protection (responsible for overseeing and implementing measures with regards to climate neutrality)



- Office for Urban Greenery and Water
- Staff of the mayor's office
- Non-academic partners in the Leipzig SPARCS consortium
  - Seecon Ingenieure GmbH (local industry partner)
  - Wohnen & Service Leipzig mbH (local industry partner)
  - Cenero ENERGY GmbH (local industry partner)
  - Leipziger Stadtwerke (local industry partner)
- Academic partners in the Leipzig SPARCS consortium
  - University of Leipzig
  - Fraunhofer IMW

Some of the stakeholders have a strategic background. They regularly engage in strategic mid- to long-term planning by profession and participated swiftly and with dedication.

The methodology provided has made the participation of every invited attendee possible. On several occasions within the City Vision workshop the lateral and active participation has been possible, creating a strong sense of understanding between the attendees and the resulting vision statements.

### 3.1.5 Key Strategic Areas

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Five Key Strategic Areas have been selected by the task force as early as February 2020. The task force has based their decision on the experiences and plans of the local Leipzig SPARCS consortium: At that point, the SPARCS Leipzig implementation plan (D4.1) was in the making and subsequent general topics have emerged and become visible for the task force to pick up.

The key strategic areas are the result of a strategic consideration by the task force. The leading questions have been: How do we cover a) every core SPARCS topic (energy and heat), b) city-wide topics with relevance to SPARCS (e.g., housing), and c) topics of relevance for the partners in the Leipzig consortium including the Digital City Unit (digital/ smart city). To supplement the first and foremost technical topics mentioned the key strategic area of 'urban society' has been added to the selection. The resulting key strategic areas are: Housing, Energy and Heat, Urban Society, Digital City.

More importantly, the task force tried to align the overall City Vision process with existing political actions and strategies within the city of Leipzig. The process has been in parallel with an existing political initiative of the local council and the local government to create a dedicated climate protection program and the local governments call for a climate emergency (2019). Furthermore, the existing and extensive integrated urban development plan for the whole city of Leipzig served as a useful backdrop for the alignment of the City Vision to relevant localized key strategic areas. On top of that, the Digital City Unit has been planning to make use of the City Vision Leipzig results with special focus on the topic of digitalization.

The importance of the proper alignment of the SPARCS City Vision process to the local context cannot be stressed enough. It provided enough support to come up with a refined Leipzig City Vision 2050 supported by all stakeholders, which in result came up with a final consensus of vision statements.



### 3.1.6 Stating the Status Quo

It is necessary to mention that Leipzig's stakeholders have already made some experiences with relation to Smart City actions prior to becoming a Lighthouse City in SPARCS. Leipzig's western part of the city has been part of the EU Smart Cities and Communities project 'Triangulum'. At that time, Leipzig was involved as a Fellow City. The experiences made and the accumulated knowledge most likely helped to consolidate and extend the common ground of the status quo across the local consortium and beyond.

From an operational stance in SPARCS, the common starting point of the Leipzig consortium has been proposed by the City Vision task force (see key strategic areas). This proposition has been the base for the next step of inviting experts to the City Vision workshop for them to present their assessment over five different key strategic areas. This input has been a very fruitful impulse for discussion in the step 'Status Quo' of the Leipzig City Vision workshop. It also ensured that every stakeholder is on board with the assessment done by experts and the group.

Five experts present their input in short presentations on every five key strategic areas. The following group discussions resulted in the following Status Quo (see table below).

Table 12. Status Quo part of the Leipzig City Vision 2050 workshop

Key Strategic Area	What do we want to take with us into the future?	What do we want to leave behind us?
Mobility	Ambitious concepts; Car and bike sharing; Participation of citizen.	Fossil fuel; timidity; noise (traffic); high costs for environmentally friendly modes of transport; CO <sub>2</sub> .
Urban Society	Experiences with drastically changing circumstances/ up and down; Sensibility for the sustainability discourse; municipal ownership of urban utilities.	Cheap/stingy attitude in daily life; spatial and social split; lacking legal framework on a federal and state level; not taking citizens along the process sufficiently.
Digital City	Public Digital Services; Open data; Doing pilot projects; access to everybody (-> open data); improving the basis for decision-making.	'data silos'; analogue planning; lacking bandwidth.
Energy and Heat	Keep existing utility networks; continuous transformation efforts; decentralized energy production; making use of regional potentials; open-ended technology consideration.	Coal; natural gas; low CO <sub>2</sub> costs; unsystematic regulation.
Housing	Affordable housing for all; strong municipal housing sector; diverse forms of housing offer; regional cooperation; strong sense of	Rising housing costs for consumers; rising social segregation; to expensive energy efficient flats; rigid monument/heritage



Key Strategic Area	What do we want to take with us into the future?	What do we want to leave behind us?
	building culture; high quality of housing	protection; lacking consumer transparency in heat and energy production.

### 3.1.7 City Vision Workshop Overview

Table 13. Key data of the Leipzig City Vision 2050 workshop

Organizer Information	Organization Name	City of Leipzig
	Contact Person	Nadja Riedel (City of Leipzig)
	Contact (e-mail/tel.)	Nadja Riedel (nadja.riedel@leipzig.de)
Activity Information	Activity Name	City Vision 2050 (on-site workshop)
	Sessions (n. and type)	2
	Duration (min.)	450 min (day 1), 350 min (day 2)
	Location (place/address)	Pfaffendorfer Str. 2, Leipzig
	Date(s)	25.06, 26.06.2020

Table 14. Agenda of the Leipzig City Vision 2050 workshop

Day	Session	Start
Day 1	Welcome, Introduction, Warm-up	9:00
	Introduction: SPARCS and City Vision	9:45
	Break	10:20
	Status Quo: our city today	10:30
	Lunch break	13:10
	Trend Gallery (optional)	13:50
	Headlines from the Future	14:35
	Conclusion day 1	16:30
Day 2	Welcome and Wrap-up	9:00
	Headlines from the Future - presentations	9:25
	Headlines form the Future – further processing	10:25



Day	Session	Start
	Lunch break	12:25
	Conclusion City Vision	13:05
	Outlook: How to make use of City Vision results for a consumption and network simulation	13:45
	Conclusion day 2	15:00

After the Leipzig City Vision 2050 workshop, the task force continued its work to create the following documents:

- Reconciling results into a Leipzig City Vision 2050 document, incl. feedback from participants
- 'Quality Assessment Report' for the City Vision workshop
- Leipzig City Vision report (document at hand)

Every vision statement of the Leipzig City Vision 2050 workshop has been checked for consistency regarding every other vision statement by the task force. Slight corrections of formulations have been made in accordance with the workshop participants.

For every vision statement, a new explanatory text has been written by the task force. This has been done to put the statements into context and to make them accessible for a non-SPARCS audience. Results from the on-site graphic recording have been transferred to a digital format. Slight adaptations have been made to be in line with the vision statements and in accordance with workshop participants. An introductory text and a summary of the overall future vision has also been written. The results can be accessed in this report in the supplementary material.

### 3.1.8 Making use of the City Vision for years to come

The results of the Leipzig City Vision 2050 will be made available online for everyone to access. The planned implementation actions and citizen related communication on a neighbourhood level in Leipzig's west will benefit from the Leipzig City Vision 2050. The City Vision results serve as a dependable platform to communicate not only immediate actions but to make sense of what climate neutrality could mean for every citizen.

Furthermore, the Leipzig City Vision 2050 may be updated in the next years by the Leipzig SPARCS consortium to address changing expectations and general circumstances.





## 3.2 Espoo City Vision 2050 Report

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Espoo aims to be carbon neutral by 2030. In this city vision, we will look beyond that to the year 2050. What kind of an urban environment Espoo will be to live or to work sustainably in thirty years? When looking back at the past thirty years in Espoo and globally, the change in how we live has been remarkable. The Internet and email alone have fundamentally changed many industries and peoples' daily life. In Espoo, the work for a cleaner and sustainable world goes on. Espoo will be a frontrunner in sustainable development work between different stakeholders also in the future.

In this city vision, we map a desirable and a positive future of the Espoo region in 2050. We approach this issue from three themes of sustainable development: energy, mobility, and smart cities and digitalization. This report presents the outcomes of a workshop where we emphasized human-size and scale visions: what is the everyday life in Espoo like in 2050? Instead of examining these themes on a general level, we aimed to gain concrete insight and ideas of what it is like to live in Espoo in the future, in the future city. We also did not want to limit our thinking with specific technological solutions either as many of the future technological development paths remain unknown and unpredictable.

The workshop had participants from the city's sustainable development team and other city departments, who all brought their own expertise to the table, including different themes of sustainable development, service development, co-creation, citizen engagement and mobility. The workshop was held as a remote workshop due to the COVID-19 situation. The workshop participants have had the chance to comment a draft of this city vision report. The vision process has been developed by SPARCS partners SPI and Fraunhofer IMW. The final vision report has been written by the project team.

We plan to continue to develop the vision in the project if possible – our aim is to gather the residents and the local project partner organizations insights of the future city and future Espoo urban environment as well. Following the city's strategy, we want to develop things together with different stakeholders.

We hope you enjoy reading this report. Be inspired and imagine yourself in the future urban environment of Espoo in 2050.

### 3.2.1 Overall City Vision

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In the workshop, three key strategic areas, or themes, were examined in specific: energy, mobility and smart cities and digitalization. The task of the workshop focused on human-centric approaches: what is it like to live in Espoo in the year 2050, how does it look and feel like? Based on the workshop, twelve (12) vision statements were ultimately formed to depict the desirable future urban environment in Espoo in the year 2050. The examined themes are combined in the final vision statements, and some additional themes (such as construction, nature and biodiversity, circular economy) were also raised throughout the working process. Some of the statements are more statement-like in their appearance, some, on the other hand, depict the future daily life through narratives or story-like elements. At the end of the workshop, five of these statements were selected as most important through voting. It is worth noting that all statements received votes and that there was no noted incoherence between the statements. The five statements with the most votes are the following:



1. 90% of households in Espoo do not own a car – In Espoo, it is easy to walk, bike or use public transportation to get everywhere. One does not need a private automobile in Espoo. Espoo residents think of themselves as 'multimodalists'. Mobility services are widely available for diverse needs. The amount of (electric) assistance in mobility has increased, and, for example, elderly people can move actively and independently. Mobility assistance vehicles and tools are commonplace in all user groups.
2. The Carbon Neutral Espoo goal has been reached according to the set target date and the city has shifted towards positive energy districts. People are healthier as most of the daily travel is conducted by bicycle, on foot or by public transportation. Consumption based emissions or other negative effects of products and services, are marked visibly for the customers and they affect pricing. Energy is produced only through renewable sources, energy use in housing is low, and all (excessive) energy is collected (e.g., gyms). Materials are recycled effectively: the word 'waste' is no longer used. New housing units are designed to last long periods of time (at least 200 years).
3. Container houses enable flexible and affordable housing solutions. Small cottage-like cabins can be linked to one another when the living requirements and desires change. Aatu and Eeva get the services they need through a HandyBot home care service or a call-in home aid service. Eeva has type-2 diabetes that is in good control due to new technology. Aatu's increasing dementia has been halted by a brain chemistry simulator, operated by artificial intelligence. The brown and grey waters from the container houses go directly to nearby greenhouses. Hygiene problems have been solved with microbiology. Bacteria eat E coli. and other pathogens as well as residues from medicines. The container house directs excessive energy to a shared grid. Aatu and Eeva get supplementary monetary gains from selling their excess energy and biomass, which is a welcome addition to their pensions.
4. A robot bus directs a lost passenger with dementia back home – A health bracelet communicates with the robot bus seamlessly. Open data interfaces, though, also raise some concerns about cyber safety. The volume of autonomous mobility in Espoo is significant. Autonomous vehicles serve all user and citizen groups, and they are flexible in terms of service areas and routes.
5. The spatial needs of road traffic have decreased, and urban space is freed for other uses. Municipal loans have been paid and funds are available for new services.

In the future in Espoo, according to the statements, people live a good life in an enjoyable urban environment, where different smart solutions are making things easier for them. Different autonomous solutions have become mundane in Espoo area. The urban environment has been transformed into a greener and more liveable environment. A smarter and more efficiently working city has not meant a dominance of technology but that all the solutions have evolved into natural elements of peoples' everyday life and the environment. The abundant mobility services and the increased use of mobility assistance



and automation, as well as dense, walkable and bikeable environments, make it possible for people to live daily lives without the need of a private car, which has also made them healthier. The residents are aware of their own consumption behaviour and their different negative effects. In Espoo, the air is clean, and this has also been incorporated as an asset for the city tourism services and brand. Energy production and storage, as well as mobility, are emission-free. In terms of energy, people take part actively in the energy system, and new flexible living solutions have made the urban structure more diverse and help to organize one's daily life in different stages of life. It is easy to live sustainably in Espoo.

The other seven of the twelve vision statements are as follows:

6. Automation and robotics increase the efficiency and optimisation of mobility services and their safety (e.g., robot buses) and this has also created new services (e.g., mobility-on-demand). Different modes of mobility are easily combined in use. Resources are saved as decreased personnel costs and new jobs are forming in the sectors of digitalization/surveillance.
7. Capture of solar energy is enough to answer to all energy needs in Espoo (electricity, heat, transportation, industry) and it is stored for the whole year. Both the production and storage are done in the most environmentally friendly way possible.
8. Energy companies need to find new ways to produce added value as the customers produce their own energy.
9. Transfer of electricity happens wirelessly. For example, charging of electric vehicles happens wirelessly directly from the street.
10. Clean air attracts – Energy is carbon-neutral, transportation runs on alternatives other than fossil fuels (electric vehicles, decrease of private cars etc.). The amount of dust on the street has decreased due to the decrease in car traffic. Espoo supports and exports solutions to the world and decreases its own footprint globally.
11. Kera's self-sufficiency plans materializes above all expectations – Energy in the district is self-sufficient, and excessive production can be transferred elsewhere to nearby districts. The residents are active agents in the realization of the district's self-sufficiency. There is also local food production in the district.
12. 'Hau-bot', a spin-off from the work of a research institute, ends a 50 MEUR investment round successfully. With the help of new investors, the company extends the production of dog-walker robots towards global markets. The technology is based on the utilization of industrial robots, but in the product design, there is a heavy emphasis on user-based design and humane interaction. In the future, the product design will focus on the realization of new robot services. The service has been piloted together with the City of Espoo in a densely built district in Otaniemi and in Nuuksio National Park.



In the next sections, all twelve vision statements are examined in relation to the key strategic areas that formed the basis of the workshop.

### 3.2.2 Vision Statements

The vision statements are the main result of the Espoo City Vision 2050 and are described below.

Table 15. Espoo Vision Statements – Energy

Vision Statement	Detail
<p>[7] Both the production and the storing are done in the most environmentally friendly way possible.</p> <p>[10] Clean air attracts – Energy is carbon-neutral, transportation runs on other than fossil fuels (electric vehicles, decrease of private cars etc.).</p>	<p>Discussions on energy encompass generation of power, heat, and fuels, as well as distribution and waste utilisation. Energy can be considered a public good provided by society, and a value-adding commodity sold by the private sector, or a citizen-centred activity based on local initiatives and cooperatives. While the vision process emphasises positive aspects, many contributors stress the need to address negative externalities like climate change, material footprint, noise and pollution.</p>
<p>[3] The container house directs excessive energy to a shared grid.</p> <p>[3] Aatu and Eeva get supplementary monetary gains from selling their excess energy and biomass, which is a welcome addition to their pensions.</p> <p>[2] Energy is produced only through renewables, energy use in housing is low, and all (excessive) energy is collected (e.g., gyms).</p>	<p>Energy should be produced as near as possible to the consumer, preferably on rooftops, and shared to benefit close neighbours. In the initial brainstorming phase, the need for reducing consumption, self-generation and peer-to-peer transactions manifested in claims like Solar, Renewables, No-energy waste, Roads and walls and roofs harness energy, Active citizens share energy, neighbourhood energy, Energy from Gyms.</p>
<p>[8] Energy companies need to find new ways to produce added value as the customers produce their own energy.</p> <p>[7] Solar energy is enough to answer to all energy needs in Espoo</p>	<p>The increase of self-consumption impacts the wider structure of energy infrastructure and utilities. Old solutions must be abandoned in favour of novel approaches, and energy provision will become an integral part of urban life and citizen interaction.</p>



Vision Statement	Detail
<p>(electricity, heat, transportation, industry) and it is stored for the whole year.</p> <p>[2] Carbon Neutral Espoo -goal has been reached according to the set target date and the city has shifted towards positive energy districts.</p> <p>[11] Kera’s self-sufficiency plans materializes above all expectations – Energy in the district is self-sufficient, and excessive production can be transferred elsewhere to nearby districts.</p>	
<p>[9] Transfer of electricity happens wirelessly.</p>	<p>Access to modern energy services will enhance when mobile devices and micromobility equipment can be charged without wires and connectors. This extends the benefits of e-mobility to vulnerable groups that are not able to use cars.</p> <p>Energy storage, new innovation, export opportunities and global energy equality were addressed in initial brainstorming but not selected for vision statements. In the next steps it will be necessary to address these concerns and assess the technical viability and indirect effects of the selected vision.</p>

Table 16. Espoo Vision Statements – Mobility

Vision Statement	Detail
<p>[1] 90% of households in Espoo do not own a car – In Espoo, it is easy to walk, bike or use public transportation to get everywhere. One does not need a private automobile in Espoo. Espoo residents think of themselves as ‘multimodalists’. Mobility services are broadly available for diverse needs. The (electric) assistance in mobility has increased, and, for example, elderly</p>	<p>Mobility and transportation have a central role in the city and everyday urban life, both now and in 2050. Concerning mobility, the workshop’s participants are regarded as important developments in the initial brainstorming phase the major increase of sustainable mobility modes, walking, bicycling, mass transportation and different shared mobility services (MaaS) in the urban areas, transformation of the urban environment to support these, and equality in mobility.</p> <p>Car-ownership will decrease in the future: mobility needs are easily met through walking, (e-) bicycling, mass transportation and different shared mobility services. ‘Multimodality’, the seamless and smooth combination of different mobility modes on different kinds of routes, is in the centre of mobility. Mobility assistances, such as different electric mobility devices, will also</p>



Vision Statement	Detail
<p>people can move actively and independently. Mobility assistance vehicles and tools are commonplace in all user groups.</p>	<p>raise popularity in the future, and ease the mobility of different kinds of people.</p>
<p>[5] The spatial needs of road traffic have decreased, and urban space is freed for other uses.</p>	<p>Mobility and urban structure and urban spaces are inseparably interlinked: as sustainable mobility modes become more popular, the space that is freed from road traffic, can be reassigned for other uses, such as for liveable and thriving urban environments.</p>
<p>[10] Energy is carbon-neutral, transportation runs on other than fossil fuels (electric vehicles, decrease of private cars etc.). The amount of dust on the street has decreased due to the decrease in car traffic.</p> <p>[2] People are healthier as most of the daily travel is conducted by bicycle, on foot or by public transportation.</p>	<p>Internal combustion engines have been replaced with other solutions that make use of renewable energy. The air quality has improved, and the amount of street dust has decreased due to the decrease of private car use. The increase in walking and biking has increased the residents' health.</p>
<p>[4] The volume of autonomous mobility in Espoo is significant. Autonomous vehicles serve all user and citizen groups, and they are flexible in terms of service areas and routes.</p> <p>[6] Automation and robotics increase the efficiency and optimisation of mobility services and their safety (e.g., robot buses) and has also created new services (e.g., mobility-on-demand). Different modes of mobility are easily combined in use. Resources are saved as decreased personnel costs and new jobs are forming</p>	<p>In the year 2050, autonomous transportation has become mundane in cities and it has been integrated into the transportation system and urban structure to provide new kinds of services for the people. Autonomous transportation operates flexibly on different kinds or routes and areas, and it easily modifies to the oscillating needs through-out the day. The increase of autonomous transportation has also created new kinds of jobs that relate to the digitalization of mobility.</p>



Vision Statement	Detail
in the sectors of digitalization/surveillance.	

Table 17. Espoo Vision Statements – Smart Cities and Digitalization

Vision Statement	Detail
[3] Aatu and Eeva get the services they need through a HandyBot home care robot or a call-in home aid service. Eeva has type-2 diabetes that is in good control due to new technology. Aatu's increasing dementia has been halted by a brain chemistry simulator, operated by an artificial intelligence.	<p>Starting point for the discussion was the peoples, or residents, perspective. Technology is needed and built but we wish that it should not be visible nor on the expense of the green spaces of city. In general, technology is there to make the urban environment even greener.</p> <p>Different smart solutions are to make residents' lives easier, and technology and related services are accessible to one and all. Waste management is about reusing and recycling everything, nutrients are developed into fertilizers and waste, as such, is not produced hardly at all. Construction industry has moved to modular solutions, in which the houses and apartments are re-formed according to residents' needs. Health care has developed into new treatments, which enable the seniors and seriously ill to live in their own homes.</p>
[12] The technology is based on the utilization of industrial robots, but in the product design, there is a heavy emphasis on user-based design and humane interaction. In the future, the product design will focus on the realization of new robot services.	Giant leaps have been taken regarding robotics and automation development. Service robots are every-day tools for everyone: for cleaning, dog walking, elderly care, gardening, cooking. With the extra spare-time, people can develop themselves: for example, doing sports and other hobbies or studying.
[4] A robot bus directed a lost passenger with dementia back home – A health bracelet communicates with the robot bus seamlessly. Open data interfaces, though, also raise some concerns about cyber safety.	Robot vehicles are part of a versatile mobility service offering. The smart solutions of automated vehicles rise the level of customer service. Equal suitability and availability are central in smart services.
[2] Carbon Neutral Espoo -goal has been reached according to the set target date and the city has shifted towards positive energy districts. People are healthier as	New smart solutions are developed in test beds provided by the city and these solutions are the ones to be exported globally. Residents are aware of and know how to take advantage of smart solutions, also participating in the development processes themselves. Efforts have been taken to maximise the easiness to understand and evaluate sustainability and environmental impacts of residents' own actions and choices.



Vision Statement	Detail
most of the daily travel is conducted by bicycle, on foot or by public transportation. Consumption based emissions, or other negative effects of products and services, are marked visibly for the customers and they affect pricing. Energy is produced only through renewables, energy use in housing is low, and all (excessive) energy is collected (e.g. gyms). Materials are recycled effectively: the word 'waste' is no longer used. New housing units are designed to last long periods of time (at least 200 years).	Smartness, automatization and robotization create also new challenges. What will happen to privacy if we are continuously followed and supervised? How data security, open interfaces and data-based new services can all happen without compromising security of the individual. What will happen along digital disruption to traditional jobs and those educated to traditional jobs? Smart city may bring feeling of safety to the city but on the other hand it may create and increase new modes of crimes e.g., attacks through networks.

### 3.2.3 Implemented methods and procedure

The city vision workshop was held as a remote workshop (in MS Teams) with different departments of the city of Espoo. The participants – from the sustainable development team and other city departments – were divided into three groups to ideate the future of energy, mobility, and smart cities and digitalisation. The workshop was held remotely on Wednesday, 18<sup>th</sup> November 2020.

Due to the COVID-19 pandemic, and the city’s common guidelines for remote work during the epidemic, a remote workshop was chosen as the mode for the City Vision workshop. The shift to remote working, events and workshops that happened earlier in the year due to the epidemic had provided some good experiences of remote facilitation so having the workshop remotely was considered possible. The schedule and technical questions of the remote version of the workshop were discussed with Fraunhofer IMW and SPI – a remote mode meant that the original structure of the workshop had to be modified and the schedule to be condensed, ultimately into five hours (see the programme in section 3.2.7). Teams was selected as the remote meeting software as it is widely used in the City of Espoo organization, and Mural software was experimented with as an online whiteboard tool.

### 3.2.4 Description of the Task Force and Participatory Process

A task force of three people, comprising of the City of Espoo’s SPARCS team, was formed in August 2020 to organise the workshop. In the later stages of the process, a fourth





member from the city's sustainable development team (where SPARCS project is also situated in the city's organization) was also included in the task force as one of the workshop's small group facilitators (see section 3.2.7 for details).

During the planning phase, different scenarios were formed in terms for whom the workshop's intended participants would be. In the initial stages, the idea was to get people from the city organization and from the SPARCS Espoo consortium to participate. Due to the restrictions set by the COVID-19 situation, the workshop involved only the city organisation and its different departments, mostly in order to narrow the framework and facilitate the successful completion of remote workshop and to deal more efficiently with possible technical difficulties or software-related restrictions between organisations. Different options for Espoo consortium members' participation were envisioned, such as videoed introductions for the workshop participants about the organisation's view about the future, but the production of such videos was ultimately left out for due to time constraints.

One of the key ideas during the planning process was to gain citizen perspectives of the future urban environment to support the working in the workshop. An online questionnaire was viewed as the most beneficial approach. The workshop, however, ended up having a similar date as the city strategy's update process (for the next term and municipal elections in spring 2021), and two questionnaires directed to the Espoo citizens were already open and ongoing. Adding another questionnaire in this point was not possible, and the results from the other two questionnaires were not ready to be used in the city vision process.

### 3.2.5 Key Strategic Areas

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The three main themes of the vision: energy, mobility, and smart city solutions, have a profound impact on climate mitigation and strong interlinkages. They are also one of the main themes in the city's sustainable development work and strongly linked to SPARCS activities. The circular economy was a fourth key strategic area that was considered as one of the examined themes in the workshop in the planning phase, but the number of themes covered in the workshop was ultimately limited to three.

The energy sector focuses on environmentally friendly generation, consumer efficiency and citizen-centered solutions. It is coupled to mobility through the different fuel options and EV charging technology.

The mobility theme prioritises digital communication options and improved city planning to reduce transportation needs. Mass transit and comprehensive rail infrastructure enables low-emission urban transport, supported by robot buses, e-scooters and other micro-mobility options as a last mile solution. Private car use, where necessary, should be based on electricity or zero-emission fuels.

Smart cities and digitalisation are cross-cutting objectives in almost all city-level functions. In the context of energy solutions, they optimise value chains, reduce losses and waste heat inefficiencies, demand side management and enhanced freedom of choice for active consumers. In mobility, digitalisation will facilitate smooth routing and predictability.



### 3.2.6 Stating the Status Quo

The prevailing situation (Status Quo) was communicated prior to the workshop to participants using a three-page document, with one page for each theme (see Appendix 3 – Impressions and Results of the Espoo City Vision 2050 workshop). The status quo comprises existing solutions and infrastructure, as well as foreseeable near-term opportunities and commitments.

The present energy system is characterised by demand side management opportunities, citizen-centred distributed renewable generation and sector coupling of power, heat, and traffic fuels. The status quo in mobility comprises the modal split of walking, cycling and public transport, electric and autonomous vehicles, and comprehensive rail infrastructure. The most remarkable aspects within the current smart city and digitalisation theme are data collection and utilisation for the benefit of enhanced services, and the demonstration effect of the Kera district.

### 3.2.7 City Vision Workshop Overview

The workshop was held as a remote/online workshop on Wednesday 18<sup>th</sup> of November 2020. The program of the workshop was as follows:

Table 18. Agenda of the Espoo City Vision 2050 workshop

Wednesday 18.11.2020 09:00-14:00
09:00-09:45 Introduction and orientation to the theme:
Introduction of the workshop and the SPARCS project Preliminary talk: Markku Markkula, Chair of the City Board Preliminary talk: Pasi Laitala, head of Sustainable Development Introduction round – name, position, one word that comes to mind about year 2050 (compiled into a word cloud)
09:45-11:30 MORNING SESSION
A common view of the year 2050 – in themes of energy, mobility and smart cities and digitalization
11:30-12:15 Lunch (45min)
12:15-13:45 AFTERNOON SESSION
From a common view to a common future vision of Espoo in 2050
13:45-14:00 Concluding the workshop and final discussion

A Teams channel was formed for the workshop, and the invited participants were all added to the channel (Teams is in active use in the City of Espoo organization). This channel was used before the workshop to provide the participants a platform for discussion and to inform them about the schedule and other practical issues in advance. The Status Quo material about Espoo's current status in the selected key strategic areas, as well as other material that was used to orientate the participants (links to two TedTalks about urban futures and to Sitra [Finnish Innovation Fund] Megatrend cards) before the



event, was gathered in the channel as well. The Teams channel was also used to get feedback to the first version of the city vision text after the workshop.

Twenty-three (23) people participated in the co-working section of the workshop. The number of participants varied between the morning and afternoon sessions (before and after lunch). The participants were mostly from the city's sustainable development team (15 participants) where the SPARCS project is also situated in the municipal organization. Other participants were from the Environment Department (1), Public Works Department (1) and Service Development (4), Service Point (1) and Strategy (2) teams.

The workshop had a main facilitator (Elina Wanne from Espoo's SPARCS team), who was responsible for the overall running of the workshop and hosting the general program. The three working groups (based around the selected three key strategic areas) were facilitated by three other facilitators (Henri Horn, SPARCS; Jani Tartia, SPARCS; and Kaarina Kaminen, from the city's sustainable development team). A WhatsApp group was formed for the facilitators for communication during the workshop.

In the beginning of the workshop, the SPARCS project and the aim of the day were presented, followed by preliminary talks about future and urban transformation, which were held by the Chair of the City Board Markku Markkula and the Head of Sustainable Development Pasi Laitala (they did not take part in the actual workshop phase of the event). These talks were followed by an introduction round of the participants, during which a word cloud was formed of the participants' initial thoughts about the year 2050 ((see Appendix 3 – Impressions and Results of the Espoo City Vision 2050 workshop).

The visioning took place in five (5) steps on a browser-based sketch-board (see Appendix 3 – Impressions and Results of the Espoo City Vision 2050 workshop). In three small groups. The process of the workshop (the five steps) was marked in the board as a boardgame-style presentation. In the first stage (1), the participants were directed to come up with ideas and issues (as notes on the board) about the visions of the future, and then (2) to place those notes, whilst discussing them in groups, inside provided circles that depicted the importance or relevance of the issue (most important ones in the middle, less-so on the outer rims). In the third stage (3), each group circulated each groups' 'table' (as in world café), where they commented on each topic, and then returned back to their own table to finish their theme on the basis of the comments from other groups (the facilitator of the group remained in the table to brief the other groups to the issues discussed). The results were presented to others. [Lunch time.] In the next stage (4) the notes were further worked on to modify them into 4–11 headlines (using the provided newspaper template), and 3–4 of those were presented to the whole group afterwards. These headlines were also selected for the group's main insights, and they were further developed into broader future vision statements in the fifth, and final, stage (5). The statements depict a desirable urban environment and everyday life in Espoo in 2050, instead of technical solutions, goals or processes.

### 3.2.8 Making use of the City Vision for years to come

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The aim is to continue to map the desirable urban environment in 2050, and the future city, as part of the SPARCS project. The workshop that this report depicts, was the first step and provides a view from the city organization's perspective. In the future, the aim is to gather the SPARCS Espoo consortium partners' as well as the residents' (as part of WP3



Task 3.6 Sustainable lifestyles work) views. The aim is to organize workshops, inquiries or other activities for these stakeholders during the project, and to update a new version of a vision for desirable city environment in 2050 (Final City Vision 2050 – M60), and the future city, as compiled from all three viewpoints (city organization; SPARCS partners; residents).



### 3.3 Lviv City Vision 2050 Report

Lviv climate-neutral in 2050? An extremely ambitious goal that needs consolidated efforts of all stakeholders and a combination of top-down with bottom-up initiatives. We set that goal as the City Vision Lviv 2050 and concentrate on three main strategic areas that will define our future development. It is a co-shared agreement on what the city future would ideally and ambitiously look like. Overall, this city vision is covering spatial development, mobility and infrastructure and housing aspects of Lviv development and there are 13 statements that explain this overall vision. Statements were designed jointly by a group of stakeholders representing the municipality and NGOs from Lviv. It will be further elaborated by wider public and politician engagement to be transformed into a political agenda for Lviv development for the next 30 years.

#### 3.3.1 Overall City Vision

Lviv is climate-neutral, compact and polycentric, zero waste and energy positive, inclusive and safe city, with strong leadership positions in Central and Eastern Europe.

Decentralization, neighbourhood development and participatory planning approach developed a “city of short distances” and achieved the effective and multifunctional use of space. “Belt of Opportunities” became the largest Urban Lab (or Innovation Hub) in Europe and turned Lviv into an exporter of innovations and smart city solutions.

Infrastructure and housing sector meets the highest energy efficiency standards. Due to recycling and re-use of resources Lviv achieved a zero-waste level. Renewable energy resources provide 100% of energy needs.

Mobility in Lviv is safe, sustainable, inclusive, and environmentally friendly, comfortable, fast and affordable for all.

#### 3.3.2 Vision Statements

The vision statements are the main result of the Lviv City Vision 2050 and are described below.

Table 19. Lviv Vision Statements – Spatial Development

Vision Statement	Detail
Lviv is a compact polycentric city of short distances with multifunctional neighbourhoods	Lviv is developing according to the concept of “city of short distances” and subcentres. There is no more need for daily commuting between neighbourhoods so people can safely walk or cycle to satisfy their daily needs. Local communities in Lviv become important actors in city development, particularly in the energy market
After the transformation, the former industrial zones (“belt of opportunities”) became	The potential of the former industrial zone in the “belt of opportunities” is fully used and it is transformed into the Urban Living Lab. New businesses use land more effectively and deliver innovations and smart-city solutions to city development. The



Vision Statement	Detail
a main driver of innovations and development in Lviv.	biggest Urban Lab in Europe makes Lviv an exporter of urban development innovations and creative solutions.
Strong relations with other communities made Lviv a leader in Central and Eastern Europe.	The Lviv agglomeration unites communities from the whole functional area of Lviv. The city developed strong relations and cooperation with other communities in such spheres as mobility and infrastructure, land-use and energy management, social policy and becomes a leader among the central and eastern European cities.

Table 20. Lviv Vision Statements – Mobility

Vision Statement	Detail
Comfortable and safe mobility for all.	Pedestrians and pedestrian mobility are the most prioritized among other mobility modes. All walking infrastructure in Lviv is accessible for people with reduced mobility. Cycling and pedestrian “green” routes become an alternative to transportation in all districts and neighbourhoods.
Multimodal sharing mobility.	All modes of transport are well developed and include sharing services. Mobility hubs are in the city where citizens could transfer from one mobility mode to another. All transport modes are connected by the multimodal e-ticket system.
Integrated mobility system that includes surrounding communities.	Lviv becomes an agglomeration and actively cooperates with neighbouring communities. After the tram and railway systems were integrated, mobility hubs formed a system and geographical scale of e-ticket became wider, cooperation in the mobility sphere increased. Railway stations are mobility hubs with a regional importance. Citizens from neighbouring communities actively use electric transport and sustainable mobility modes.
Effective use of urban space.	After the prioritization of pedestrian and cycling mobility in Lviv, the pedestrian area increases and road surface decreases. Cars are moving only along main streets where public transport lines exist too. This causes a more efficient use of limited space and increases the development of SMEs in Lviv. Municipal public transport is using railways for urban trains. Delivery services are synchronised, and routes are optimized for user needs. Shared delivery transport also exists. The number of large delivery vehicles decreased, and delivery has become mainly electric. Small deliveries are organised by electric bikes and electric air transport.
Zero-carbon transport.	“City of short distances” drives a pedestrian, bike and public transport mobility in Lviv. Public transport is electric and is not polluting the environment in the city. Car sharing within the city is only electric.



Table 21. Lviv Vision Statements – Infrastructure and Housing

Vision Statement	Detail
Energy efficient and environmentally friendly city.	Lviv is using energy effectively and 30% is produced from renewable energy resources. In order to achieve this the energy modernization was provided for all municipal infrastructure and housing sectors. Virtual power plant systems integrate various renewable energy sources from different companies, providing reliable power supply to users. Many small energy producers operate within the functional area of Lviv.
Positive Energy.	Local energy potential of Lviv is actively used for energy generation. After the agglomeration is established and rapid development of virtual energy plants, communities in the city and surrounding neighbourhoods become energy communities and exchange energy between themselves. The city of Lviv is still the biggest energy consumer, but energy from other energy communities is transmitted to Lviv and other energy consumers. The agglomeration, in general, has a positive energy balance. It becomes possible after the rapid growth of renewable energy production in the neighbouring communities and due to high energy efficient standards, that is supported by residents, municipal companies, government and businesses.
Attractive and affordable housing for all.	After the energy modernization in Lviv, 100% of resource monitoring, low energy consumption and lower consumption of non-energy natural resources in general, more than 70% of people in Lviv feel benefits from sustainable energy use. The visual image and quality of houses and districts improves. A systematic approach has been introduced to create new and modernized energy efficient districts. Quality of life index that measures life satisfaction among residents is higher than 4,5 out of 5.
Democratic and effective infrastructure and housing maintenance.	Maintenance of infrastructure in Lviv is organised by joint efforts of municipal companies, service companies, homeowner associations, and housing associations. It makes a transparent maintaining system and more rational use of resources and energy.
Zero waste.	Waste generation decreases by 50% due to circular economy practices that introduce reuse- and repair-oriented design, longer lifespan of products and spare parts due to their reuse, highly efficient recycling technologies.

### 3.3.3 Implemented methods and procedure

The City Vision Workshop in Lviv was designed according to the methodology provided by the Fraunhofer Centre for International Management and Knowledge Economy IMW, with some differences to better meet the COVID-19 regulations in Lviv and suitable time frames of key participants. Thus, it was organised as a 2-day outdoor workshop.

During the first day, a short presentation of SPARCS project and theoretical input about climate-neutral cities were provided. After that, experts provided presentations about the status quo and some plans already identified in strategic documents regarding different



strategic areas of Lviv (general city development, spatial development, mobility, waste management, energy, environment, housing, water management etc.). Additionally, a presentation of the existing situation and plans regarding the smart city components, including provision of municipal services to citizens online, data collection and processing etc in Lviv were presented and discussed. After presentations and discussions, participants continued work in groups and defined challenges (trends) related to each key strategic area. Group work was organised in a “world cafe” format. Hence, participants were able to add their suggestions for each key strategic area. Also, during the group work and coffee-break participants got acquainted with different trends that were provided by Fraunhofer Centre for International Management and Knowledge Economy IMW.

During the second day of workshop attention of participants was concentrated on vision statement development. We started to prepare press articles and later transformed them into vision statements. However, we changed a proposed methodology a little bit and made it shorter in time. Thus, we have draft vision statements that now need to be reviewed by experts and additionally communicated with participants. We decided to leave the draft vision as a result of the workshop, because from the experience of vision development for Lviv, 1 or 2 days are not enough to create a vision that will motivate people and will be approved by citizens in general and by Lviv City Council or City Executive Committee, in particular.

### 3.3.4 Description of the Task Force and Participatory Process

The Task Force for a City Vision includes representatives of institutions listed below:

1. Department of Housing and Infrastructure
  - House Condominium Resource Centre
  - Transport Office
2. Department of City Planning
  - Environmental Office
  - Architecture Office
3. Department of Development
  - IT Office
4. Department of Economic Policy
  - Energy Management Office
5. Department of Waste Management
6. LCE Lvivavtodor
7. LCE Lvivelectrotrans
8. LCE Municipal IT Centre
9. Municipal Institution City Institute
10. NGO PLATO
11. NGO Comfort City
12. NGO Association of Energy Efficient Cities in Ukraine

More detailed planning and management of actions, after the approval of the Vision by a City Council, will be organised together with City Council Departments, municipal companies, NGOs (both representing the interests of people in Lviv and advocates for better quality of life and climate neutrality in Lviv) and universities. Citizen engagement





is planned to be done using surveys (currently work on testing online surveys and databases of people for future surveys) and public consultations.

### 3.3.5 Key Strategic Areas

The Lviv Task Force has considered as Key Strategic Areas the ones detailed in the table below.

Table 22. Selection of the Key Strategic Areas in the Lviv City Vision Workshop

No.	Key strategic area	Short description
1	Spatial City Development	Lviv is growing in size. New communities will be added to Lviv and a part of the city area is used very inefficiently. Thus, the city has many challenges in terms of city planning and climate change. Therefore, new approaches need to be used, for example, a city of short distances, for the spatial development of Lviv to reach climate neutrality.
2	Mobility	Mobility in Lviv is characterized by a growing number of private cars and significant air pollution caused by transport. Thus, more sustainable modes of transport and zero local emission would be a key aspect for climate neutrality.
3	Infrastructure and Housing	Infrastructure and Housing sector in Lviv is the most outdated and needs to be improved for decreased energy and other resources use. This strategic area also includes waste management. Huge consumption by residents produces waste that needs to be reduced and reused for municipal energy (organic waste) and to decrease pollution of air, water and lands. The city is planning to improve waste management and reduce the amount of waste since the municipal landfill was closed due to a tragedy that happened there in 2016.

### 3.3.6 Stating the Status Quo

Status Quo was introduced by the experts during their presentations. Current challenges regarding climate change were presented with main goals that need to be achieved to reduce negative impacts of climate change in Lviv (heat island effect, flooding, air quality etc), in particular, climate change resilience, mitigation and adaptation goals.

Also, an update about implementation of the General Development Strategy of Lviv until 2025 was explained with indicators related to quality of life in Lviv, economic development and environmental sustainability. Lviv had not achieved the previously set goal of 20% decrease of energy use in 2020 compared to 2011, but it has a significant increase in achieving planned indicators of quality of life and economic development.

Regarding the spatial planning and development, the Chief Architect of the city presented the current city Master Plan and related documents that are partially non-usable today because they were prepared based on the city planning traditions of the socialist era. The main problem is that all these documents are not realistic to achieve because of costs



needed to implement them. Thus, a city has chaotically developed within the last 10 years. A new approach in city planning - Integrated Urban Development, was launched in Lviv in 2012 when the Integrated Urban Development Concept for the central part of Lviv was introduced. In 2020 the Integrated Urban Development concept for the city was developed (and ready for approval by the City Council) which is aimed at creating the city of short distances with many subcentres.

City infrastructure and housing is in a bad condition today. Due to poor maintenance in the last 30 years, water, energy supply, waste management and other sectors are not developing but surviving. The municipality needs to spend many resources on urgent problem solving so that there are not enough resources for modernization and development. Long-lasting strategic investments, step-by-step improvements with large engagement of external costs are only planned in the Green City Action Plan until 2035.

As part of the infrastructure, the transport system in Lviv was also not maintained properly. Because of a low purchasing power of Lviv citizens from the 1990s and the beginning of 2010s, a current modal split is quite sustainable with 52% of public transport users, and 23% of car users. The situation with public transport needs to be improved as soon as possible in order to keep a sustainable modal split and develop it further. Otherwise, people will choose private cars in the city and traffic will be more inefficient and the air more polluted. A Sustainable Urban Mobility Plan approved in February 2020 has a task to improve and develop mobility in Lviv for the next 10 years.

Last, but not least, Lviv is one of the leaders in Ukraine in terms of smart city development. It started opening municipal data sets in 2017 and currently there are more than 600 open data sets available for developers to design smart city and data driven solutions. In addition, the municipality itself develops solutions for improving government in Lviv (e-government) and participation instruments.

### 3.3.7 City Vision Workshop Overview

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City Vision Workshop was organised in the face-to-face mode during the first part of the day on 24th and 25th of September 2020 in the inner yard of the Lviv City Council. There were 25 participants on the first day and 10 participants on the second day, representing different municipal institutions, and two representatives of NGOs. It was organised and moderation was provided by the City Institute.

Several expert inputs were provided on the first day about climate-neutral city, complex and spatial development of Lviv in the present and future, mobility development, waste, infrastructure and housing status quo with plans for the future, smart city trends and how Lviv is responding to them. Later participants identified trends (in Ukrainian language a world “trend” is more positive and is associated with future development than “challenge”) and continued their work with newspaper headlines. The headlines were not well prepared, because many participants did not take it very seriously. Nevertheless, they started to formulate statements for a vision and many aspects of headlines became clearer too. The most interesting topic for participants was mobility, but several statements for other key areas were also identified.

As a result of joint work, vision statements were created for each key strategic area.



### 3.3.8 Making Use of the City Vision for Years to Come

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The City Vision Workshop and related processes are already integrated with strategic planning and management in Lviv. Taking into consideration new challenges and trends (including the COVID-19) we need to upgrade other strategic documents. So, it will be an integrated process of legitimization and getting use of City Vision. It is planned to implement several tasks regarding that process (not yet approved by all partners):

- prepare and get a decision of the City Executive Committee to update city strategic documents and integrate climate-neutral aspects as well as other vision statements from the draft City Vision to other strategic documents (first quarter of 2021);
- step-by-step monitoring of City Executive Committee and adding of vision statements from a draft City Vision to decisions related to the key strategic area (2021);
- finalize the integration of the City Vision 2050, including the public engagement and wide political engagement;
- get approval by City Council (end of 2021-beginning of 2022).



### 3.4 Kladno City Vision 2050 Report

Kladno's vision is constructed as a live mechanism and it is a dynamic vehicle showing continuous progress in the city. To ensure such a principle, the vision consists of three dimensions:

- content focus - the city defines the targets to be achieved by 2030 and 2050; the vision is representing the overall direction in the city and at the same time particular priorities/sectors such energy, mobility, etc.
- dynamics and relevancy – the vision is formulated over time; it is a continuous mechanism; its content focus is defined and tested over time, and being adapted to the mid-term needs; the dynamics is also based on determining the measurability of the vision, by using clear and tangible indicators and qualitative values;
- process support - the vision has to be supported by the administration; political mandate and operational support including clear and effective administration, communication and stakeholder participation; continuous learning of the organization is in this regard essential.

The process then helps, speeds up, facilitates, but in the negative case it can also slow down or even limit the achievement of the targets and vision itself. To see the vision picture from a complex perspective, the integration of the four horizontal principles has to be in place:

- being inclusive (in complex way incl. stakeholder engagement as a core approach);
- ensuring resilience approach;
- designing priorities and measures in a smart (city) way;
- planning in a sustainable way.

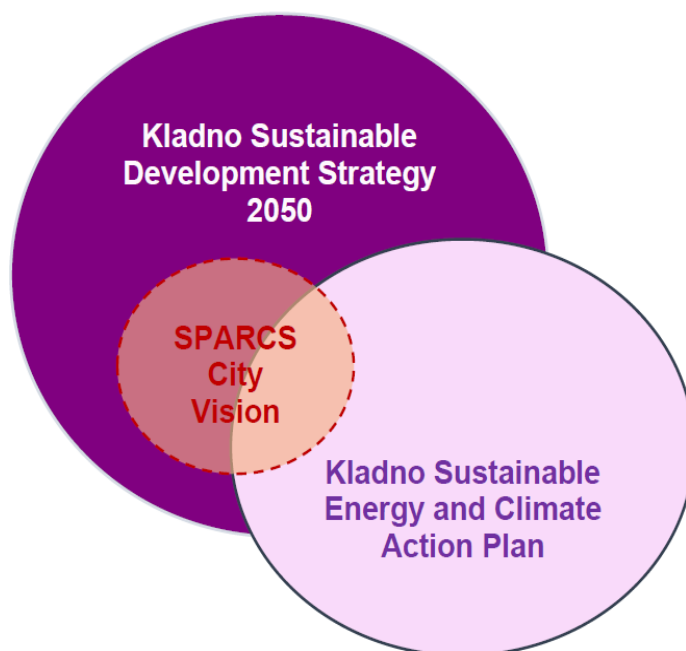


Figure 3. Link between strategies and the vision in Kladno



Together with the city vision, a City Brand is being designed – the brand will use the potential of the city especially when comes to citizen’s needs. Here the city is perceiving energy, sport, and other fields as an appropriate focus.

The city vision should be framed by an overall city strategy since at the same time the Sustainable Development Strategy and Sustainable Energy and Climate Action Plan are being prepared. Here, ensuring the vision preparation both at the strategic and thematic level in a mutual way is important.

### 3.4.1 Overall City Vision

The city vision is being designed in line with the framework target of carbon neutrality. In this term the city transformation by the year 2050 is foreseen; to tackle the “industrial” change, the vision is focusing on the modernization of the infrastructure and sources, on the innovation and technology exploitation and citizen’s needs (e.g., effective public services).

The city of Kladno, like other European cities, focuses on energy transformation with economic opportunities to be revealed and detected, and with regard to social impact. Energy goals are accompanied by emission reduction targets. Achieving decarbonisation targets by 2050 would require far-reaching technological changes in all sectors. It must go together with reducing the use of coal for electricity and heat production, changing the transport behaviour and the composition of the other sectors (including construction) should be transformed. Furthermore, it will be necessary to reduce the energy consumption of buildings and bring innovative and modern technology.

The question is whether and how the city can achieve such ambitious goals. The process of the vision preparation, its design and implementation, is crucial in this term.

The city aims to achieve the carbon neutral environment but at the same time the local economy and job opportunities for citizens remain priorities. Thus, the vision should focus also on economic (incl. entrepreneurship, public procurement, and collaboration), social (incl. services, requalification, education) and structural aspects.

The general focus is clear as seen above. Particular focus and determination of the vision should follow long-term city global goals (see Figure 4 below).

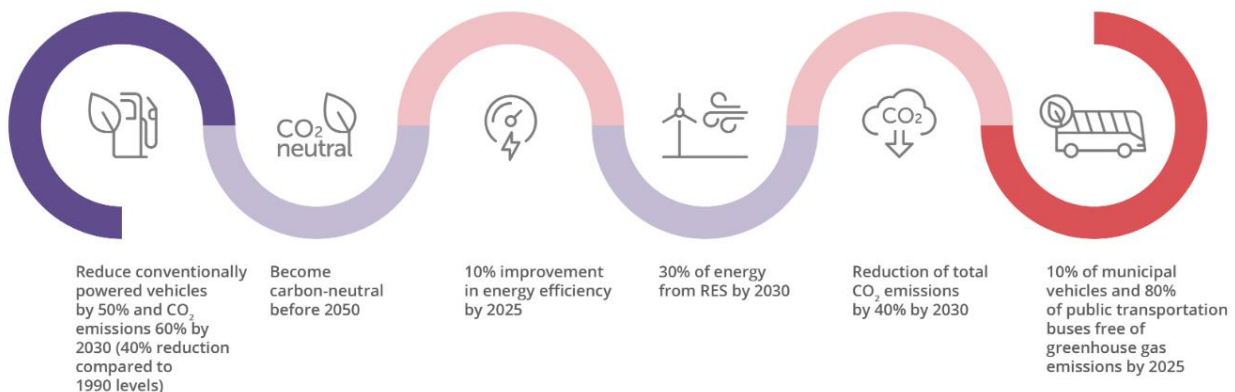


Figure 4. Kladno City Goals within SPARCS



Each vision statement mentioned below, is supplemented by short explanatory texts and some visualisations. There is still space to add any statements at a later stage.

### 3.4.2 Vision Statements

The city of Kladno subscribes to the sustainable development goals and has contributed to nationally determined contributions to the Paris Agreement (COP21) and Energy and resource management.

This strategic area covers energy production, distribution and storage, water management and energy efficiency in buildings.

Table 23. Kladno Vision Statements - Efficient Sources and Modern Networks

Vision Statement	Detail
Kladno has a stable system of energy heat and electrical energy distribution integrating large zero emission energy source and decentralised renewable energy sources.	<p>Kladno has transformed its energy system towards low-carbon energy solutions and integrated renewables into its existing grid. Kladno has replaced the existing coal source of power and heat energy.</p> <p>The city sustains its district heating network, has integrated decentralised renewable sources in it and has explored local potential of mine water for energy production and storage.</p>
Kladno has an infrastructure for short and long-term energy storage.	<p>Kladno further supports stability of the grid and efficiency of local energy use by creating infrastructure for power and heat energy storage.</p> <p>Municipal buildings and storages provide flexibility services to the grid and the city supports local stakeholders in joining the effort.</p>
The energy sector contributes to the reduction of the carbon footprint of the city, improves the quality of life of its citizens and creates new job opportunities.	<p>Kladno sees the energy transition as an opportunity to improve the environment for its citizens and to create new jobs.</p> <p>Kladno invites local businesses into joint innovation projects and builds partnerships to support the private sector in developing new solutions and business opportunities in the area of clean energy.</p> <p>Kladno evaluates energy related projects based on their impact on the planet, people and local economy including new know-how they can bring to the city.</p>
The city is resilient to energy outages and key infrastructure is protected against crisis scenarios related to energy distribution.	<p>As it is essential to maintain stability and security of the grid when implementing new solutions, Kladno has a system of reserve energy sources for critical infrastructure and invests in solutions protecting the local energy grid against fluctuations, outages or attacks.</p>
The city protects and efficiently manages sources of water.	<p>Kladno is using nature-based solutions for rainwater retention and absorption reducing the needed capacity of sewage treatment plants.</p>



Vision Statement	Detail
	Kladno uses grey water in public buildings and reduces water loss in the distribution network.

Kladno sees mobility, spatial planning and public space quality as interlinked areas. Kladno creates safe, pleasant public space with intelligent mobility solutions, accessible recreational areas and to reduce distances of travel.

Table 24. Kladno Vision Statements – Mobility and Public Space. City in motion

Vision Statement	Detail
Kladno has a high-capacity high-speed train connection with Prague.	The city is connected to Prague and the international airport by modern high-speed train connections.
Kladno has reduced the transit traffic through the city.	Kladno has a complete ring road system built around the city (also connected to highway) and uses complementary measures to reduce traffic in the city.
Kladno is an exceptionally pleasant place for sport.	Kladno is known as a city of sport offering outdoor and indoor spaces for recreational and professional sport activities. This brand attracts new inhabitants as well as visitors to the city and improves the quality of life and well-being of its citizens.
Kladno is a safe place for all types of transport and for all citizens.	The city implements measures actively reducing traffic accidents and crime in the public spaces. All modes of transport can coexist safely in the public space with special emphasis on cycling and walking. Ensuring a smart and properly connected network of parking would bring more “comfort” within transport in the city. The streets feel safe and clean, further increasing the walkability of the city.
Kladno is a city of short distances.	Amenities and recreational spaces are within walkable distance from anywhere in the city.
Kladno has a high share of zero-emission transport.	Kladno supports low emission transportation by building infrastructure for cars using alternative fuels. The public transportation uses low-and zero carbon technology (vehicles and infrastructure) and is well connected with other modes of transportation. Exploitation of electromobility is helping to achieve of the targets in this respect.

Digital networks are the backbone of a smart city. They are a “vehicle” to reaching ambitious goals. Digital networks distribute data for evidence-based decision making, accessible information to all stakeholders and enable efficient communication within the municipal organizations and with citizens, visitors and businesses.



It is crucial to support digital literacy and internet access for all citizens, so nobody is left behind. Digitalization of current and uptake of new municipal and private services become a standard.

Table 25. Kladno Vision Statements – Digital Networks and e-services. City in the pocket

Vision Statement	Detail
The agenda of the municipal office is fully digitalized.	<p>Citizens, businesses, and organizations carry out all communication with the city online.</p> <p>City departments and organizations share data and integrate their digital agenda.</p> <p>The municipal organizations are operating fully in online mode.</p>
All citizens have high level of digital literacy and an internet access.	<p>The city actively helps its citizens to access the internet by providing digital education to those who have insufficient digital literacy and supports requalification programmes.</p> <p>The city helps socially vulnerable groups, to access the internet, with emphasis on school children and the city supports usage of new media in education.</p>
Policy making and strategic decisions are based on real evidence.	<p>The city has an open data platform and a sensor network providing statistics as well as real-time data. Municipal organizations are actively contributing with open data sets and using the information in their decision making.</p> <p>Data collection and assessment help targeting future investment and projects.</p>
City has efficient system of collecting and processing citizens' feedback	<p>The city collects citizens' feedback through digital tools (suggestion app, repeated survey of satisfaction and through social media, etc.)</p> <p>The city uses a combination of online and offline tools to engage citizens and key stakeholders in its projects and strategic planning.</p>
The city provides accessible information and data to all citizens, visitors, businesses and partners.	<p>The city builds accessible applications enabling individual user groups to make use of the open data. This includes public transport apps, interactive maps, easy-to-read statistics and more.</p>

Good governance is a continuous horizontal priority and thus a key strategic area that applies supportive tools for city development.

Willingness, responsibility, commitment and an open mindset for new approaches is being a regular part of the good governance environment and strategic priorities planning.

Reaching the overall smart and interconnected ecosystem supported by local administration might speed up an urban transformation. And it results in ensuring the good quality of life in the city, the local development, the attractiveness, and reputation of the city.





Table 26. Kladno Vision Statements – Good Governance. Ficus on citizen’s needs

Vision Statement	Detail
Kladno provides a high quality of public services (general statement)	<p>Public services are provided in the highest quality and they are based on the demand of the users (life situations, targeted services provisions, etc.).</p> <p>The quality of the services depends on the quality of the organization/administration, its ability of continuous learning, and its capability to provide tailored services (all conditioned by a political decision to do so) and Kladno is a clear example of such an environment.</p>
Kladno ensures open, transparent, and communicative administration	<p>The public administration ensures involvement of the citizens, firms, and other stakeholders into development planning process.</p> <p>Participation and collaboration are essential to reach common goals.</p> <p>Communication tools, feedback collection, open forms for cooperation shall be introduced.</p>
Kladno has the ability to plan in a smart and strategic way	<p>Strategic planning within the administration helps the city with overall development planning.</p> <p>Continuous learning of the institutions contributes to higher quality of mission and their employees.</p> <p>An ability to observe an innovation, and to implement it into investment planning and decision making is basic skills in public administration.</p> <p>Cooperation with research, education institutions and business are a routine approach when it comes to city development planning.</p> <p>Smart and sustainable principles are incorporated into basic operation and solving common and complex tasks.</p>

Positive Energy Districts are both part of the overall vision and strategic area per se. PED in its broader understanding is seen as an innovation district that will serve for piloting new technologies and business models in the city.

In contrast to the good governance and the three sectoral areas, Positive Energy District statements are based on the discussion within a narrower group of stakeholders, representing the Vision Task Force, including municipal representatives (city leadership and city administration) and the Czech Technical University that provides expert support in the SPARCS project.

First and foremost, Kladno PEDs will create liveable places for their residents as well as for businesses and other users. PEDs will contribute to the sense of community by building upon the interdependence between residents, housing associations, local businesses and municipal authorities. This interdependence will take form in sharing energy and strengthening local services etc. Thus, the PEDs will contribute to the social cohesion of the city.



Kladno PEDs will provide a high standard for working, living and relaxing to their inhabitants, workers, and visitors, while contributing to a decrease in negative environmental impacts. The public space will be planned in collaboration between the municipality and developers based on a mutual agreement regarding the needs of residents. Energy solution will maximise the local production from renewable resources from sun, air, geothermal, including mine water, or biomass. Mobility solutions will be based on carbon free transport modes, favouring shared user models.

Companies will use the districts to apply innovative methods and use new business models, especially in the field of energy, data services and mobility.

The districts will increase the attractiveness of the city, support local services and foster a new start-up culture. They will further contribute to the local economy by saving building operation costs and by offering an opportunity for additional income to citizens and businesses that decide to actively participate in the energy market instead of paying to outside suppliers.

The statements are based on experience and work accumulated throughout the first year of the SPARCS project implementation. Two key activities took part in 2020:

- Assessment of the individual localities (candidate PEDs) regarding urban planning, economic conditions and technological opportunity. The scope of follow-up research and planning was narrowed down to two priority districts of the city (PED South, PED SAMK in the sports area).
- Individual stakeholder attitudes and interests were analysed in a series of interviews and meetings (over 20 meetings related to PED with external stakeholders). The 2050 Vision suddenly became tangible as the discussion revolved around possible urban and technology design of the districts. These interactions will continue together with the development of the city-wide SPARCS Vision.

Table 27. Kladno Vision Statements – Positive Energy Districts. Zooming on transformation

Vision Statement	Detail
Kladno has several PEDs in operation	Several positive energy districts are providing their energy surplus to the surrounding areas of the city.
The city has an active partnership with local PED ecosystem and project consortia in individual PEDs	The municipality is working together with the local PED ecosystem to improve the quality of services to citizens. The local ecosystem partners actively form project consortia around specific services and innovative projects.
Citizens have stake in their local energy communities contributing to Kladno PEDs.	It is a standard for Kladno inhabitants to be actively involved with the energy system inquiring about how they can contribute and benefit from it. A significant proportion of them takes part in local energy communities and new energy services.
PED provides not only energy, but also economic and social value added	PED design represents an urban (energy) transformation concept in the city, and serves as a showcase of economic, social, urbanistic and energy balanced development direction in the city.



### 3.4.3 Implemented methods and procedure

The city’s perception of the desired future is serving as a basic input for vision determination, other stakeholder’s opinion and perspective is even more desirable. In both cases, questions such as, “what opportunities the city shall strive for, what directions should serve as an economic driven force for the future; how the city will achieve and balance the goals (realistic and ambitious ones), how to deal with the impact of the pandemic situation, how to strengthen the local economy” have to be answered, partially during the design phase, and specifically within implementation period.

The city vision is not a self-standing process and it does not represent static or short-term activity. The SPARCS project and other impulses have stood behind launching the long-term live, continuous, and necessary process of which the vision preparation is part of. The vision design is part of the bigger picture that includes, in particular, a long-term strategy (Kladno Sustainable Development Strategy 2050) and action plan (Sustainable Energy and Climate Action Plan 2050). These processes are happening at the same time, in the same environment, under one umbrella responsible administration.

Thus, there is the great potential to maximize effects from the interaction between strategies, vision preparation and various teams of experts.



Figure 5. Thematic and hierarchical links between ongoing processes in Kladno



The timeline (see on the next page) shows processes, in the past, present and in the future, which relate to the vision and other activities in the city. Since several processes are in place, the timeline is a bit complex, but the city administration is continuously checking its logic and functioning, as well as overall interconnection (both top-down, from vision to projects, and bottom-up – from systemic projects to vision).

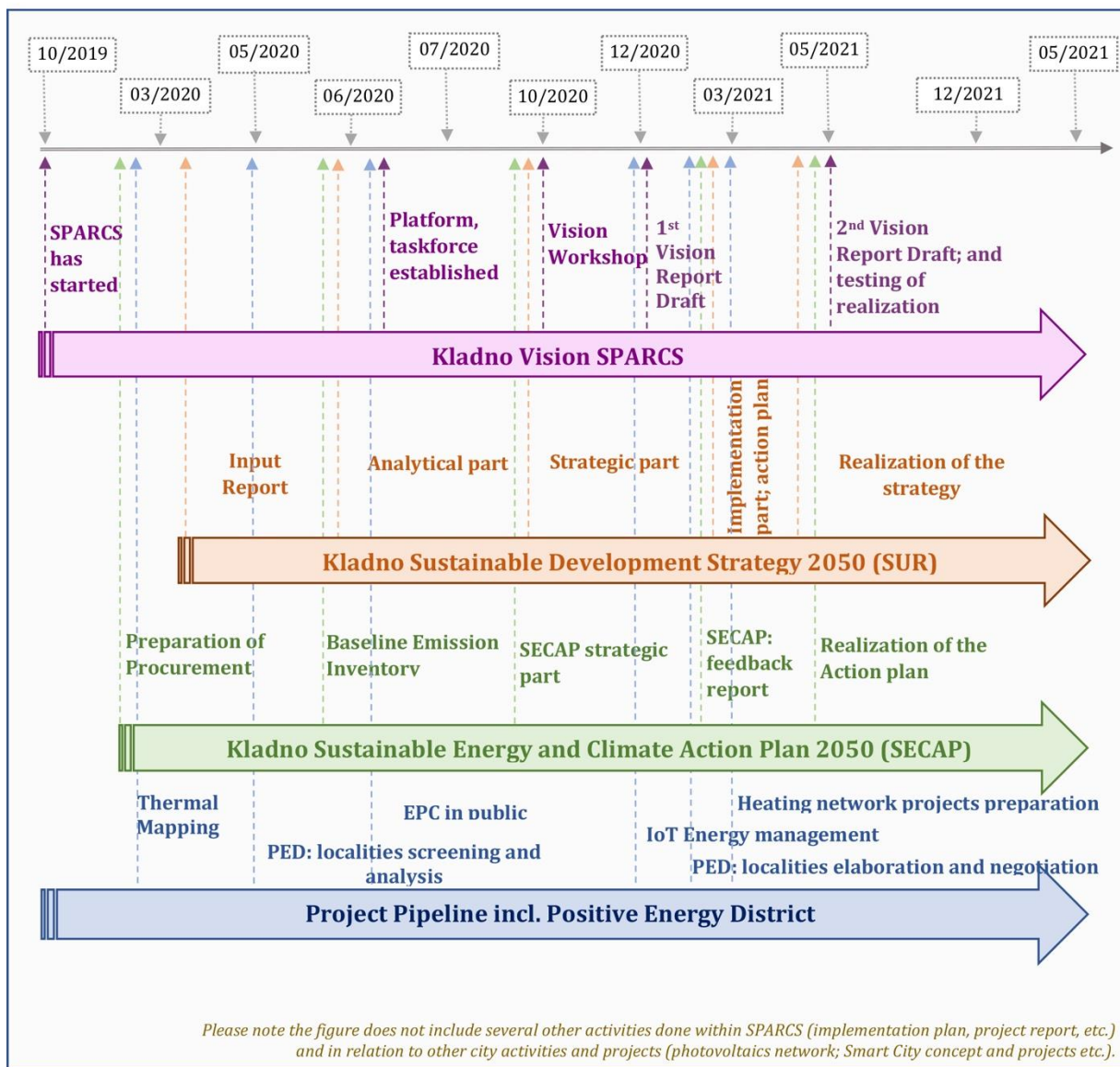


Figure 6. Vision and strategies short-term timeline in Kladno

### 3.4.4 Description of the Task Force and Participatory Process

Being open and inclusive is one of the key principles in involving the partners and their strategic and project opinions in the urban planning. The mutual collaboration e.g., with research or businesses should ensure meeting the commitments and common development goals of the city. It is necessary to create momentum for cooperation, not just because other partners are owners of the infrastructure or their stake is conditioning



some projects, but they might bring an innovation, they provide some specific knowledge and last but not least they are an integral part of the city.

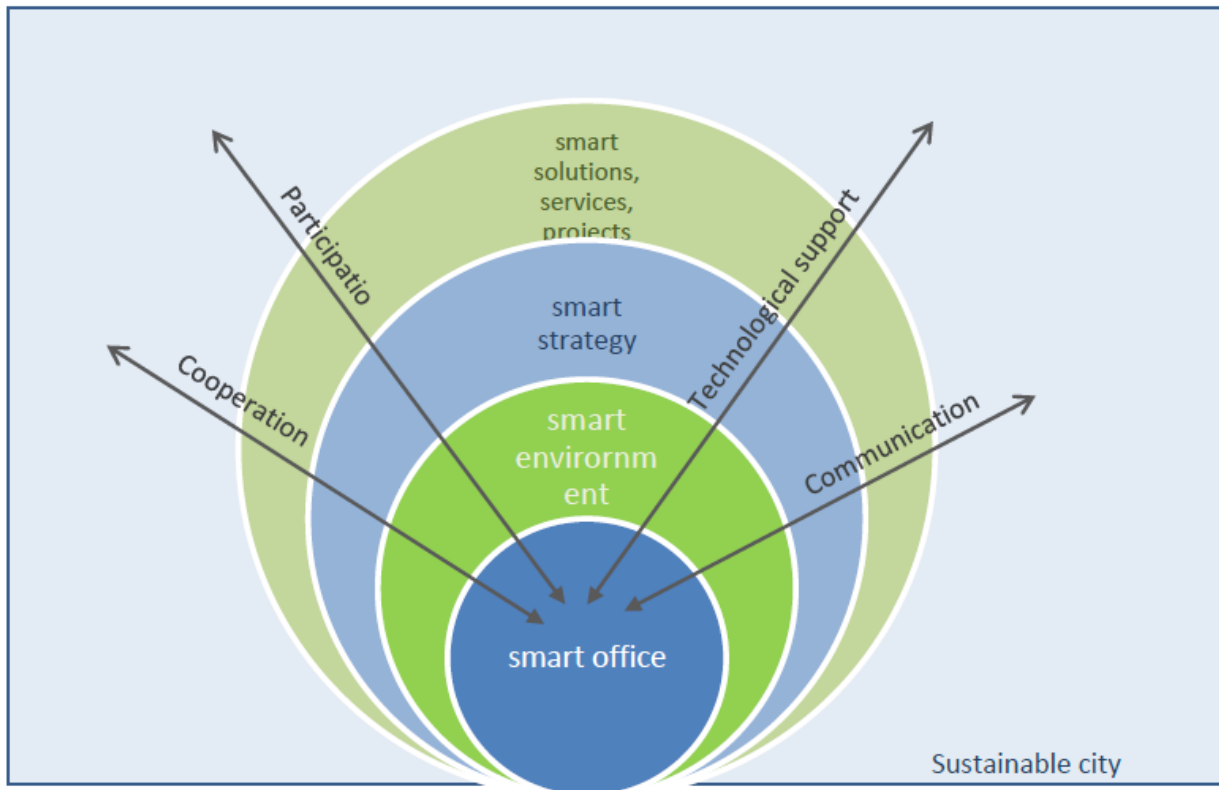


Figure 7. Kladno Smart City participatory model

To ensure the vision preparation process an Energy (Ecosystem) Platform was set up, while a Task Force and several working groups were formed. Also, the individual interviews and meetings had been exploited for the specification of the future vision, priorities, and projects.

The Platform is an official advisory body, and it consists of various stakeholders from public, private, research, expert, and non-profit areas. The Platform has taken place twice – in July and within the vision workshop.

The Task Force is the managing and coordinating group lead by the Mayor and the Councillor of the city. The aim is to prepare and carry out the visioning process, strategies preparation and particular investment over time; SPARCS City Vision 2050 is part of the work of the Task Force. There is regular communication with some of the Task Force members, due to the need to address strategic tasks.

One-to-one meetings are very beneficial; already a broad round of individual meetings and interviews took place – together with CVUT UCEEB more than 20 partners participated in the meetings and an overall Report was compiled. The city has also set up working groups (WGs) for specific topics/priorities, and preparation of the city strategy, project planning or Positive Energy Districts design are current tasks of WGs.

During the vision workshop (October 2020) a dozen of vision statements were created; five key strategic areas were proposed to be disseminated in more detail and other relevant supporting tools seemed to be important in terms of vision implementation.



The city is planning to use other forms of participation and cooperation – on-site week (April 2021), targeted involvement of specific partners (e. g. within PED design WG), broader addressing citizens, etc.

### 3.4.5 Key Strategic Areas

Five strategic areas have been selected by the city working group before the vision workshop in order to narrow the future discussion. The importance of the strategic areas was confirmed by the experts working on the Sustainable Development Strategy and verified by the Task Force.

Table 28. Selection of the Key Strategic Areas in the Kladno City Vision Workshop

No.	Key strategic area	Short description
1	Energy – efficient sources and modern networks	The energy efficiency of buildings; support of energy decentralization and a balanced mix of local energy sources including renewable energy sources, heating system modernization and change, community energy, new materials and construction technologies, waste and water management, and in the context of energy use, public lightning or using the complex energy management incl. IoT platform.
2	Mobility and public space – city in motion	An alternative transport infrastructure (gas and electromobility; and using cycling) -supporting the private and public initiatives and ensuring that within public transport; using the data for traffic planning; ensuring intelligent planning between various modes of transport; good connection with Prague; ensuring safety in the city; building parking places; car sharing, etc.
3	Digital networks and eServices – city in the pocket	High-speed internet deployment (ideally 5G); digitalization of the public services and more complex e-government services provision; IoT platform and smart metering extension (incl. ensuring the comprehensive city data system); introduction innovation in the context of digitalization and automatization, providing open data and ensuring communication with clients, testing/piloting new solutions, implementing digitalization in relevant sectors (such as telematics, social services, etc.).
4.	Good governance – focus on citizen´s needs	An ability of continuous learning of the administration; the strategy of organization development is prerequisite; ensuring the involvement of the citizens, firms and other stakeholders into development planning process; participation and collaboration; communication tools, feedback collection, open forms for cooperation; well-developed strategic planning; an ability to observe an innovation, and to implement it into investment planning and decision making; cooperation with research, education institutions and business.



No.	Key strategic area	Short description
5.	Positive Energy District – zooming on transformation	Energy solutions – maximize the local production from renewable resources from sun, air, geothermal, including mine water, or biomass. Mobility solutions will be based on carbon free transport modes, favouring shared user models. Improving the quality of services to citizens. Specific services and innovative projects. Active involvement of the citizens. Local energy communities and new energy services.

Although the current set up is based on five strategic areas, their thematic focus is not isolated and self-standing. On the contrary, these strategic areas are cross-cutting and they are influencing several other priorities or particular projects, directly or indirectly (such as entrepreneurship support, social inclusion, innovation exploitation).

Three thematic strategic areas are accompanied by a horizontal pillar – Good governance, and by demonstrator pillar – implementation of the Positive Energy District.

### 3.4.6 Stating the Status Quo

Before the vision WS the posters showing the status quo were created. To have an expert discussion and even for the overall strategy and vision design, these posters were prepared based on massive analytical research. In addition, the trend gallery was formulated; the previous proposal used in Leipzig was accommodated to the situation and potential future perspective in Kladno. Within the SPARCS, an extensive indicator collection and City Diagnosis Report had proceeded.

All these inputs are describing situation in the city - this allows to see the present status, strengths and weaknesses and to better bridge potential proposal in the future.

Status quo visualized in posters show (1) socio-economic status of the city, (2) population; (3) local economy; (4) good governance; (5) energy sector; (6) mobility; (7) Digitalization.

All details might be seen in the attached posters (see annexes).

### 3.4.7 City Vision Workshop Overview

Table 29. Overview of the Kladno City Vision 2050 workshop

Date	October 15, 2020
Place	On-line Form
Organization and contact person	City of Kladno; David Škorňa
Moderator and contact person	CVUT UCEEB; Tomáš Vácha and Michal Kuzmič



Participants	No. of 40 (from business, major employers from the region, research or innovators, associations, representatives of public life, energy distributors or providers of major services, experts)
Duration	8.45 am – 15.15 pm
Sessions	Common opening and thematic session Parallel work in groups Common thematic session and assessment from groups Closure

### Preparation phase

The workshop was designed based on the guideline provided by SPARCS project partners which was already tested in Leipzig. The Task Force consisting of representatives of the city and CVUT UCEEB selected key topics for the vision and stakeholders for the workshop. The connection with other activities, namely the development of Sustainable Development Strategy (SUR) and Sustainable Energy Climate Action Plan (SECAP) was described. The partners preparing SUR were invited to participate in the workshop and to introduce the status quo of the city.

The team decided to design an online variant of the workshop in advance due to the COVID pandemic restrictions.

### Just before visioning workshop

As the situation around COVID pandemic worsened, the online variant was used. This meant reduction of the total amount of time of the activities. A combination of three tools were used – online conferencing tool, online interactive white-board and a survey tool.

All participants were informed about the online variant, agenda and they received a guideline for connecting.

A trial was scheduled two days before the workshop to test all tools and coordination of the organizing team.

The vision workshop specifically targeted the overarching level of Good Governance and the three sectoral areas (Energy, Mobility and public space, Digital networks and eServices). The concept of PED was introduced to provide specific example of how the carbon neutrality and energy positive ambition can be translated in specific locality of the city.

Table 30. Agenda of the Kladno City Vision 2050 workshop

I. Opening session	
a)	Introduction to the format and the tools Participants were welcomed by the organizers and the agenda of the workshop as well main function of the online conferencing tool were introduced.
b)	Opening words by the representatives of the city
c)	Participants' introduction





d) Introduction of current activities incl. SPARCS, concept of PED, Key activities of the city in the area of sustainable development were introduced including the SPARCS project, Sustainable Development Strategy (SUR) and Sustainable Energy Climate Action Plan (SECAP), The principles of Positive Energy District concept were presented by expert from the CVUT UCEEB.
e) Introduction to the visioning process The presentation focused on the role of city vision and the process of its co-creation and implementation.
f) Status quo of the city Participants were introduced to overall status quo of the city and key statistics.
<b>II. Parallel working sessions</b>
The participants were divided into three groups – each group focused on one of three areas of the vision: A) energy and resources, B) mobility and public spaces and C) ICT and digital infrastructure.
a) Status quo in selected areas Independent experts introduced their assessment of the status quo in given area. The presentation was followed by short discussion.
b) Strengths and weaknesses of the city The participants proposed what strengths and opportunities can the vision build upon and what weaknesses and challenges it should address.
c) Trends for the future The participants were introduced to the trends in the given area and then voted through survey on how relevant they feel the trends are for the city. This was followed by discussion with experts.
d) Statement generation Based on previous activities the participants proposed statements for the city vision.
<b>III. Final session</b>
a) Smart Governance – open administration Expert presentation and joint discussion on smart governance and open administration as cross-cutting area.
b) Presentation of the parallel sessions. Each group presented their statements. All participants voted on relevance of the statements and proposed adjustments.
c) Summary and future steps

### 3.4.8 Making use of the City Vision for years to come

The results of the Kladno City Vision 2050 were shared with participants and at the same time, they serve as an input for future work – Vision report draft, follow-up discussion about vision statements and vision proposal itself (both as a part of the SPARCS Vision work and overall city strategy preparation - the Sustainable Development Strategy and SECAP).



All proposals included in this report will be subject to the next Energy Platform meeting, on-site week (basis for the Implementation plan) and proposal of the investment actions phase (note: some of them are being already prepared and implemented).



## 3.5 Kifissia City Vision 2050 Report

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The transformation of the Municipality of Kifissia to become a carbon neutral city is a complex and long-term undertaking. The first step in creating this carbon free future begins with identifying how that future looks like. In this document we outline 22 vision statements under 6 strategic pillars that describe what we aspire the city to be like in 2050. These statements are the result of a participatory process that included key stakeholders such as citizens, experts, city officials, local organisations, local business, etc., and they have been jointly agreed upon during the City Vision workshop. The City Vision is in the context of the goals and measures of the SPARCS project.

### 3.5.1 Overall City Vision

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The Municipality of Kifissia is known as a state-of-the-art municipality for pedestrian and bicycle mobility. The existing bike and pedestrian paths are extended to every part of the city, making it possible to walk or bike safely to any of the neighbourhoods of the Municipality of Kifissia.

Special care has been taken to make sure that the city is accessible to all citizens, including disabled, strollers, among others. All main road arteries have become underground tunnels, which has reduced traffic, at the same time that allowed the creation of green areas.

Smart traffic control systems ensure the smooth and safe mobility of all vehicles. Parking is managed through a smart system, and the use of shared e-vehicles is facilitated throughout the city.

Technology and advanced building materials have enabled all buildings in Kifissia to become energy efficient. Upgrades are optimising both the energy management and demands, benefiting both the environment and the citizens through reduced energy consumptions. Moreover, the city has become energy autonomous due to the use of RES, and sustainable waste management systems. The city has also become 100% digital due to use of the leading and innovative technologies.

The citizens of Kifissia are also highly engaged with sustainability issues and have developed an environmental mindset, through awareness and educational activities and through the continuous development of innovations around sustainability.

### 3.5.2 Vision Statements

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The vision statements are the main result of the Kifissia City Vision 2050 and are described below.



Table 31. Kifissia Vision Statements - Mobility

Vision Statement	Detail
The city has an extensive and reliable public transportation network, using sustainable & renewable energy sources.	Public transportation is a vital part of the city, connecting the different areas from north to south and east to west, enabling the citizens to move effortlessly to any part they need and want. The public transportation fleet is autonomous and powered by renewable energy sources.
The parking system of the city is fully digitised and ensures a smooth experience	New smart parking system on street as well as off street is now available throughout the city. Citizens can use the free app to see and reserve a convenient parking place reducing the driving time needed to find a parking spot therefore the energy consumed.
The city is fully accessible for pedestrians and the disabled	Walking streets and large sidewalks enable citizens to walk around the city. Pedestrians use the network of green streets that connects the various areas and neighbourhoods for short distances.
Citizens routinely use e-vehicle sharing system and carpooling.	Car sharing and carpooling is largely used among the citizens for local mobility but also for travelling between the other municipalities of the region. E-bikes and e-scooters sharing is also largely used for smaller distances.
Traffic is controlled by a centralised smart system	Traffic is controlled by a centralized smart, fully automated system. Priority is given to emergency situations, alternatives routes are automatically enabled to reduce travel time and congestion, etc.

Table 32. Kifissia Vision Statements – Energy consumption of buildings

Vision Statement	Detail
All heating and cooling systems of the buildings are now climate neutral	Building heating and cooling systems have been replaced or upgraded. The total energy needed comes from RES with 0 carbon emissions.
New materials help energy efficiency of buildings.	Advanced building materials are used in new constructions and in the renovation projects to help reduce the energy demand by upgrading their insulation.
Energy control systems are installed in municipal buildings	All municipal buildings are equipped with building management systems that control and monitor in real time all electrical and mechanical equipment. Lighting, ventilation, heating, and cooling is fully automated for a pleasant internal environment.
Technology helps sustainable building design	New technology tools help sustainable building design in all phases. From design, construction, use and demolition. Apps used by residences to manage the energy demand improve building performance. Terraces are used as green areas.



Table 33. Kifissia Vision Statements – Green Energy

Vision Statement	Detail
Kifissia goes green	The city's industrial area has reached carbon neutrality. The city is now free of co2 emissions due to extensive energy production from RES and the vast green areas.
Energy autonomy has been reached	The city has achieved energy autonomy by the extensive use of photovoltaic systems installed in municipal and private rooftops. Municipal areas within the city limits are used as PV parks exploiting solar power.
100% energy demand covered from RES	The energy produced from the waste power plant together with the all the RES installed, solar, hydro and wind power parks cover the 100% of local power demand.

Table 34. Kifissia Vision Statements – Digital/Smart City

Vision Statement	Detail
The city is 100% digital.	All public services have been digitized. All communication with the citizens and services are handled digitally. Citizens and visitors can communicate with municipal services easily through free smart apps saving time and energy.
Extensive use of new technologies	Application of new technologies such as AI and Augmented reality enhance the citizen's and visitors experience of the city.

Table 35. Kifissia Vision Statements – Urban Planning

Vision Statement	Detail
Main road arteries are now underground	Undergrounding the main road arteries helps not only to decrease the traffic and the carbon emissions, but to unify the urban areas on the ground by creating public green parks.
The largest and greener network of walking and bike roads	A large network of walking and bicycling roads as well as mobility hubs are connecting the various areas and neighbourhoods of the city. Citizens and visitors enjoy walking and biking around the city, which has become a main tourist attraction. Safe and Green routes to school have been established.
E-mobility is everywhere in Kifissia	The use of e-vehicles is facilitated extensively throughout the city. E-cars sharing points and charging stations have been placed all around the city enabling citizens to use them.
Superblocks in the city	Car free neighbourhoods have been developed throughout the city giving more space to people rather the cars. Streets in these areas are now dedicated for walking, bicycling and socializing reducing air and noise pollution.



Table 36. Kifissia Vision Statements – Citizen Awareness and Engagement

Vision Statement	Detail
Citizens are well educated on how they contribute to a zero-carbon footprint.	Training centres for renewable energy have been established in all 3 municipal communities. Citizens and children can learn how to minimize their own energy and carbon footprint, use renewable energy and be more environmentally friendly.
Young scientists work to further improve the daily life in the city	The city supports young scientists to continue and study different ways that the city can have a positive impact on the environment. Pilot projects are carried out in a safe and structured way, making the city a pioneer in sustainability and innovation.
Energy produced from photovoltaic parks in the city helps local demand via Virtual Net Metering (VNM)	Photovoltaic parks in public spaces have been installed in a joint venture between citizens and the municipality through energy communities. The energy produced is given back to the citizens via VNM contributing to gradually eliminate energy poverty.
Total recycling has been achieved	Recycling and waste management have been optimized and all citizens actively engage in it. Plastic, glass, paper, aluminium and biowaste are recycled 100%

### 3.5.3 Implemented methods and procedure

The City Vision workshop was implemented based on the methodology provided. Prior to the workshop, open discussions were implemented to enhance the input during the workshop. The workshop took place for two days, with the following agenda.

#### Prior to the workshop

The city invited the citizens to a virtual open discussion about the vision of the city to better understand the views and opinions of the citizens and give everyone the opportunity to voice their opinion and feel involved in the city vision. Similarly, an invitation was sent to the members of the city council for a virtual open discussion on the same subject in order to discuss their view on the city vision, and make sure we include all the view and concerns in the process.

Finally, we also involved the local schools, by asking elementary students to draw their vision of the city in 2050. The drawings were put up on a wall to act as inspiration for the participants of the workshop.

#### During the Workshop

Special care was placed to the set-up of the venue, to make sure all the necessary precautions were taken for the participants due to COVID-19. More specifically, the room was split in two areas designed to work independently, with the same facilitator. In each area, two tables were set with a significant distance from each other, as well as the status quo boards and the trends posters. A presentation area was prepared at the front of the room where the facilitator could address both areas, and the participants could present to all the groups.



## Introduction

The workshop begun with a short address from Dimitris Xinomilakis the president of Greek association of architects and Vassilis Xipolitas the president of the road urban transports. The second day begun with a short address from Niki Kerameos, Greek Minister of Education.

## Warm Up

The first exercise “Trip to the Future” was introduced, along with relaxing music to help the participants get in the mood and at the end of the exercise the participants shared their reflection with their group. Some groups, focused on the future, while others, focused on the current problems.

## Status Quo

The exercise begun with the presentation of the Status Quo boards, that were also printed in A4 format and distributed to the participants. After the presentation was completed and all questions were addressed, each group worked on two specific boards to identify what aspects they wanted to take into the future and what they would leave behind. The groups worked on specific pre-assigned status quo boards due to Covid19 precautions.

At the end of the group discussion, each one of the two teams presented its Status Quo outcomes per strategic area. Every single outcome was voted by all the participants, leading to the inclusion of the most voted topics in Status Quo posters of each key strategic area.

Overall, the time required for the status quo was significantly longer vs the estimated, Since the process of presentation and voting were less efficient, but necessary due to COVID-19.

## Trends Gallery

The trends gallery exercise was presented and assigned to the participants as homework, since there was no time left from the previous exercise. The posters of the trend’s gallery were printed for the participants to take with them.

At the start of the next day, as a warm up exercise the participants were asked to review and discuss with their group the trends they reviewed at home and identify those that they thought could be more relevant.

## Headlines from the Future

The plenary was briefed about the exercise “Headlines from the Future” and each group begun to create their headlines. The work done previously on trends gallery, helped the groups focus on the future, rather than on the current situation. Each headline was discussed, selected and presented in the plenary session

## Vision Statements

The groups were assigned specific strategic pillars to work and transform the headlines to visions statements. This was probably the most difficult exercise for the participants.

Each group worked on the headlines selected in the previous exercise, and with the support of the task force created the vision statements.



When all strategic areas were completed, each group presented each strategic area, and the plenary decided on each statement if it would be part of the city vision or not.

### 3.5.4 Description of the Task Force and Participatory Process

#### Task Force

- Stavros Zapantis, head of city council & head of SPARCS
- Artemis Giavasoglou, Project & Technical Manager
- Katerina Nikolaou, Marketing and Communication Manager & workshop facilitator

#### Participatory Process

Prior to the workshop, two open discussions were organised, one with citizens and one with the city council to gather the views and opinions whilst including everyone in the process. In addition, activation with the local schools ensured that the point of view of the children would also be included, via drawing done by the children for the city of Kifissia in 2050.

For the city vision workshop, the task force identified and invited the participants by a simple invitation.

### 3.5.5 Key Strategic Areas

The Kifissia Task Force has considered as Key Strategic Areas the ones detailed in the table below.

Table 37. Selection of the Key Strategic Areas in Kifissia

No.	Key strategic area	Short description
1	Mobility	Public transport is centrally managed by governmental institutions and there are no municipal busses for the public at the time. Municipal vehicle fleet consist mainly of trucks, (garbage trucks, fire trucks, dump trucks etc.) an ambulance and some passenger's vehicles. Mobility within the city is mainly private. There are only some private owned electric cars
2	Energy Consumption of Buildings	The majority of the buildings in the city are private owned, mostly houses but also plenty of offices, stores, coffee shops and restaurants, mainly built prior to the energy consumption regulations. There is also a low nuisance industrial area within the limits of the municipality.
3	Green Energy	Greece is still dependent on fossil fuels. Transport and heating are highly powered by oil. Liberalisation measures of energy market and new laws have helped to promote RES production over the past years.





No.	Key strategic area	Short description
4.	Urban Planning	The municipality was formed in 2011 by merging Kifissia with other two smaller municipalities N. Erythrea and Ekali. Landuse within the city is mostly for ‘housing” and there is a high percentage of green areas. Most streets are narrow (one or two ways) with the exception of a few avenues that connect Kifissia with the rest of Athens. Commercial centres of the city are usually with heavy traffic and lack of public parking areas
5.	Digital/Smart City	Kifissia has made big steps over the past year but digital services are still in an infant stage
6.	Citizen Awareness/engagement	Change the “bad” habits of citizens is highly important to reach reduction of CO <sub>2</sub> emissions. Buildings and mobility are the two sectors with the highest energy consumption and carbon emissions. Both sectors are owned and used by privates and mostly local citizens

### 3.5.6 Stating the Status Quo

During the Status Quo phase of the workshop, the groups discussed the key strategic areas and identified what was most important to leave behind and take with us for the future. The main themes that came out of this exercise were:

- Mobility is key since it affects the quality of life of the city. Solving the issues of traffic, parking and accessibility in a sustainable way can have the greatest impact on the daily lives of the citizens. Transportation, mainly private, is the sector with the greater energy consumption and the second in CO<sub>2</sub> emissions.
- Energy consumption of building is the greatest contributor to CO<sub>2</sub> emissions, coming mainly from private houses constructed prior to the energy efficiency regulations. Upgrading their energy performance, with much needed renovations projects while keeping the traditional look of the buildings (both private and public) will have the greatest impact on CO<sub>2</sub> reduction.
- Urban planning needs to address two key areas, mobility for pedestrians, bicycles, and electric vehicles, and growing the green areas of the city, for which most citizens feel proud of.
- Digital/Smart City is seen as a way to enable the main issues like parking and traffic, but also to make everyday life easier
- Citizen engagement is closely tied to education and giving specific motives for good energy practices

### Mobility

Mobility is one of the most important pillars since it is very visible in the everyday life of the city. Following the status quo discussion, the group voted on the following as the most important elements:

#### Take with us

- E-transportation



- Accessibility to electric vehicles and priority to bicycles
- Network of paths for bicycles
- Seamless, free, easy and safe mobility of pedestrians

### **Energy Consumption of Buildings**

Energy consumption of buildings is the greatest contributor of CO<sub>2</sub> emissions currently in the city, mainly from private houses. Following the status quo discussion, the group voted on the following as the most important elements:

#### **Take with us**

- Green roofs
- Smart buildings
- Geothermal energy
- Thermal building insulation
- Advanced building materials
- Energy efficient buildings
- Heat compensation systems & heat recovery units

#### **Leave behind**

- Non energy sustainable old buildings

### **Urban Planning & Energy**

Urban planning needs to address two key areas, mobility for pedestrians, bicycles and electric vehicles, and growing the green areas of the city, for which most citizens feel proud of.

Following the status quo discussion, the group voted on the following as the most important elements:

#### **Take with us**

- Low traffic and walking streets car free zones
- Increase green public areas (parcs, parklets)
- Modern library, places of culture

### **Digital City**

Digital/Smart City is seen as a way to enable the main issues like parking and traffic, but also to make everyday life easier.

Following the status quo discussion, the group voted on the following as the most important elements:

#### **Take with us**

- Rational and functional design of public services
- Smart system of traffic and buildings control
- Training on new technologies
- Smart parking solutions
- Smart bus stops

#### **Leave behind**

- Physical presence of citizens for city services
- Hard Copies



## Citizen Engagement

Citizen engagement is closely tied to education and giving specific motives for good energy practices.

- Motives like tax reduction for proven good energy practices
- Architectural courses in the educational system
- Green energy educational parks
- Recycling
- Waste management practices

### 3.5.7 City Vision Workshop Overview

#### Workshop Agenda



The poster features the SPARCS logo on the top left and the Kifissia Municipality logo on the top right. The title is 'Πρόγραμμα city vision workshop'. Below the title is a table with columns for Start, Finish, Description, and Duration. The table is divided into two days: Monday, November 2nd 2020 and Tuesday, November 3rd 2020. At the bottom left is the Horizon 2020 logo, and at the bottom right is a text block providing funding information.

Start	Finish	Description	Duration
<b>Monday, November 2<sup>nd</sup> 2020</b>			
9:30	9:45	Introduction	15m
9:45	10:30	Presentation of the workshop goals and structure. What is SPARCS? Why do we need a City Vision in general and in SPARCS? What is a City Vision exactly? What is the expected result of the workshop?	45m
10:30	11:00	Imaginary trip to the Future.	30m
11:00	11:15	Coffee & snack break.	15m
11:15	13:45	Status Quo	2h 30m
13:45	14:30	Trends Gallery	45m
<b>Tuesday, November 3<sup>rd</sup> 2020</b>			
9:30	9:45	Introduction	15m
9:45	11:45	Headlines from the Future	2h
11:45	12:00	Coffee & snack break.	15m
12:00	14:15	Selection and Transformation Statements.	2h 15m
14:15	14:30	Results for the City Vision	15m


 Horizon 2020  
 European Union funding  
 for Research & Innovation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 864242  
 Topic: LC-SC3-SCC-1-2018-2019-2020: Smart Cities and Communities

Figure 8. Agenda of the City Vision Workshop in Kifissia

## Participants

Technical department, building permits department, association for pedestrian rights, Greek association of architects, Elin Verd, association for Kifissia's protection, expert of sustainable urban mobility plans, representative of local natural history museum, representative of major underground parking building, former executive in ministry of environment and energy, organization of road urban transport system, citizens working in private firms.



## **Logistics**

The workshop took place face-to-face in the premises of the town hall, taking all the necessary precautions for covid19, during Monday, November 2<sup>nd</sup> and Tuesday, November 3<sup>rd</sup>, 2020.

### **3.5.8 Making Use of the City Vision for Years to Come**

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The vision statements, priorities and challenges expressed during the workshop and stated in this report will be analysed and discussed within the city council.

They will be taken into consideration and adapted in the fore coming implementation plan.



## 3.6 Maia City Vision 2050 Report

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Maia holds the ambition to become a Smart, Sustainable, Inclusive, Integrated and Carbon Neutral community.

Maia City Vision 2050 is constituted by **26** “vision statements”, synthesizing the cocreation and the visionary perspectives from the work group participants of “Maia City Vision 2050” workshop.

Maia City Vision 2050 builds up on 5 strategic areas that are integrated in the vision statements and were considered as decisive for carbon neutrality and energy transition. These 5 areas are: Urban Development, Energy Transition, Mobility, Smart and Sustainable City and Inclusive and Integrated City. The declarations of vision were built and voted by the participants and iteratively perfected and described summarily in this document.

This report was developed by the members of the task force that was constituted to organize the City Vision Workshop: Câmara Municipal da Maia (CMM), Sociedade Portuguesa da Inovação (SPI) and EDP Centre for New Energy Technologies (EDP NEW), supported by Instituto de Ciência e Inovação em Engenharia Mecânica e Engenharia Industrial (INEGI) and by Agência de Energia do Porto (AdEPorto). Due to the limitations caused by the new pandemic COVID-19, the workshop was held remotely on November 24 and 25 of 2020. The results presented in this document are a first step towards the vision for the city of Maia in 2050. The vision will be further developed in the context of other initiatives that will be organized in the course of SPARCS, under the scope of Task 1.7.

We hope to inspire with Maia City Vision 2050! Nice reading!

### 3.6.1 Overall City Vision

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Maia, in 2050, will be a different territory and community from what it is now! It will be more compact with urban areas organized in multifunctional neighbourhoods where daily activities will be experienced at a more local level. Simultaneously, it will save part of its territory for carbon capture and sequestration, associated with areas of agriculture, forest and nature-based solutions. These areas will act as sources of food, they will protect against climate change and provide leisure spaces for multigenerational fruition.

In this territory, carbon neutrality will be a reality, achieved by a community that early on, collectively realised its responsibility in the transformation process. Hence, it changed attitudes and behaviours that catapulted processes that transform energy, mobility, in the collection, organization and dissemination of information, placing it at the collective service, and in governance processes, ensuring collective involvement and responsibility.

Buildings and neighbourhoods, mostly rehabilitated, use energy from fully renewable sources, in a decentralized production system. They are energetically positive, organising themselves in a community and tradable network, supported by technology, which integrates the entire system.



The industry anchored its transition processes based on local industrial symbiosis, where the residues of some constitute the raw material of others, figuring as one of the main centres of decentralized renewable energy production in the municipality.

The mobility system is mostly anchored in soft modes and public transport. The few cars that still circulate are moved entirely based on renewable sources and integrate sharing systems, accessible to all, that solve the extraordinary needs of travel logistics.

The data produced by the different systems is connected in an integrated manner and is at the service of the local community, supporting decisions that are increasingly well founded, clarified and understood.

Maia is a happy, enlightened, creative, responsible and participative community that plans, designs, decides and builds collectively, proud of its common way of being and living in harmony with nature and society.

Next, the structural elements of City Vision for the City of Maia 2050 are depicted, namely the 'vision statements', related to the key strategic areas (Urban Development; Energy Transition; Mobility; Smart and Sustainable City; Integrated and Inclusive City) as the main outcome of the workshop.

### 3.6.2 Vision Statements

The vision statements are the main result of the Maia City Vision 2050 and are described below.

Table 38. Maia City Vision Statements – Urban Development

Vision Statement	Detail
Maia welcomes demographic dynamics by promoting access to housing and investing in multigenerational policies	The trajectory of recent public housing policies has restored Maia as a territory based on access to housing, allowing it to respond to demographic challenges in continuous change. The promotion of quality housing solutions respecting the principles of circular economy, affirm the City of Maia as an attractive territory to live. In addition, the development of initiatives that involve the whole community, in their integration with multigenerational policies, ensures the inclusion of the most fragile strata of the population, namely young and old.
Maia's building stock guarantees the circularity of the construction industry	Based on the circular economy experience that the municipality gained over time, today, most of the buildings built in the municipality are based on this principle, ensuring the recovery of waste and of the value chains, in articulation with different entities involved.
90% of the total housing stock is requalified, allowing thermal comfort without using fossil fuels	The housing stock is requalified, guaranteeing thermal comfort based on bioclimatic solutions that allow temperature regulation and energy production based on renewable sources, for example, through the installation of photovoltaic panels and green roofs.



Vision Statement	Detail
Urban development occurs by valuing and requalifying the existing ecosystem and guaranteeing biodiversity	The integrated actions adopted in the territory of Maia, both in the public and private sectors, ensure sustainable urban development based on the conservation and valuation of biodiversity, resources, and the natural, landscape and cultural heritage.
The requalification of existing industrial parks integrates green areas and positive energy solutions, creating amenities for citizens	<p>The industrial parks in the municipality of Maia, some dating back to the 1980s were reconverted, now reconfiguring true Business Centre Areas, in which the spaces for the installation of economic activities are joined by other services and complementary support spaces that allow companies to work in a network, as well as allowing employees to add leisure activities with work (gyms, restaurants, leisure parks, among others).</p> <p>The buildings were also subject to energy requalification by integrating positive energy communities into the BCA - Business Centre Areas.</p>
Conditions are created in urban areas, at different scales, for the cultivation and local consumption of vegetables	The urban planning of the territory ensured in the rustic soil their preservation with greater agricultural aptitude for the referred use. In the urban soil the project for the constitution of urban gardens was continued, providing residents with spaces for the practice of production farming in an organic way giving citizens the opportunity to produce locally the products they consume. The development of projects to create local markets for the sale of agricultural products has reduced the ecological footprint of the supply chain.

Table 39. Maia City Vision Statements – Energy Transition

Vision Statement	Detail
Maia ceases to utilize fossil fuels in all its activities	After the implementation of energy efficiency measures in all uses, which allowed to drastically reduce energy needs, it is now possible to guarantee the remainder without the use of fossil fuels (exception made for uses where there is still no viable non-fossil technological solution).
80% of Maia urban areas are “Positive Energy Districts” (PED)	The great reduction in energy needs verified by the adoption of more efficient technologies and behaviours as well as the strong investment in locally based renewable energy solutions allow a positive energy balance at the neighbourhood / block level in 80% of the urban areas of Maia. This is a strong complement of renewable energy for the most energy intensive and industrial areas. Examples of innovative solutions are the successful implementation of the historic pilot projects of Baze and SPARCS and the effects of replicability they have had in other municipal contexts.
Maia's homes are energy self-sufficient and	The reduction of energy needs in residential buildings (through measures of energy efficiency and changes in consumption habits), combined with the integration of renewable energy sources, makes



Vision Statement	Detail
provide flexibility to the system	Maia's homes self-sufficient in terms of energy. In addition, the integration of energy storage technology as well as the increase in the number of individual electric vehicles, has enabled stabilisation services for the system and the distribution network itself, facilitating the optimisation of the use of renewables according to the load profiles resulting from the daily use of the city.
Maia covers its entire territory with 5th generation heat and cold networks (residual heat from industry supplies homes, eliminating energy poverty)	Within the strong environmental and social awareness of Maia's business sector, also developed with the intense awareness-raising activity promoted by the Maia City Council, the possibility was created to take advantage of the near residual heat flows to guarantee the comfort and health of households with greater economic fragility.
Maia is ready for the new generation of energy storage technologies	In an integrated view of the electricity distribution network services and of the urban thermal networks, a detailed energy storage strategy was outlined to allow the total integration of renewable and residual energy flows to reduce any type of waste.

Table 40. Maia City Vision Statements – Mobility

Vision Statement	Detail
Maia is a compact and multifunctional city, where 80% of the population of Maia can reach a set of essential urban functions within 15 minutes on foot or by bicycle.	<p>The local development vision promotes the compactness of the city. The city being planned and organised in a multifunctional way, and oriented at a short distance, thinking about local markets, such as small villages within the city.</p> <p>Defined collaboratively by the population, essential needs, such as working, learning, shopping, accessing restaurants, cinemas, culture, are answered within 15 minutes on foot or by bicycle, with positive repercussions both on physical well-being, or in the environment.</p>
80% of trips in Maia are made using Soft Modes and Public Transport and/or MaaS - Mobility as a Service, with a clear predominance of soft modes	Maia has reached an unparalleled level of modal share usage, in which 80% of the population uses soft modes and public transport in their daily trips, reversing the weight of the use of individual transport. The pedestrian mode is the most requested, followed by the bicycle, public transport and, finally, the car. The car is chosen last and, when it is, it is always using sharing solutions (MaaS) or solutions organized by neighbourhood, street or condominium.
In Maia, there is democratization of all modes of transport (offering conditions for circulation by active modes and public transport that covers the entire municipality)	<p>The collective public transport system has reached full integration and covers the entire territory, guaranteeing accessibility to the collective public transport network and transport interfaces, covering the entire resident and employed population in the municipality.</p> <p>Depending on the location, it has differentiated, accessible and effective solutions, using flexible or on-demand solutions in the most dispersed areas, integrating multimodal systems, completed by walking or cycling.</p>





Vision Statement	Detail
	The tariff system is fair and inclusive, ensuring global accessibility to the system.
The integrated Metropolitan Mobility System includes, in addition to Public Transport, MaaS solutions - Mobility as a Service and is powered entirely by renewable energy	The energy sustainability of the Metropolitan Integrated Mobility System is guaranteed with 100% of the fleet moving around with renewable energy solutions, resulting in reduced greenhouse gas emissions. The system combines traditional public transport solutions with MaaS - Mobility as a Service solutions, which solve the "last mile" of travel needs. It is a metropolitan system, integrated and efficient, based on a technological solution, which allows to rationalize, in real time, the supply to demand, and aggregates in the same tariff and ticketing system, the different modes of public transport and sharing solutions.
100% of 'humanized' urban streets	<p>100% of the streets in the municipality's urban network meet the criteria of universal accessibility and the conditions for coexistence between the different modes are guaranteed.</p> <p>This bet made it possible to adjust the urban space on a human scale. The sidewalks are continuous, spacious, well maintained, safe and comfortable.</p> <p>Urban speeds have been reduced, with no accidents registered, and cars have almost disappeared from the central urban landscape, being already an element "on the verge of extinction".</p> <p>The air quality is very good and there is no noise from the road infrastructure.</p>

Table 41. Maia City Vision Statements – Smart and Sustainable City

Vision Statement	Detail
Maia is a European leader in the use and export of 'nature-based' technology	The successful implementation of a disruptive pilot project in nature-based solutions has established in the municipality the technical and human capacity for the development of more efficient and economically sustainable technologies based on nature.
The Municipality's Integrated and Interactive Urban Data Platform is used systematically to interact in real time with the Municipality	<p>The establishment of partnerships and protocols with public and private entities allowed the creation of a system for automatic integration of data from various sources on the themes identified as fundamental by citizens for decision-making.</p> <p>The easy access to services and tools provided by the municipality, guarantees a high number of users of the platform.</p>
The municipality of Maia is one of Europe's leading eco-regions. At the moment, 48% of the municipality is already forested and wooded.	The bet made on reforestation with native species, involving citizens in their planting, care and maintenance, significantly increased the number of green areas in the municipality, many of which are publicly accessible.



Vision Statement	Detail
Maia actively promotes circularity in the economy of companies located in the municipality, 50% of which have already achieved this objective	The benefits granted to companies that base their products and services on the concepts of sustainability and Eco Design promoted the conversion of the business park to satisfy, within the area of the municipality, most of the needs of its companies, thus reducing pollution and the production of waste.
Maia's renewable energy R&D cluster consolidates its European leadership position	The partnership for innovation in renewable energies, initially established with the largest Portuguese universities, has extended to other European universities. This interaction allowed to attract researchers and companies that were also attracted by the sustainability and circularity ecosystem promoted by the Municipality.

Table 42. Maia City Vision Statements – Inclusive and Integrated City

Vision Statement	Detail
Maia is an Active Citizenship territory through co-creation and participative collaboration	<p>The progressive democratization of citizens' access to information and knowledge has resulted in an increasingly active society, demonstrating effective and responsible participation by all citizens.</p> <p>The participation and collaboration enhancement of local actors in the diagnosis and community decision-making processes, as well as in the implementation and monitoring of projects, extended the field of local development to more democratic and inclusive innovative and co-creative procedures, which reinforced citizenship active democracy and an effectively participatory democracy in the municipality.</p>
Maia is a territory and society of learning and living, focused on energy positivity and carbon neutrality	The integrated and cohesive awareness in the sense of clarifying and informing the citizens, making each one responsible for global causes allowed the achievement of the goals established in the context of the commitments assumed by the municipality on a European and world scale in the area of energy positivity and carbon neutrality.
Maia is a reference in the inclusion and autonomy model from 3 to 103 years old	The construction of a governance approach accessible to all citizens, regardless of their age group, socioeconomic status or life experience, has made the Municipality of Maia a national reference in the articulation between decision makers and the multiple spaces for citizen participation at the local level.
The city is based on a transparent and decentralized governance model, acting predominantly through the Municipal Assembly	The transparent governance and effective approximation to the citizens, in all phases of the design and implementation of the actions, established for the territory allowed a real concretization of an inclusive governance model in which the citizens see themselves in the implemented projects.



Vision Statement	Detail
	The sessions of the Municipal Assembly, as well as the participative sessions with itinerant character, carried out in each Parish Council of the Municipality revealed a fundamental role for the creation of the feeling of belonging and involvement of citizens in the community.
The city applies an integrated and collaborative governance model, acting predominantly through the Multisectoral Advisory Council	<p>A new integrated and collaborative governance model act through a Multidisciplinary Advisory Council, focusing on promoting the capacities and skills of citizens and key actors to participate in local development. This model enables the local community to act collectively and influence the decision-making process, while supporting in the identification and solution of the main community problems and challenges.</p> <p>Each citizen is "part of the solution" in the context of local development interventions.</p>

### 3.6.3 Implemented methods and procedure

The main objective of the workshop of Maia City Vision 2050 was to co-produce a set of vision statements that summarize the desirable and collectively approved vision among the workshop participants, regarding carbon neutrality.

For this purpose, the methodology proposed by FHG IMW, a technical project partner under Task 1.7 City Vision 2050 of the WP1 Urban Transformation of the SPARCS project, was used as a reference. This methodology, initially designed to be applied in contexts of face-to-face interaction, had to be readapted for its realisation in remote mode within the scope of the workshop, which took place using two different digital interfaces: the Microsoft Team, whose technical management was in charge of EDP NEW and which served as video and audio rooms, and the Mural platform, which was managed by SPI and which served as a virtual location for the development of working groups. Although the initial methodology was subjected to an adaptation process, the structuring phases indicated by it were unchanged, and will be presented in the next paragraphs.

Regarding the preparation process that led to the holding of the workshop for the Maia City Vision 2050, this occurred by following the next steps:

Table 43. Stages of the Maia City Vision Workshop

July 2020	Formation of the working group (task force).
August 2020	First meeting to present the first formation of the working group, presentation of SPARCS and of the objectives of the workshop; Second enlargement meeting (second and final formation) of the working group (including AdEPorto and INEGI), presentation of the methodology and identification of strategic areas.
September 2020	Adaptation of the methodology to the remote version requirements; schedule of the meetings (1 per week until the day of the workshop);



	Assignment of responsibilities among task force members; First version of the workshop program; List of participants.
October 2020	Final validation of the methodology; Definition of the final version of the workshop program and sending the invitation to the participants; Identification and invitation of the experts; Elaboration of the first version of the State-of-the-Art posters in collaboration, through meetings with the invited experts, as well as translation / adaptation of the posters from the Trends Gallery, adapted from the session previously held in the city of Leipzig.
November 2020	Improvement and elaboration of the final version of the Status Quo posters; Preparation of organizational issues for the development of the workshop; Maia City Vision 2050 Workshop
December 2020	Preparation of this report.

### 3.6.4 Description of the Task Force and Participatory Process

The task force that prepared and held the workshop for Maia City Vision 2050 integrated the following elements:

- Maia Municipality (CMM): Marta Susana Moreira (coordination), Adelina Rodrigues, Miguel Azevedo, Pedro Pimenta, Joana Calvet, Márcia Batista, Susana Pinho, João Duarte
- Sociedade Portuguesa da Inovação (SPI): Francisco Melo, Alessandro Colombo
- AdEPorto: Alexandre Varela
- INEGI: Isabel Azevedo

It should be noted that each of the elements had different responsibilities in conducting the workshop, from methodological issues and operational management (SPI) to coordination (CMM) and execution of tasks for the preparation of the workshop, namely the preparation of content (CMM; SPI; NEW; INEGI; AdEPorto). To this end, a common repository of documentation (*living documents*) was updated weekly, as well as a main document of 'work planning' that served as a guide until the workshop. In addition, this preparation process was being aligned with FHG IMW, in what refers to the methodological dimension. Furthermore, in the case of CMM, some new members were integrated into the task force, as the preparation of the workshop became more demanding from an operational and organizational point of view. Finally, the task force organised a set of preparatory meetings with the experts, some of them components of the task force itself (SPI; INEGI; AdEPorto), other guests from external entities (CITTA, University of Porto; Instituto Universitário da Maia and MiT - Municipalities in Transition).

### Stakeholder participation in the workshop and co-creation process

The process of realizing the Vision for the City of Maia 2050 was based on a perspective of co-creating visions and solutions for the future, by giving attention to the need to involve a set of relevant civil society actors that represent areas and sectors of activity within the selected key strategic areas, including representatives of organized civil



society. In addition to the task force members, a total of 39 participants took part in the workshop, including:

- Managers and technicians from CMM's specialized departments (Energy, Mobility, Information Systems, Innovation, Territorial Planning, Environment, Communication, Education, Culture, and Social Development);
- Elements of the civil society representing relevant public and private institutions and entities (about 20), representatives of the selected key strategic areas (i.e. transport and logistics, energy companies and institutions, commercial companies, construction companies, non-governmental associations in the field of environment and mobility, scientific and technological system, residents' associations, etc.);
- Invited experts who participated in the working groups to define the Vision Statements.

The co-creation process that involved the participants used interaction techniques and methodologies, namely *visioning* and *backcasting*, which allowed the creation of working groups with heterogeneous compositions that changed over the various phases of the workshop, allowing the active dialogue between different strategic perspectives.

### 3.6.5 Key Strategic Areas

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The selection of key strategical areas, which was developed by the task force in August 2020, was subject to changes and further development until its final identification in September 2020.

This improvement process was possible due to the heterogeneous composition of the members of the task force, coming from different thematic areas and sectors of activity, which allowed the establishment of the most appropriate analytical perspective to be adopted. Strategic trajectories, trends and agendas of public policies in progress or planned were taken into account, in order to include all relevant dimensions for the definition of the Vision of the City of Maia in 2050. In this context, it is important to highlight that the guiding element to the identification of the strategic areas and respective subtopics was the perspective of integrating public policies and conventional practices of the relevant actors, which the task force believed to be the guiding thread for achieving carbon neutrality in 2050.

### 3.6.6 Stating the Status Quo

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Maia has a pilot project under development called BaZe - Living Lab Maia, as well as the processes for reviewing a set of planning instruments, such as the Municipal Master Plan, the Action Plan for Sustainable Energy, the Action Plan for Adaptation to Climate Change, the Sustainable Mobility Plan, among others.

In this context, it sought to identify specialists and key actors among some of the stakeholders who have participated in these works, taking advantage of their knowledge and experience, to which the Portuguese project (SPI) partners joined.



In conjunction with the municipal services, they presented their assessment for the key areas previously defined, and followed the discussion in the working groups, whose results are presented below.

Table 44. Status Quo part of the Maia City Vision 2050 workshop

Key strategic area	What do we want to take into the future? <sup>1</sup>	What do we want to leave behind?
Urban Development Subtopics: Housing; Urban Planning; Urban Regeneration and Rehabilitation	Urban Sustainable Energy Communities. Compact, multifunctional and multigenerational city. Greener city. Bet on rehabilitation at the expense of new construction. Quality and affordable housing for everyone.	Urban dispersion. Monofunctional urban spaces. City designed for the automobile. Waterproof city. Difficulty in accessing housing. Inefficient buildings. Planning exercises disintegrated and without considering adaptation to climate change.
Energy transition Subtopics: Energy Efficiency and Renewable Resources	Decentralized energy production. Electric mobility. Buildings rehabilitated and powered by renewable energy and efficient, self- sustainable. Energy storage. Integration of electrical networks. Energy literacy.	Use of fossil fuels. Automotive fleets powered by diesel. Lack of information and fear of change.
Mobility Subtopics: Transport and Logistics	Privileging soft modes when traveling. The car, if used, must be shared and electric. Autonomous vehicles. MaaS Services - Mobility as a Service. More flexible public transport and supported by intelligent infrastructure. Organized city for short distance, humanized, with pedestrian and bicycle circulation spaces adapted and safe.	Dependence and ownership of the car. Cities designed for the speed of car circulation. Lack of public transport. Lack of physical conditions for circulation in soft modes
Smart and Sustainable City	Backbone of a robust IoT network.	Difficulty obtaining data/crossing information.

<sup>1</sup> Please note that the issues presented in this column refers to situations that already exist only residually or as a pilot project in the City of Maia, which we want to leave into the future by increasing its scale (to the City of Maia as a whole).



Key strategic area	What do we want to take into the future? <sup>1</sup>	What do we want to leave behind?
<p>Subtopics: Environment; Circular Economy; Digitization and Internet of Things</p>	<p>Accessible information according to the needs of the different target audiences. Digitization of the territory. Integrate and obtain intelligence of information from the different sensors/sources of information, public and private. Systematic training of human resources for digitization. Energy systems based on “clean” sources - wind, gel batteries, solar energy. Nature-based infrastructures as a solution for ecological corridors. Production of ecosystem services and increase in natural capital.</p>	<p>Excess/dispersion/incoherence and disintegration of information.</p>
<p>Inclusive and Integrated City Governance; Public Participation; Social inclusion</p>	<p>Thermal comfort in School Units. Children’s Parliament in schools with representation in the assembly and impact on the ground. Democratization of access to information and knowledge for the construction of a truly participatory society. Transparency, trust, and feedback from participatory processes. Public managers and citizens who facilitate participation and co-creation processes. Co-creation processes associated with the different phases, present from planning to project design. Participatory budgeting around the SDGs.</p>	<p>Lack of conditions for soft mobility. Too much traffic near the schools. Excess of projects and superficial implementation, preventing deepening experiences and experiences that each project enhances. Unnecessary car travel. "Latency" or excessive time between decision making and its effect.</p>



### 3.6.7 City Vision Workshop Overview

The Maia City Vision 2050 workshop consisted of the 7 phases of collaborative work, developed in over two days and summarized in the agenda below:

Table 45. Agenda of the Maia City Vision 2050 workshop

Welcome	The SPARCS project; Strategic objectives of the SPACS project in the City of Maia; Global objectives of the SPARCS project in the city of Maia
Introduction	The City Vision 2050. What is it and what is your contribution to the project: Background; City Vision purpose; City vision process; City Vision objective; City Vision format; City Vision Goal
Welcoming and activating the Works	Reciprocal presentation of the participants, motivation and animation of the initial discussion on the topic of carbon neutrality and energy transition in Maia;
State of the Art on Carbon Neutrality in Maia. Where do we start from?	Based on the five key strategic areas, working tables to identify the relevant issues that are intended to 'bring Maia zero carbon 2050 into the future' and what it is intended to 'leave behind' (presentation by experts and working groups divided by strategic areas; Plenary presentation and discussion of the results of the worktables; Classification and collective voting of the most relevant topics through an online questionnaire
Exposure of the most relevant global trends	Encourage participants to think about the near future regarding carbon neutrality;
Slogans of the Future	Generation of desirable views on the future of carbon neutrality in Maia in 2050, where participants (organized by mixed groups) are invited to write fictitious statements about the goals recently achieved in Maia in 2050, regarding the theme of neutrality carbon and energy positivity; Plenary presentation of results, discussion, and formulation of desirable views
Selection and Transformation of Slogans into Intentions (declarations) for the future	Formulation of intentions for the future, developed by working tables (groups again organized by strategic area); collective discussion and validation.

In addition, the SPARCS City Vision Workshop was enriched with two debates, held by the Corim Elementary School, with two classes aged respectively between 7 and 8 years and between 9 and 10 years (see Appendix 6 – Impressions and Results of the Maia City Vision 2050 workshop). After the City Vision Workshop, the School of Corim made itself available for the realization, in collaboration with the CMM, of a "City Vision Workshop 2050 of the Little Ones", which is scheduled for February 2021.





### 3.6.8 Making Use of the City Vision for Years to Come

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The results of Maia City Vision 2050, in addition to being shared with the key actors who participated in its construction, will be made available online for open access, as a tool for communication and dissemination of the project's objectives and a basis for the development of other SPARCS actions which should ensure alignment with the long-term vision.

The results of City Vision constitute a starting point and understanding, guiding the communication to be undertaken, ensuring that, collectively, the local community will ensure the necessary transition in the ways of thinking and acting, which will make the future now fictionalized, anchored in the existing strategic municipal policy frameworks and guiding the ongoing and upcoming planning exercises.



## 3.7 Reykjavik City Vision 2050 Report

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Reykjavík is the capital and most densely populated area of Iceland. The capital region includes the city with a population of 131,136 (2020) and six surrounding municipalities bringing the total population of the capital region to around 233,000. The city covers 245,8km<sup>2</sup> with a population density of 533,51km<sup>2</sup>. Reykjavik is a coastal city with two ports, a commercial airport servicing domestic routes and a modern infrastructure including a state-of-the-art ICT infrastructure and technological literacy is very high. Reykjavik has created an ambitious social, economic and environmental stimulus package, the Green Plan which includes a portfolio of climate actions that aims to make Reykjavik carbon neutral by 2040. This document looks even further into the future and describes a vision of Reykjavik in 2050. It is based on futures visioning workshops with internal and external subject matter experts drawn from across Reykjavik's departments and operations that are very familiar with the everyday operational challenges of running a city, but who also have many ideas on how public services could be improved and innovated upon. The group produced three thematic visions, Mobility Vision, Circular Economy Vision and Societal Vision. Emerging from these are 25 future visioning statements for the city of Reykjavik. This document will describe a sample of these future visioning statements and supplement them by short explanatory paragraphs and visualisations. We call the resulting future vision statements, the City Vision Reykjavik 2050. Be inspired by City Vision Reykjavik 2050! Enjoy reading.

### 3.7.1 Overall City Vision

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Reykjavík's city vision addresses three key themes Mobility Vision, Circular Economy Vision and Societal Vision. The overall vision describes a clean, green and socially inclusive city populated by environmentally conscious and conscientious citizens. Reykjavik is a city by the sea and nature-based solutions are at the heart of Reykjavik's policy and decision making where conservation and the reclaiming of unspoilt natural habits on land and sea is always the guiding principle. By 2050, Reykjavik has been carbon neutral since 2040 and this has been achieved through a major transformation programme in mobility including a new rapid bus transport system, the City line, major improvements in recycling and waste management and waste processing catalysed by investment in a bio to methane processing plant GAJA and through digital transformation programme that leap frogged the city to system wide improved delivery of public services.

The Mobility Vision city describes a city whereby using fossil fuels in transport is a thing of the past and instead sustainable local energy sources are used, such as electricity, hydrogen, methane or other fuels that can be produced, for example, by electrolysis or biomass. Reykjavik has a multi modal transport system that offers several options but where most of the travel is by foot, by micro-flow of vehicles, MaaS or by public transport.

The Circular Economy Vision describes how recycling companies process all the waste that is possible to recycle in Iceland. Almost all recycling takes place locally and only specific materials are sent abroad. Manufacturers use materials that are recycled as much as possible in their production and widely used smart solutions. In this way, natural resources are conserved reducing the need for international transport as well as increasing the diversity of jobs within the city. There is increased collaboration between those who produce waste and those who use waste in production. A wide-ranging



behavioural transformation means people lead environmentally friendly lifestyles so that stores see business opportunities in offering unpackaged products or systems for returning and replacing packaging.

The Societal Vision sees Reykjavík as a diverse and multicultural society based on values of mutual respect and human rights, respect for ecosystems and a vision of sustainability and environmental awareness as a guiding principle in the interaction of population, urban environment and nature. In Reykjavík, floating office locations is common. Neighbourhood offices are widespread, and their operational efficiency is ensured by powerful information technology and high-speed internet connection. The technology makes it easier for citizens to access health services and to adapt the services to the needs of citizens.

### 3.7.2 Vision Statements

The vision statements are the main result of the Reykjavik City Vision 2050 and are described below.

Table 46. Reykjavik Vision Statements – Mobility Vision

Vision Statement	Detail
Transportation is powered solely by local sustainable energy source	The use of fossil fuels on vehicles, whether traveling by road, ocean or air, has been discontinued. Instead, sustainable local energy sources are used, such as electricity, hydrogen, methane or other fuels that are produced, for example, by electrolysis or biomass.
There is paid access to a variety of sharing equipment that meets different needs for each trip.	Citizens have access to a variety of travel modes through a well-designed multi modal transport system including MaaS, micro-solutions, pedestrian zones and fossil free public transport. Citizens either pay on demand or subscribe to travel options.
In Reykjavík, less than 30% of trips are made by car.	Most of the travel is by foot, by MaaS, micro-flow of vehicles or by public transport.
It is easy to plan a trip where different means of transport are used with comprehensive transport technology solutions.	Digital travel planners help individuals find the easiest route from A to B and switching costs are minimal between different modes of transport.
Reykjavík is characterized by car-free areas.	Car-free areas are a characteristic of Reykjavik. Car traffic is on the edge of the urban settlements. Attractive environments nourish the spirit.
Reykjavík residents are well informed about the	Citizens are aware that each trip translates to costs for society, economically and environmentally and that these costs vary greatly depending on the mode of transportation.



Vision Statement	Detail
cost of transport decisions.	
People in Reykjavik are safe in traffic. serious traffic accidents are virtually unknown	The safety requirements for cars are such that traffic accidents caused by cars are a thing of the past.
Transportation infrastructure is designed to promote communication and human life	Cycling and walking are organized as a priority.
Reykjavik is a calm and relaxed city.	Reykjavík is calm even though people are on the move; the existent traffic is slow; the city is quiet and relaxed.
Transport in Reykjavik increases the quality of living in the city and public health.	It is easy to travel around the city regardless of which mode of transport is used. There is plenty of space for human activity and for people who choose more active modes of transport.

Table 47. Reykjavik Vision Statements – Circular Economy Vision

Vision Statement	Detail
Most of waste recycling takes place in Iceland.	Recycling companies process all the waste that is possible to recycle in Iceland. Almost all recycling happens in Iceland and only specific materials are sent abroad.
Companies in the city use recycled materials in their production.	Manufacturers use recycled materials and smart solutions as much as possible in their production and manufacturing processes. By this, Reykjavik conserves natural resources, reducing the need for international transport and increasing the diversity of jobs within the city. There is increased collaboration between those who create waste and those who use waste in production.
Reykjavík is sustainable in growing vegetables that everyone has access to.	Excess heat is used to heat community greenhouses in the districts where people can grow their own vegetables but also buy vegetables and fruits that the city grows. Carbon emissions reduce because of less international transport.
There are sharing centres in all districts in the city.	The City of Reykjavík operates sharing service centres in each district, where people can bring used things that others can buy, rent or borrow
Homes in Reykjavík produce energy and are sustainable	In addition to the environmentally friendly energy production that Reykjavik residents enjoy from the geothermal and hydropower plants, there is also decentralized energy production in households and companies in the city, used to equalize the load on the distribution system and production. Sustainability and energy security are also created for residents and companies.



Vision Statement	Detail
All districts have botanic gardens in temperate houses.	Residents have access to temperate buildings housing botanic gardens in all districts of the city for their enjoyment and cultivation.
There is a good supply of stores with environmentally friendly and unpackaged products.	A wide-ranging transformation of behaviours and demands regarding an environmentally friendly lifestyle means that stores see business opportunities in offering unpackaged products or systems for returning and replacing packaging
Recovery of all wetland is finished.	Recovery of wetlands has been completed as a climate action priority in order to reduce emission and mitigate impact on climate due to the destruction of natural habitats.
All resource streams are used to create value.	All resource streams generated by the production of electricity and hot water are used to create value, (e.g., heat, carbon and silicon). Resource streams from industry and companies within the city are also used for value creation.

Table 48. Reykjavik Vision Statements – Societal Vision

Vision Statement	Detail
Reykjavík is a diverse and multicultural society	Reykjavík is a diverse and multicultural society based on values of mutual respect and human rights, respect for ecosystems and a vision of sustainability and environmental awareness as a guiding principle in the interaction of population, built urban environment and nature
Residents of Reykjavík are active in policymaking and decision-making. Digital democracy is simple and effective	Residents of Reykjavík are active participants in policy and decision-making. Their participation is sought in planning processes and in decisions concerning urban development, always from an informed environmental point of view.
Reykjavík is a socially equal society based on a strong education, welfare and a good health system	Social equality is based on the participation of all citizens in society and should include increasing their awareness of rights and obligations, including participation in socially important issues and not least environmental issues. It is emphasized that all citizens have equal access to education, welfare and health services, and that if these immediate challenges are met, citizens will be better equipped to face the challenges of the future
Reykjavík is a leader in changing workplace culture with floating job locations	In Reykjavík, the floating location of offices is common, and their functionality is ensured by powerful information technology and high-speed internet connection. The staff of the City of Reykjavík are not required to travel a long way to get to the workplace, but can approach the nearest office and meet colleagues from different fields of operations that builds connections between the city's departments



Vision Statement	Detail
Reykjavík is an age-friendly city that offers a variety of opportunities for work and recreation and that offers user-controlled personalized healthcare (UCPH)	The City of Reykjavík seeks to realize the value of human resources at all ages. Powerful information and smart technology make it easier for citizens to access health services and adapt the services to the needs of citizens. It is common to have remote interviews with healthcare professionals and door to door delivery of medicines by smart drones.
Reykjavík has implemented an innovation guided education system	The City of Reykjavík operates an innovative, individual growth-oriented education system that emphasises the responsibilities and obligations of citizens in the interplay of society and nature. The education system emphasizes creating an understanding of the importance of the ecological footprint, sustainability, and circular economic thinking and it emphasises understanding the impact of consumerism on the earth’s ecosystem and the importance of social innovation as a guiding light for greener societies.

### 3.7.3 Implemented methods and procedure

The Reykjavik city vision had to adapt to the situation surrounding the COVID-19 pandemic. Thanks to Reykjavik’s high connectivity ICT infrastructure, recent investment and training in design thinking methodologies and skills and the enthusiasm of participants, the workshops ran quite smoothly. The workshops had to be conducted entirely online and so had to be adapted and cut to a half a day event. With detailed planning and a well drilled team of organizers from the city of Reykjavik and Reykjavik Energy, the workshop was successful and included follow up procedures to clarify some of the concepts that emerged. This workshop will feed into subsequent workshops that are linked to the rolling out of Reykjavik’s Green Plan and future climate actions.

### 3.7.4 Description of the Task Force and Participatory Process

A task force was created in the early months of the SPARCS project. This task force is comprised of handpicked key relevant stakeholders and external and internal experts. The internal experts are involved in the creation of Reykjavik’s innovation policy and in the continuous revisioning of Reykjavik’s climate action strategy.

The city vision workshop pulled on internal and external expert participants. Most participants are veterans of city administration and operation and many have been involved in developing the city’s new Green Plan, a very large social and economic stimulus package to be rolled out over the coming years as part of the city’s response to the pandemic. Gender distribution with facilitators was equal with 10 females and 10 males and age distribution ranged from early 26 to 63 with the mean age at 45.



Table 49. Task force of the Reykjavik City Vision Workshop

SPARCS Task Force	
Name	Expertise
Jón Steinar Garðarson Mýrdal	SPARCS Project Manager - Reykjavik
Kristinn Jón Ólafsson	SMART Reykjavik - Project Manager
Óli Páll Geirsson	Data Governance Officer - Reykjavik
Guðmundur Benedikt Friðriksson	Mobility Expert - Reykjavik
Hrönn Hrafnadóttir	Climate action expert - Reykjavik
Grétar Þór Ævarsson	Consultant engineer - Reykjavik
Kári Hreinsson	Innovation manager - Veitur utilities
Inga Dóra Hrólfsdóttir	SPARCS project manager - OR
Guðjón Hugberg	Technical manager - ON

Table 50. Participants and Facilitators of the Reykjavik City Vision Workshop

City Vision Workshop Participants		
Participant	Expertise	Internal / external
1	Urban design and planning	Internal
2	Green public spaces	Internal
3	Psychology / public health	Internal
4	Transport engineer	Internal
5	Digital creative	Internal
6	Urban planning and operations	Internal
7	Public finance and analytics	Internal
8	Neighbourhood planning / co creation	Internal
9	Environmental quality	Internal
10	Mobility / EV transformation	Internal
11	Innovation / utilities	External
12	Consultant engineer	Internal
13	Technical manager / utilities	External
14	Democracy advisor	Internal
15	Citizen engagement	Internal
Facilitators		
Jón Steinar Garðarsson Mýrdal (project manager)		Internal
Inga Dóra Hrólfsdóttir (project manager)		External
Andri Geirsson (project manager)		Internal
Kristjana Björk Brynjarsdóttir (project manager)		Internal
Magnus Yngvi Josefsson (project manager)		Internal

Reykjavik has also invested in an internal service design team to encourage participatory processes through the implementation of design thinking methodologies. Conceptualised as the Greenhouse, it was first implemented in 2019 and it is an initiative linked to the roll out of Reykjavik's new service policy. The mission of the Greenhouse is to emphasize Professionalism, User Centred Design, Efficiency and Convenience. It is an innovation incubator with a mandate to promote, design and develop internally user-centric thinking



and services guided by principles of design thinking. The Greenhouse team was mobilised to help with the practical and technical aspect of the City Vision Workshops. The design team also helped with the technical and operational planning of the workshops. The workshops were carried out online using TEAMS and the online collaborative whiteboard platform Miro. Participants were invited to register via e-mail, they were sent a document that explained what the workshop was about, what was hoped it would achieve and what was expected from workshop participants. All participants were invited to sign an informed consent form.

### 3.7.5 Key Strategic Areas

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The SPARCS project management team representing both the City of Reykjavik and Reykjavik Energy settled on three main strategic areas, namely Mobility Vision, Circular Economy Vision and Societal Vision. It was decided these would capture key value dimensions of SPARC and that would be key enablers to a vision of Reykjavik in 2050 as well as being aligned with Reykjavik's strategic agenda. These areas also guided the selection of participants to the City Vision Workshops. Those represented subject matter experts sourced from within city departments but augmented by external experts. These key strategic areas were addressed in three clusters each led by a SPARCS representative.

### 3.7.6 Stating the Status Quo

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Figure 9 is a screenshot from the Miro platform that shows the three thematic areas Mobility Vision (Samgöngusýn), Circular Economy Vision (Hringrásarsýn), and a Societal Vision (Samfélagssýn). Each was led by a SPARCS representative from the City of Reykjavik and Reykjavik Energy.

As an Icebreaker, participants were invited to select their favourite city in the world and talk about what it is about the city they like. The exercise created an *esprit de corps* around the workshop and for the participants set the context for the forthcoming dialog and work.







**Check-in: Hver er uppáhalds borgin þín í heiminum og hvers vegna?** 🏠 🚲 🏠 🌞 🗺

**3 min**  
Veldu emoji sem lýsir því hvers vegna borgin er í uppáhaldi - og staðsettu hann á kortinu þar sem borgin er

Hvernig geri ég þetta?  
Smelltu á ... takinn á skurttílu vinstri á skjánum og veldu "emojis" ígá myndi þá birtist valmynd af emoji-um og þú getur valið hvern sem er. Þegar þú smellir á emoji birtist hann á handahófskenndum stað á á kortinu. Til að fara hvernig á rétta staðsetningu á kortinu smelltu á hann og heldur músinni síni á meðan þú færir hann til

Figure 10. First Step of the City Vision Workshop - Icebraker

Divided in groups, the participants discussed the key strategic areas and identified what were the most important aspects to leave behind and those they should take with them for the future (Table 51).

Table 51. Status Quo part of the Reykjavik City Vision 2050 workshop

Key strategic areas	What do we want to take with us into the future?	What do we want to leave behind us?
Mobility	Less congestion and ubiquitous use of bicycles, MaaS and micro-mobility solutions. Cleaner and greener mobility ecosystem and car free zones	Congested transport system Emissions from transport Private car dominance Road accidents
Circular economy	Nationwide recycling of waste, nothing is exported for recycling elsewhere. Urban gardens are widespread, and the sharing economy is the norm. Wetlands are recovered and represent a vibrant ecosystem for birds and fauna reclaiming natural habitats	Wasteful practices and excessive consumerism Unsustainable practices in the use of natural resources. Suboptimal recycling processes Destruction of natural habitats
Society	Citizens are active participants in strategy development and decision making. Digital democracy is easy to implement and efficient.	The “mind the gap” mentality that often characterizes the relationship between the public sector and citizens. Social and economic disparity Citizen that are left behind.



Key strategic areas	What do we want to take with us into the future?	What do we want to leave behind us?
	Reykjavik is a socially equal and age friendly society with personalized knock on the door healthcare services. City employees are spread across the city’s neighbourhoods.	Inefficient delivery of services Stressful commuting and obsolete work regimes

### 3.7.7 City Vision Workshop Overview

One can say that the work began with the forming of a project board in November 2019 following the SPARCS kick off meeting. Some board members would eventually participate in the workshops. The board will be operational for the duration of the SPARCS project.

The futures visioning workshop task was formally initiated in October 2020 although representative from the City of Reykjavik and Reykjavik Energy had earlier begun to draft the plan and list the participants. Following the identification of themes, subject matters experts were invited to join the workshop. Experts were recruited via e-mail with five individuals appointed to each of the three themes with each theme led by representatives of the city of Reykjavik and Reykjavik Energy. All appointees were asked to fill in an informed consent form explaining what the SPARCS project is about, what was expected of them and how the outputs would be used.

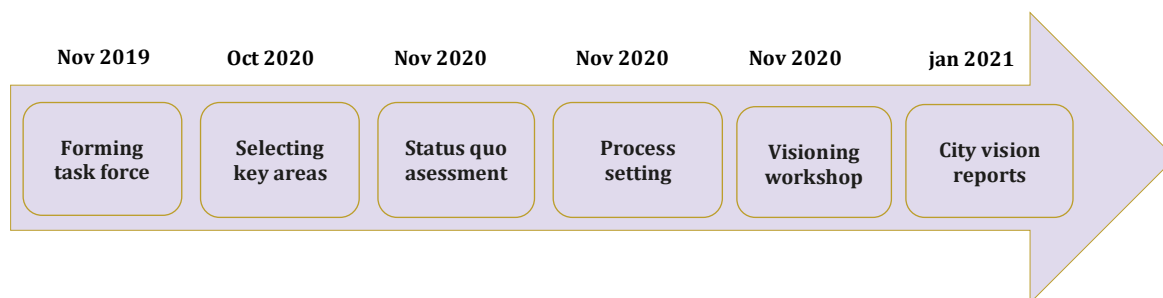


Figure 11. Timeline of the City Vision 2050 process in Reykjavik

The table below shows the plan and planned duration of the activities.

Table 52. Agenda of Reykjavik City Vision 2050 workshop

Workshop date	26.11.20	Participants	15	Remote
Agenda	Min.	What		
Introductions (all)	20	Introducing SPARCS, purpose of workshop, anticipated outputs, outcomes and workshop plan. Participants’ introduction		
Icebreaker (all)	10	Favourite city exercise		
Status quo (all)	30	Baselines elaborated		



Workshop date	26.11.20	Participants	15	Remote	
Agenda	Min.	What			
Breakout (groups)	60	Breakout sessions and each group to separately discuss and agree on 4-8 priorities to further process.			
Coffee break	10				
Selection and transformation of statements (all)	50	Outputs from workgroups presented and all participants vote on the most important issues to assemble in a common declaration in all three themes.			
City vision description (all)	50	Syntheses of material and a Futures City Vision Headline (agreed by all)			
Vision statement (all)	20	A Futures City Vision			
End of workshop					

The workshop was designed in all hands-on deck orientation, followed by three thematic areas with three breakout rooms and then a lesson learned activity.

A post workshop discussion (SPARCS Retro) included a discussion on how interesting it would be to replicate the workshop with citizens and how difficult it was to get people to shift from the present to a futuristic mode. Another comment regarded that the working groups could have been more mixed rather than being composed of subject matter experts and a suggestion was made that it would have been good to enable participants to drift between different working groups.

### 3.7.8 Making Use of the City Vision for Years to Come

SPARCS, like Reykjavik's other EU projects contributes significantly across Reykjavik's policy spectrum. The outputs inform both existing policies and policies that are under development. Although SPARCS is designed specifically as a climate action and as such, contributes to the regular revision of Reykjavik's climate action plan, the project also contributes towards Reykjavik's new innovation, public services and democracy policies as well as Reykjavik's Green Roadmap, The Green Plan. The figure show how Reykjavik envisages the continued contributions of EU project to its policies. and the city vision is now part of a portfolio of tools Reykjavik can use as a handrail to a cleaner and a greener future.



## 4. CONCLUSIONS

---

### 4.1 Summary of achievements

---

The entire City Vision process leading to the deliverable *D1.11. City Vision 2050 -draft* has led to a very relevant set of achievements that should be highlighted:

- The definition of a methodological approach, tailored and embedded in the specific context of each city;
- The development of an insightful reflection about the current status quo in each partner city, providing the key baseline information upon which the actual visioning process was built;
- The deployment of a structured, organized and interactive process in each partner city, involving the relevant actors and key stakeholders, through which an open and informed discussion about the strategic options of the cities was held;
- The identification of Key Strategic Areas in each partner city, understood as sectoral ambitions or goals that the overall City Vision should be able to accommodate;
- The co-definition of city-specific strategic guiding pillars, that will inform decision-making and guide the wider process of urban transformation in the partner cities;
- The production of a bold City Vision in each partner city, stating the desired future for 2050.

### 4.2 Impacts

---

The *D1.11. City Vision 2050 -draft* can be considered the first key step triggering a wider and deeper process of urban transformation in partner cities. Working as a reference point towards which all the efforts of the cities should be channelled. It is therefore expected that its impact goes far beyond the project to influence decision, strategic options and investments of the cities in a broader fashion. To this extent, the impact of the City Vision is also expected to last beyond the project lifespan.

From the project's point of view, it is understood that D1.11 will directly impact other Tasks and Work Packages. Among these are Task 5.3. *Fellow City Replication Strategy* and Task 5.5. *Project Upscaling and replication in LHCs* to which the Vision will work as a point of reference for the development of the Implementation Plans in FCs and the Replication and Upscaling Plans in LHCs.

It is, however, understood that Task 1.2. *Urban Transformation* will be the main beneficiary task, as the City Vision will work as the ideal future scenario that the *D1.2. Roadmap for Urban Transformation* (to be developed in this task) should lead to. Therefore, the D1.2. will work as a "bridging element" that allows the identification and visualization of the key intermediate milestones and outcomes that must be delivered between the current day and 2050 in order to achieve the City Vision. Also, as mentioned in Chapter 1, the roadmapping process will be aligned with the Implementation Plan (WP5).



It is also important to note that the *D1.11. City Vision 2050 -draft* will be the mainstream document upon which the *D1.12. City Vision 2050 – final* (due on M60) will be developed, after collecting the results and being updated by the outcomes of other relevant Tasks and Work Packages.

### 4.3 Other conclusions and lessons learnt

---

Each partner city has executed its respective City Vision process and related interactions (Chapter 2) by modulating the general methodology proposed according to the outcomes and lessons learnt of the pilot case run in Leipzig (Chapter 3). This approach was key in ensuring the successful adaptation of the methodology in all the other city-specific contexts.

The process of adjusting the standard methodology to the idiosyncrasies of each city imposed different challenges related to the many local factors such as pre-existing local contexts and ruling mechanisms (e.g. governance frameworks, public culture, organizational geometries at the city administration level, political commitments, citizens expectations, among others), which had an obvious influence in the way each of them applied the methodology and operationalized it. This was further hampered by the sudden emergence of the COVID-19 pandemic and consequent search for plausible alternatives to put the methodological approach into practice.

The different shapes that the City Vision workshops in partner cities ended up taking – either in-person or remote – have succeeded in showing the limits and opportunities of digital tools for the engagement of local stakeholder and to drawing particular conclusions about the means used.

Remote platforms present lower barriers to entry, allowing the participation of the wider audience, as well as the active contribution of individuals that are shy or fear public speaking. Furthermore, they are rather practical in terms of logistics (e.g. saving travel time) and time management (e.g. permitting an immediate shift between the various activities of the whole agenda), being also a lot cheaper to organize. If well managed and relying on relevant collaborative digital tools, remote workshops have a significant potential to foster creativity and innovative feedback from the audience's side. On the other hand, however, city administrations are not so experienced in running this kind of events through remote means which is a shortcoming *per se*. Indeed, to be able produce the intended results, these online platforms require a certain level of technical and practical expertise in order to manage the sessions properly. Moreover, while being more “democratic, it is more difficult to ensure a proper focus of participants that are not sharing the same physical space and consequently to guarantee a balanced level of participation among them.

For their part, physical workshops make it easier to ensure the focus of the audience and to establish a rapport to face-to-face interactions, while continue providing feedback to the organizers through non-verbal communication. They are also intrinsically more energetic, as participants usually benefit for immersive live brainstorming and idea exploration in the sessions. Besides, in such an immersive playground, the potential to getting high quality inputs from the audience is significantly higher. In contrast, presential workshop undertakings can inherently be more selective and reduced to a smaller group



of stakeholders, therefore potentially biasing the outcomes of the visioning process if not well managed.

Acknowledging the need to rightfully evaluate the visioning workshops (as well as all the social engagement interactions to be organized at the project level), a Quality Assessment Template (QAT) was developed analysing relevant aspects such as: process structure, institutional context & path dependency, partnership development & agency, communication channels, learning process & capacity building, governance know-how & knowledge transferability and inter & intra organizational learning.

Although not being among the objectives of this deliverable the analysis of similarities and differences between the partner cities or the choices that will guide them into the future, another important (and curious) outcome has to do with the areas they have coincided in considering strategically important to achieving their own desired future scenarios in 2050. All the seven cities of the project have chosen “Mobility” as a key area for this purpose, while Lviv was the only one not selecting “Energy” among them. “Citizen/Societal” (mostly related to engagement and awareness raising) along with “Digital” and “Smart Cities” fields were also highly regarded by most of the cities. “Urban Planning/Development”, “Housing” or “Governance” were also elected by more than one city. This means that even if the selection of key strategic areas has a specific context dependency, some of them are horizontally acknowledge as being of critical importance to ultimately accomplish their own City Visions in 2050.



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## APPENDICES

### Appendix 1 - City Vision Package - General instructions

The SPARCS logo is positioned at the top left of the page. It consists of a red graphic of three interconnected shapes resembling a city skyline or a network, followed by the word "SPARCS" in a bold, red, sans-serif font.

# T1.7: City Vision


## GUIDELINES FOR PARTICIPATING CITIES IN SPARCS

10/08/2020, v1.1

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Neumarkt 9-19, 04109 Leipzig*

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A large, stylized graphic of a city skyline, composed of several geometric shapes (diamonds and rectangles) in a light purple color, arranged in a way that suggests a cityscape with buildings of varying heights and widths.

City Vision Guidelines for participant cities



## Appendix 2 - City Vision Package - Preparation

SPARCS recommendation	State of play
A task force 'City Vision' should be formed by each city by May 2020.	
A first draft of relevant key strategic areas should be created by June 2020.	
Please check if further participatory measures are useful for your City Vision process (e.g. focus group, citizen survey).	
Key strategic areas can also be inspired from the SPARCS project proposal ('specific demonstration actions'), existing strategic documents of the municipality, or <u>Morgenstadt Initiative</u> .	
Status Quo: If present, make use of results from 'Implementation Plan' (D5.5 in WP5).	
Results from the City Diagnosis in SPARCS are a good source to look for indicators. Most likely, several indicators and documents have already been collected by participating cities in the course of preparing the City Diagnosis. A status quo should be finished until immediately before the actual workshop implementation.	
Please check whether a remote workshop will necessary and inform FHG IMW to support.	
A first save-the-date email should be sent out the latest by July 2020.	
A City Vision workshop date should be set.	
There should be enough time to reconcile the results of the workshop into a City Vision report (time need approx. 2-3 weeks at least), latest 30 <sup>th</sup> of November 2020.	

City Vision Checklist (partial)

### CITY VISION 2050 – KEY STRATEGIC AREAS

City:

Workshop date:

In order to frame and structure the SPARCS City Vision 2050 process, the decided upon a set of key strategic areas (see 4.4 in *Guidelines for pr SPARCS*), which are listed in the following.

No.	Key strategic area	Short description (if necessary)
1		
2		
3		
...		

Key Strategic Areas discussion template (partial)

### Workshop City Vision 2050 – Schedule

Session	
[DATE]	Welcome, Introduction, Warm-up
	Introduction: SPARCS and City Vision
	Short break
...	
[DATE]	

Schedule template (partial)



## Workshop City Vision 2050 - Schedule

DAY 1				<b>How to use this document:</b>			
Date:				- Please feel free to adapt this schedule to work out a detailed schedule for your City Vision workshop.			
Location:				- This document is prefilled with the rough schedule provided with the guideline document. This can be a starting point			
Start: <b>9:00</b>							
End (calculated): 19:30							
End (planned): <b>16:30</b>							
No.	What?	Who?	Details/notes	Duration (min)	Start	End	
1	Introduction	Task Force	Welcome, introduction by the hosts, explanation of goals and structure and schedule of workshop, explanation: What is SPARCS? Why do we need a City Vision in general and in SPARCS? What is a City Vision exactly? What is the expected result of the workshop? This part introduces the participants in the setting of the workshop and sets goals for every participant to understand.	0:45	9:00	9:45	
2	Warm-up		Introduction of the participants, mental warm-up to think about long term futures. This exercise is both helping participants to get to know each other (if they have not met, yet) and to set their mind on forward looking and normative thinking.	0:30	9:45	10:15	
3	Status Quo of the City: Where do we start from?		Three parts: 1. Expert input, plenary: What is the Status Quo? 2. Group work/discussion: Identification and extraction of relevant topics by key strategic areas 3. Group work/discussion: What do we take with us into the future? What do we leave behind? 4. Plenary: Explanation and confirmation 5. Plenary: Rating by participants This exercise results in a ranked display most relevant topics of the present when looking into a zero carbon future, ordered by key strategic areas.	2:30	10:15	12:45	
4	Trend Gallery (optional)		Free-moving gallery like exhibition of relevant trends. This part of the workshop marks an optional stimulation of what trends we can observe right now within some areas of interest. Posters with trends will be provided in the 'City Vision Package' by FHG IMW.	0:45	12:45	13:30	
5	Headlines from the Future		This part comprises the generation of a variety of desirable visions statements about the zero carbon future in 2050.	2:40	13:30	16:10	
6	Selection and Transformation of statements		The headlines produced in the previous exercise contain raw vision statement material. These headlines are not a refined vision statements nor a City Vision, yet. They can be out of focus and may contain duplicates and contradictions. (.)	2:15	16:10	18:25	
7	Joint resolution		Display of every vision statement and resolution and approval of the results.	0:15	18:25	18:40	
	Short break			0:10	18:40	18:50	
	Lunch break			0:40	18:50	19:30	
End (day 1)							
Start (day 2)							
End (day 2)							

Task Force Planning Schedule template (partial)



# Appendix 3 - City Vision Package - Workshop

## Extra supportive elements

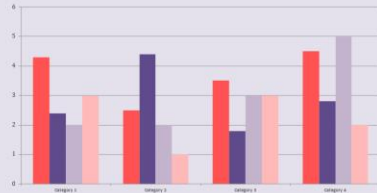
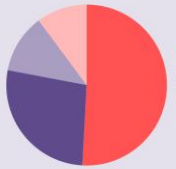
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- Deuxième niveau
  - Troisième niveau
  - Troisième niveau

**PULL OUT QUOTE**  
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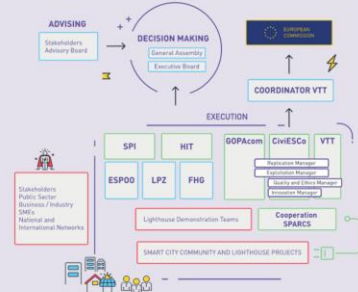


Horizon 2020  
 European Union funding  
 for Research & Innovation

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## SPARCS

Sustainable energy Positive & zero cARbon Communities



Who aims to implement it

### Building block level interventions – Lighthouse Cities



### District level interventions



### Macro level interventions



How we aim to do it

@SPARCSEU | [WWW.SPARCS.INFO](http://WWW.SPARCS.INFO)

Status Quo Template



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# GREEN GAZETTE

## *Carbon-neutrality reached*

[key strategic area 1]



[key strategic area 2]

[key strategic area 4]

[key strategic area 5]

Weather Forecast



Sa Su Mo

[key strategic area 3]

[key strategic area ...]

[key strategic area ...]

[key strategic area ...]

[key strategic area ...]

[key strategic area ...]

[key strategic area ...]

Work Instructions

Formulate **headlines** for the newspaper's special issue.


Fill at least 9, but not more than 12 of the empty fields, each with a **headline**, additionally accompanied by a **short lead** (Most important info, answers some of the W's). Each field should not surpass more than 30 words.

Make sure to cover all of the indicated **key strategic areas** at least once when you work out the headlines/leads.

Make use of the provided supportive materials and feel free to ask questions.

Future telling newspaper template






# Methodological Manual

## Manuals to use for the City Vision workshop

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Topic: LC-SC3-SCC-1-2018-2019-2020: Smart Cities and Communities

City Vision Methodological Manual

Event: Workshop City Vision 2050			
Date:		Location:	
1	Surname, First Name	Institution	Signature
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Attendance list template



## Appendix 4 - City Vision Package – Post-Workshop

<p><i>This matrix is meant as a proposal used only for internal use to systematically check if there are <b>inconsistencies or contradictions</b> left within your corpus of vision statements.</i></p> <p><i>You can expand or reduce it easily to relate each vision statement pairwise with potentially competing vision statements. One possibility to mark your conclusions is to use a colour code as indicated in the fictitious examples (green: no conflict, yellow: potential conflict, red: incompatible).</i></p> <p><i>The use of this document is best done after the first draft of the City Vision narrative is done and before the finalisation of the City Vision report.</i></p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>80% of all trips taken within the city are realised by public transport.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>Shared pedelecs are a comfortable and cheap opportunity to get from suburban areas to the city centre.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>60% of all trips taken within the city are realised by bike.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>Former parking lots are now green areas for recreational purposes.</p>
	[corresponding translation into a narrative]	[corresponding translation into a narrative]	[corresponding translation into a narrative]	[corresponding translation into a narrative]
	<p>key strategic area 1 (e.g. "mobility")</p> <p>80% of all trips taken within the city are realised by public transport.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>Shared pedelecs are a comfortable and cheap opportunity to get from suburban areas to the city centre.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>60% of all trips taken within the city are realised by bike.</p>	<p>key strategic area 1 (e.g. "mobility")</p> <p>Former parking lots are now green areas for recreational purposes.</p>
	[corresponding translation into a narrative]	[corresponding translation into a narrative]	[corresponding translation into a narrative]	[corresponding translation into a narrative]

Contradiction check matrix template

### City Vision Report

Report Template for participating cities in T1.7 City Vision to use

Jörg Koslitzki, Annamaria Riemer

Fraunhofer Center for International Management and Knowledge Economy IZM

09-19, 04109 Leipzig

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PAGE 2 OF 9

**About SPARCS**

Sustainable energy practice & zero carbon communities demonstrate and validate technically and socio-economically viable and replicable, innovative solutions for rolling out smart, integrated positive energy systems for the transition to a cities centred zero carbon & resource efficient economy. SPARCS facilitates the participation of buildings to the energy market enabling new services and a virtual power plant concept, creating VirtualPowerEnergy communities as energy democratic playground (positive energy districts can exchange energy with energy centres located outside the district). Seven cities will demonstrate 100+ carbon saving buildings, blocks and districts into energy producers. Impacts span economic growth, improved quality of life, and environmental benefits towards the EU policy framework for climate and energy, the SET plan and UN Sustainable Development goals. SPARCS co-creation brings together citizens, companies, research organisations, city planning and decision-making entities, transforming cities to carbon-free inclusive communities. Lighthouse cities Regio (IT) and Leipzig (DE) implement large demonstrations. Follow cities Regio (DE), Mainz (PT), Linz (UA), Kibera (KE) and Khimiso (TZ) prepare replication with hands-on feasibility studies. SPARCS identifies bankable actions to accelerate market uptake, pioneers innovative, regulatory governance and business models boosting the transformation process, joint procurement procedures and citizens engaging mechanisms in an overarching city planning instrument toward the bold City Vision 2050. SPARCS engages 30 partners from 18 EU Member States (UK, DE, PT, CY, EL, BG, CZ, IT) and 2 non-EU countries (UA, US), representing key stakeholders within the value chain of urban challenges and smart, sustainable cities bringing together three distinct but also overlapping knowledge areas: (A) City Energy Systems, (B) ICT and Interoperability, (C) Business Innovation and Market Knowledge.

**Partners**

SPARCS • City Vision Report

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City Vision Report Template for partner cities



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**Topic: LC-SC3-SCC-1-2018-2019-2020: Smart Cities and Communities**

## Appendix 5 – Interactions and outputs of the Leipzig City Vision 2050 workshop



Input by experts on the Status Quo of a key strategic area.



Results of group work on the Status Quo of every key strategic area.



Trend Gallery: Discussions of near-future trends.



Headlines from Future: Resulting headlines of one group's work.



Transforming headlines into vision statements in group work.



Results of a two-day City Vision workshop: Thematically sorted, ranked by importance vision statements with attached graphical enhancements.





## Appendix 6 – Interactions and outputs of the Espoo City Vision 2050 workshop



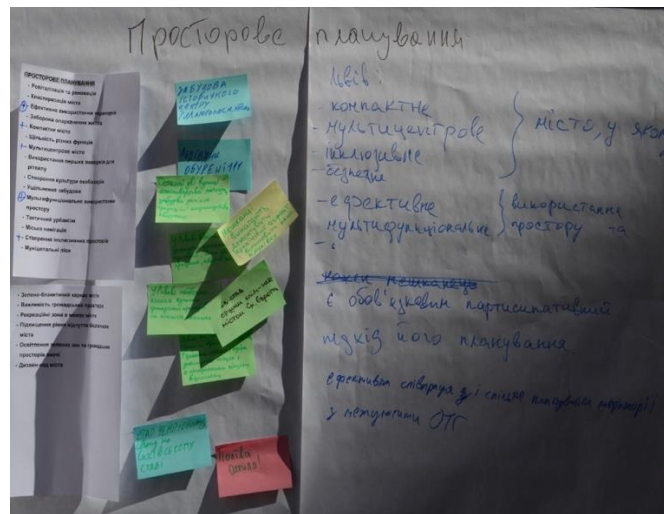
A word cloud of the participants’ initial thoughts about the year 2050, as stated by the participants in the introduction round in the beginning of the workshop. Words, such as ‘better’, ‘human scale’, smart’, ‘climate neutral’, ‘cooperation’, ‘resilience’ and ‘community’ were brought up.

The material depicting the Status Quo, provided in advance of the workshop to the participants through the workshop’s dedicated Teams team (using the provided trend gallery poster template).

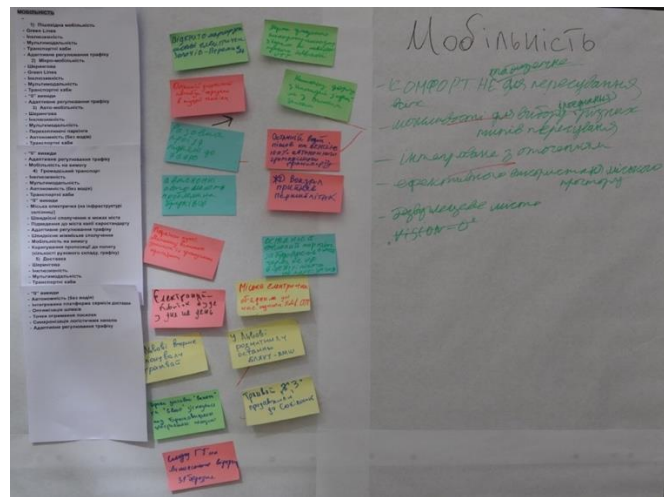




## Appendix 7 – Interactions and outputs of the Lviv City Vision 2050 workshop



Vision Statements on Spatial Development



Example of Vision Statements - Mobility



Picture of the on-site workshop



## Appendix 8 – Interactions and outputs of the Kladno City Vision 2050 workshop

### Socio-Economic Status of the City

People and Economy

#### Heart of Central Bohemia

Kladno, with its almost 70.000 inhabitants, is the biggest city in Central Bohemia and along with Mladá Boleslav the only statutory city in Central Bohemian Region. Immediate geographical proximity of the city to the suburbs of Prague predetermines it to intensive integration into Prague Metropolitan Area. Nearly 15 thousand inhabitants commute from Kladno to Prague or its immediate vicinity to work, another 3 thousand commute to schools. As a result, car traffic between Kladno and Prague is very heavy. The situation is further worsened by a non-existing high-capacity fast railway connection between the cities.

Year	Number of Inhabitants
1869	15000
1880	25000
1890	35000
1900	45000
1910	50000
1921	50000
1930	50000
1950	50000
1961	55000
1970	65000
1980	70000
1991	70000
2001	68000
2011	65000

#### Attractive for Living

The main factor of attractiveness of living in Kladno were traditionally job opportunities in production. Today, it is its geographical location in the suburban area of Prague. The city moves itself from a position of cheap housing nearby Prague into a category of middle class housing in a city with infrastructure in the suburbs of Prague.

Statutory City of Kladno owns approximately 2 thousand flats (6.5%) out of the total of 31 thousand flats within the area of the city. There is a relatively high number of unoccupied flats (2,6%) in the city, which suggests an occurrence of the so called substandard housing with poorer furnishings and technical conditions. A decisive part of the available housing originates in the interwar period (approx. one sixth) and mainly in the socialist period (approx. one third). Lately, 100 – 170 new flats are finished in the city every year, which is, relatively speaking, a slightly higher number than in most cities of a similar kind.

#### Population Growth and (De-)Industrialization

The number of Kladno inhabitants increased as a result of migration attractiveness of the city given by the individual periods of industrialization in the 19th Century and in the socialist period of the second half of the 20th Century. The current stabilization of the number of inhabitants ensues from the decrease of industry importance (de-industrialization), which is balanced in the population by migration growth due to the attractive location of Kladno in the vicinity of Prague.

Lighthouse cities: ESPOO, LEIPZIG  
Fellow cities: MAIA, KIFISSIA, REYKJAVIK, Kladno, LVIV

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Example of Status Quo Poster (Socio-Economic Status of the City)

Vyberte **jednu odpověď**, která ještě nezazněla, a tu představte ostatním. **Budte struční. (15 min)**

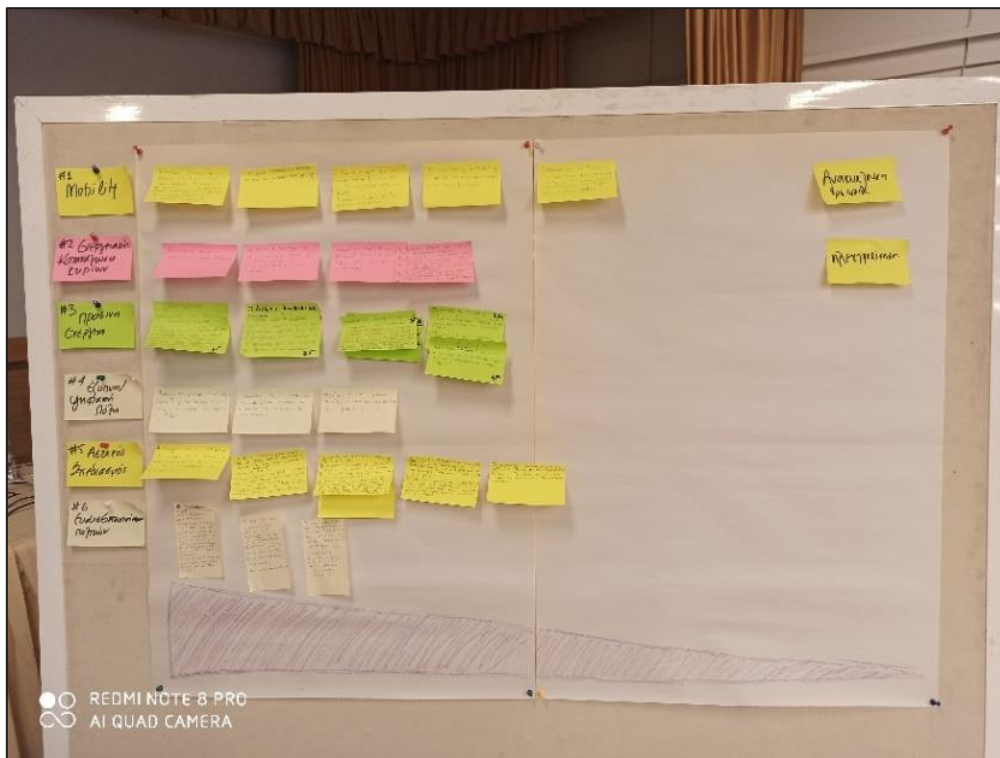
Co na Kladně v dané oblasti funguje? / Na čem může město stavět?

web města - přehledný, k dohledání množství informací	objednání online (např. v centru správních agend) - základní věci	testování nových nástrojů - pilotní projekty (platforma INVIPO a příbuzné aplikace)	informační a komunikační systém v rámci MMK - agenda schvalování,....	Kladno má vlastní síťovou infrastrukturu
projekt Telematiky, data se sbírají, ale nevhodně zpracovávají				

Photo gallery from the vision WS.



## Appendix 9 – Interactions and outputs of the Kifissia City Vision 2050 workshop



The final city vision board



Plenary Session

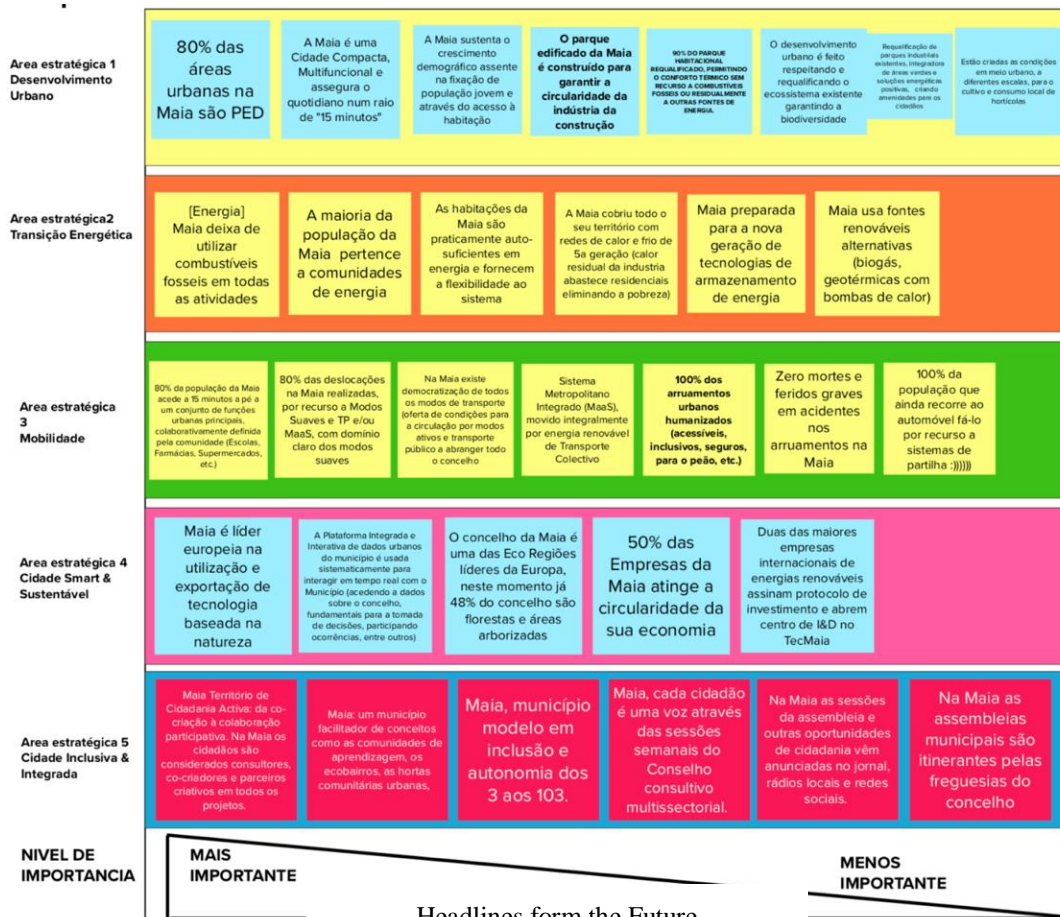


## Appendix 10 – Interactions and outputs of the Maia City Vision 2050 workshop



Presentation of the Status Quo by experts

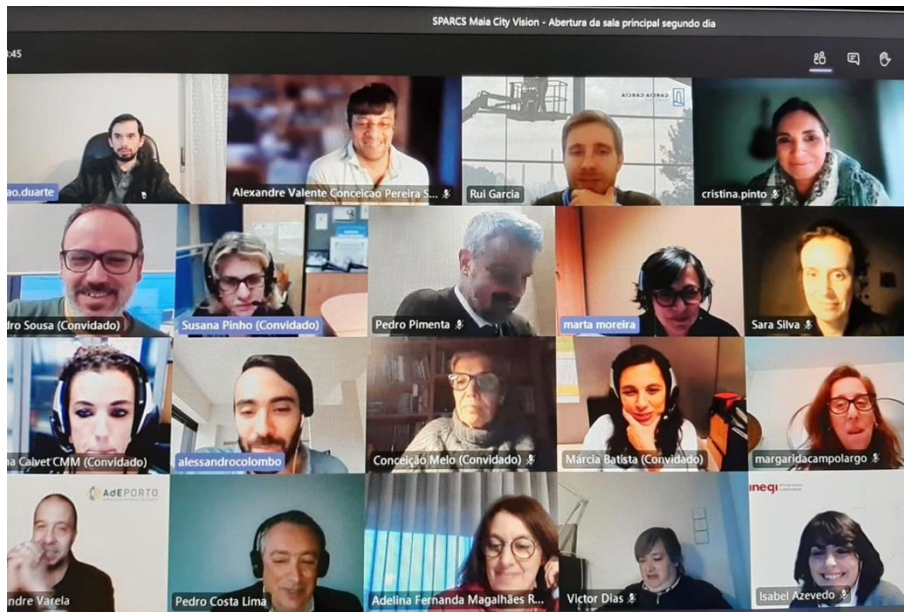
Work group for key strategic area – E.g. Mobility



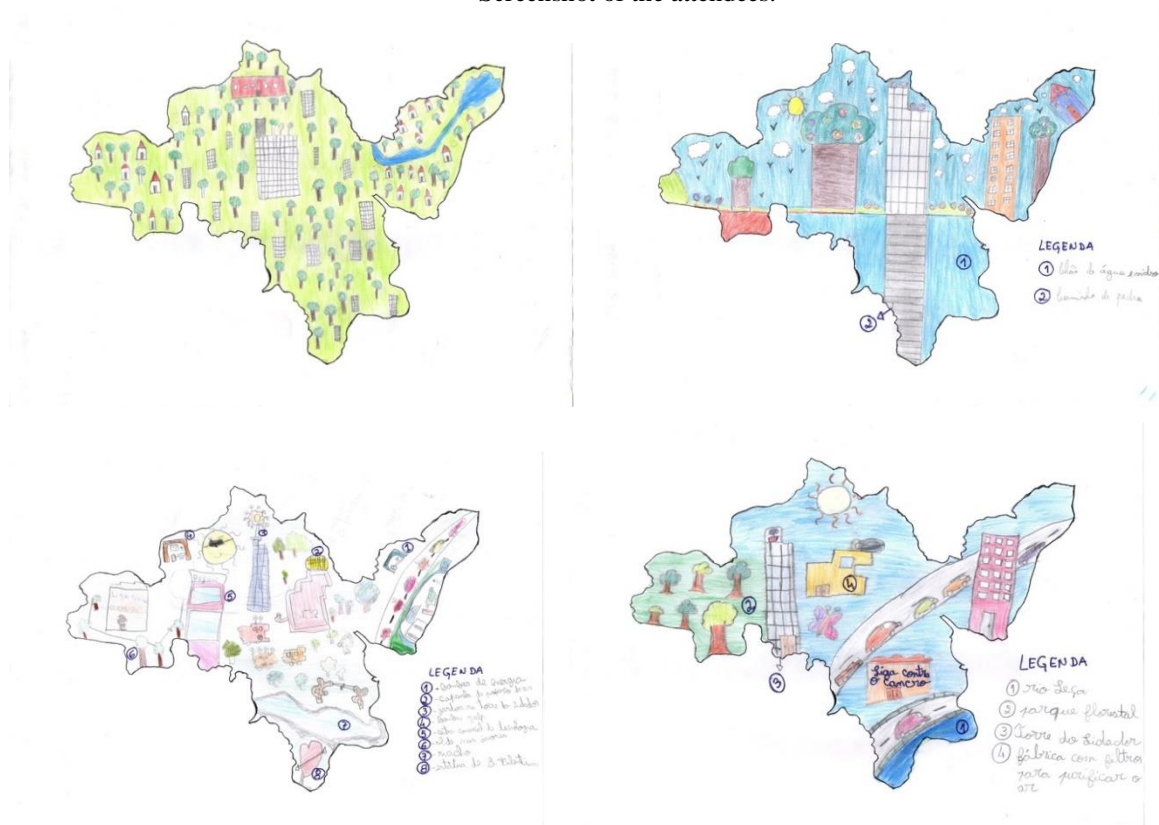
Headlines form the Future

Selection and transformation of the vision statements ordered by relevance and joint resolution.





Screenshot of the attendees.



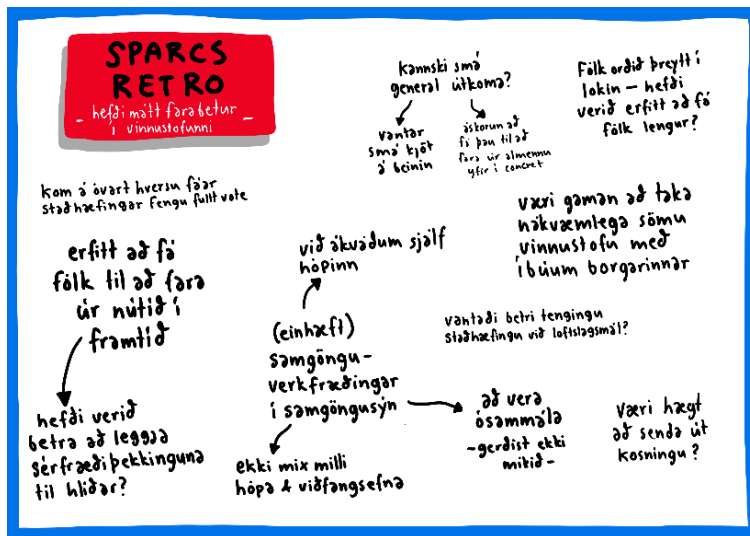
Results of a parallel activity – City Vision Workshop for Kids



## Appendix 11 – Interactions and outputs of the Reykjavik City Vision 2050 workshop



Breakout rooms – Miro Platform



Post-workshop discussion

