

CONCEPT ON HOW TO ESTABLISH THE DEPLOYMENT DESK AND INVOLVE RELEVANT STAKEHOLDERS

D.T. 1.1.1

Version 2.3

20.08.2019





Title	Concept on how to establish the deployment desk and involve relevant stakeholders
Deliverable	D.T.1.1.1
Authors	Alois Kraussler (PP4), Robert Pratter (PP4), Markus Rabensteiner (PP4), Katja Karba (LP), Reiterer & Scherling GmbH
Contributors	Michael Heidenreich, Andrea Dornhofer, Rafael Bramreiter, Stefano Dotta, Tadeja Bencak, Matija Hrupački
Status	final
Reviewed by	Michael Heidenreich, Katja Karba, Stefano Dotta, Matija Hrupački, Mario Vasak
Submission	31.05.2019



Content

1. Transnational part.....	4
1.1. Summary of the transnational part	4
1.2. Introduction in general	4
1.3. Stakeholder involvement in general	5
1.4. About the general concept.....	6
1.5. Basic content of each deployment desk	6
1.6. General framework conditions in the context of the stakeholder involvement	7
1.7. Relevant stakeholders of the cities / regions in general	9
1.8. Time-wise Stakeholder cooperation and engagement activities in general	10
2. Regional part: Austria	11
2.1. Executive summary.....	11
2.2. Introduction.....	11
2.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement	12
2.4. Overview of stakeholders for the city / region.....	14
2.5. Time-wise Stakeholder cooperation and engagement for follow up activities	16
2.6. Benefit of the stakeholder involvement.....	18
3. Regional part: ITALY	19
3.1. Executive summary.....	19
3.2. Introduction.....	19
3.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement	20
3.4. Overview of stakeholders for the city / region.....	21
3.5. Time-wise Stakeholder cooperation and engagement for follow up activities	24
3.6. Benefit of the stakeholder involvement.....	26
4. Regional part: Croatia	27



4.1. Executive summary	27
4.2. Introduction	27
4.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement	28
4.4. Overview of stakeholders for the city / region	28
4.5. Time-wise Stakeholder cooperation and engagement for follow up activities	30
4.6. Benefit of the stakeholder involvement	33
5. Regional part: Slovenia	34
5.1. Executive summary	34
5.2. Introduction	34
5.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement	36
5.4. Overview of stakeholders for the city / region	36
5.5. Time-wise Stakeholder cooperation and engagement for follow up activities	38
5.6. Benefit of the stakeholders involvement	44
References	45



1. Transnational part

1.1. Summary of the transnational part

The report outcomes propose to further support the dedicated public-private resources with EU-funding for the targeted performances of the urban refurbishment of energy storages in historical urban centers (HUC). The goal is to create a unique cooperation for different climate zones and local regulations to meet individual citizen requirements and to reduce CO₂ emissions related to buildings and districts. Sustainability has already been a long-term and medium-term goal in the partner cities before the Store4HUC project began. The deployment of managing the energy services will require each city to add an extra layer of system integration tackling sustainable, cost-effective and replicable urban solutions as presented in the following chapters. The performed analyses are relying on the benchmarking of the utilized regulatory and financial environments. The legal frame and regional promotion regimes are important for the realization of the pilot objects. Some case study sites are selected in the given report in order to reflect the bandwidth of measures keeping into account that final designs are still under discussion. This selection has been necessary to perform the done investigations with the support of the established deployment desks to get robust data sets and to allow replication in future.

Each participating city will establish a deployment desk composed of representatives and relevant stakeholders as well as selected players whose support will be needed for the future implementation of the pilot systems. These desks will be the main interface between the project team and the local/regional/ national stakeholders. Once established the desks will maintain as contact with players and invite them to relevant workshops, seminars and events throughout the project duration. The deployment desk should also ensure that every stakeholder benefits from the participation in the project and that the project outcomes (pilot sites, tool, etc.) consider their expectations.

1.2. Introduction in general

Store4HUC: Integration and smart management of energy storages at historical urban sites started in April 2019 and is a 36 months project supported by the INTERREG Central Europe program.

The main objective of this project is to improve and enrich energy and spatial planning strategies targeting historical city centres by focusing on integration of energy storage systems to enhance the public institutional and utility capabilities.

Pilot actions will be implemented in specific sites to demonstrate the various energy storages that can be adapted and transferred to other local or regional environments. The storages will provide good showcases to the local authorities which can benefit in a sense of improved energy efficiency and increase usage of renewable energy sources and lower costs for energy. A transnational strategy should be prepared and will provide the recommendations for improving the energy and spatial planning. An energy management tool will enable to monitor all features that proof the effectiveness of the pilot installations. Additionally, a tool for optimisation of the degree of self-sufficiency is planned. This tool will indicate the economic and reasonable utilisation of storages. By establishing the stakeholder deployment desk, Store4HUC will reach the relevant players to share the knowledge and transfer it to other additional audience. It will enable to gain wider consensus of the pilot installation and further tool usage, especially with the signed memorandums of the future tool utilisation. The project approach foresees also peer review actions, mutual learning within project consortium and exchange of experiences and knowledge with target groups what can enhance the transnational added value.



This deliverable describes the way to the successful establishment of the deployment desks and the involvement of the relevant stakeholder. The document is divided into two main parts: the transnational and the national part. The transnational part is intended to give a general overview of the concept, while the national part deals with the local circumstances. Therefore, there is one national part per participating country/region, summarized in the transnational part. However, this deliverable does not include the outcome of the meetings which will be part of the further deliverables 1.1.2 - 1-1.5 (one per meeting). The transnational part is structured in the following chapters:

Chapter 1.3 describes the stakeholder involvement concept in general. Why is it important to include local stakeholder and who are the most important ones? How to integrate them into our project and how to create an appropriate environment for a good cooperation?

Chapter 1.4 is focusing on the concept of the deployment desk. How will they be organised? Who will participate? What is the general aim of them?

In Chapter 1.5 the basic content of each deployment desk is described. What will be on the agenda? What is the aim of each meeting?

Chapter 1.6 describes the general framework conditions in the context of the stakeholder involvement and

Chapter 1.7 summarizes the relevant stakeholders of the cities/regions from the national part.

1.3. Stakeholder involvement in general

Energy boost has a direct impact on the economic growth and stability. There will be a further moving of citizens towards urban areas with up to 80% of total energy consumption in them in the coming decades. Thus, it is important to provide a low carbon energy supply in cities in a style of energy storages. However especially in historical urban centres (HUCs) it is very difficult to achieve these results, because interventions in this specific area meet strict architectural protection constraints (monument protection), involve higher implementation costs & often come in conflict with town planning policies. Further there is a low confidence in new technologies and RES integrated storage solutions due to less experiences. Up to now municipalities have focused mostly on own sectoral concerns & even where environmental management responsibilities were addressed, they were often expressed only in general terms. Energy storage systems are an integral part of European Energy Transition. The regulatory and financial environment is still challenging and subject to the on-going transformation. In Austria the current share of energy storages is very low. Unfortunately, especially in the historical urban centre of Weiz it is very difficult to integrate them because of legal constraints. In Italy the energy storage could be a very attractive prospect for use of photovoltaic energy. In Piedmont Region at the end of 2016 there were 51.362 PV plants installed, more than 90% have a size of less than 20 kWp. This reasonable number of PV plants would be a great opportunity for the diffusion of the energy storages, but at present only 11 % of the newly installed PV plants are locally connected to an energy storage. In Croatia energy storages are not usually utilized as part of energy management strategies yet. Energy storages are usually heat storages used for space heating or domestic hot water in Croatia. In Slovenia currently, only central heat storage units are used, which are water storage tanks.

In order to bridge the challenges which are coming across with the integration of energy storages in a HUC, it is very important to get all the different stakeholder groups on board. They are identified and will be integrated into the Store4HUC project. With the establishment of the deployment desks four meetings in every participating country are planned to take the local differences into account. But that does not mean that the stakeholders are only involved in these four meetings. All activities done by the project partners will be enriched by involving their stakeholders. They should be activated and animated through the regional deployment desk - the points that will gather the stakeholders to adequately discuss the pilot start-up, mid-term and final activities.



The objective is to establish contacts between active stakeholders at city, region and national level and the Store4HUC project, in order to facilitate the integration of the pilots in cities and to promote team building at project and city/regional/national level. To achieve this objective, it is essential to understand and acknowledge the internal organisation of each pilot city and region, and this will be performed through the organisation of regular meetings and activities with each Deployment desk. This should lead to a flexible integration of project practical knowledge in each HUC, providing innovative solutions to reply to common challenges faced by the cities and regions where the pilots are located. The effective establishment of the Deployment Desks are acknowledged in the following ways:

Key members of the Deployment Desks have been identified.

Contact has been made between PP4 and the integration of the Deployment Desks members through the organisation of local meetings.

1.4. About the general concept

Each participating city will establish a “deployment desk” composed of representatives and relevant stakeholders as well as selected players whose support will be needed for the future implementation of the pilot systems. These desks will be the main interface between Store4HUC and the local/regional/national stakeholders. Once established the desks will act as contact points with players & they will be invited to relevant workshops, seminars & events throughout the project duration. The Deployment Desk should moreover serve as a knowledge transfer vehicle for the other work packages. The stakeholder will provide the information and give the consensus and support further pilot action implementation, cooperate in feasibility study preparation.

In every city/region (Weiz/Austria, Cuneo/Italy, Lendava/Slovenia, Bračak/Croatia, and Germany) four deployment meetings (1st - 4th Deployment Desk) are planned (in total 20 meetings). The meetings are organised over the whole project duration and every deployment desk will have its own focus depending on the particular pilots and local context.

In this document, the analysis is focussed on “empirical” understanding aiming at comparing results from the establishment of the deployment desks. Common lessons from these inaugural meetings are taken into account for the coming steps:

- Dedicated structures need to be developed to answer to the needs of the partner cities.
- The time frame set to obtain permits for the foreseen measures needs to be realistic.
- Long lead times might occur during tender procedures.
- Fragmented decision-making processes: Bureaucracy at the municipality level might also create delays. E.g. the need to involve separate departments in the authorisation process, together with the budget planning.
- New agendas due to major political changes, e.g. new ‘master plans’, may also provoke delays and potentially jeopardise the possibility for a city to meet the requirements.

1.5. Basic content of each deployment desk

As described in chapter 1.4 *About the general concept*, four deployment desk meetings (1st - 4th Deployment Desk) are planned. Every deployment desk will have an own focus according to the state of the project at the point of time when the deployment desk meetings are planned.



The first deployment desk meeting is planned 6 months after the project start, in September 2019. This meeting will be a kind of kick-off for the deployment desk, and one major part will be to get to know each other and to connect the different stakeholders with each other. The content-related focus will be on the identification of problems, needs and opportunities on energy management systems and energy storage planning in the respective city/region/country. The results of the first meetings of different deployment desks will be compared to determine the differences and similarities between the deployment desks.

The second deployment desk meeting will be held in July 2020 after a bit more than one year of the project start. This meeting will mainly focus on the execution of the pilot plants. For the City of Cuneo this will be the energy refurbishment of the existing urban slope elevator through the realization of a new energy storage system linked to a PV plant, replacing some inefficient plant components. In Lendava some installations on the Lendava Public library such as the connection of the building to the existing geothermal district heating network and the installation of a paraffin-based latent heat storage are planned. The goal is to increase the share of renewables in the public sector and the installation of an innovative solution of an energy storage system to increase the level of energy efficiency in public buildings and the share of renewable energy used. The integration of a photovoltaic and battery system solution is planned in Bračak Manor along with the existing IT system adaptation to enable on-line coordination of PV and storage with the remainder of the advanced climatization system in the Manor. Everything will be done in close accordance with cultural heritage protection rules. The energy management will be carried out with an own developed tool which inherited in some parts from previous projects and further tailored for historical sites. In Weiz, a thermal storage will be implemented in the church on Weizberg which is connected to the public district heating grid. In Germany no pilot sites with energy storages are planned. Nevertheless, all deployment desk meetings will be also taking place in Germany, but with a broader focus.

The third deployment desk meeting, planned two years after the project start, in April 2021, will deal with the upscaling of the results. At this point of time already first meaningful results about the framework conditions, the pilot plans, the energy management and so on should be available. The upscaling strategy will strongly depend on these results.

The fourth and last official deployment desk meeting will be close to the end of the project. A decision of how to transfer the results should be found together. Moreover, this meeting will also focus on the concept of the deployment desk on its own. How did the desk meetings and the workshops work? What lessons can be learned for future projects with a similar approach?

1.6. General framework conditions in the context of the stakeholder involvement

A stakeholder is any individual, group or organisation affected by, or able to affect, a proposed project and its implementation (GUIDEMAPS, 2004). This includes the general public, as well as businesses, public authorities, experts and special interest groups.

They are often divided into two groups of internal and external stakeholders (Surbhi, 2015):

- Internal Stakeholders of a company are those parties, individuals or groups, that participate in the management of the company. They can influence and can be influenced by the success or failure of the entity because they have vested interest in the organisation. Primary Stakeholders is the second name of the Internal stakeholders. Internal Stakeholders provide services to the company. They are highly affected by the decisions, performance, profitability and other activities of the company. In the absence of internal stakeholders, the organisation will not be able to survive in the long run.



- External Stakeholders are those interested parties, who are not a part of the management, but they are indirectly affected by the work of the company. They are the outside parties which form part of the business environment. They are also known as Secondary Stakeholders. They are the users of financial information of the company, in order to know about its performance, profitability, and liquidity. External Stakeholders do not participate in day-to-day activities of the entity, but the actions of the company influence them. They deal with the company externally. They have no idea about the internal matters of the company.

The above given explanation is from the perspective of a company, but it analogously applies for a project, too.

Although stakeholder involvement is not always an easy process, it improves the quality of decisions, enhances public support for those decisions, and makes the policy-making process more democratic. It contributes to better-quality of the project results and is the best way to develop a common understanding of objectives, problems to be tackled and possible strategies for implementing solutions. In the past, the value of stakeholder involvement was underestimated. A lot of work has been done to raise awareness of the positive outcomes of stakeholder consultation processes, and to develop the necessary know-how. However, when confronted with limited budgets and resources, authorities do not always give high priority to stakeholder consultation. Many believe that professionals are best placed to make energy decisions, and that local politicians can adequately represent stakeholder interests. Auwerx, et al. identifies following Benefits of stakeholder involvement:

- Greater stakeholder input improves the quality of decisions.
- Controversial issues and difficulties can be identified before decision making.
- By bringing together different stakeholders with different opinions, an agreement can be reached together. This prevents opposition emerging later, which can slow down the decision-making process.
- Stakeholder involvement prevents delays and reduces costs in the implementation phase.
- Stakeholders gain a better understanding of the objectives of decisions and the issues surrounding them.
- Stakeholder consultation creates a sense of ownership of decisions and measures and improves their acceptance.
- The decision-making process becomes more democratic, giving citizens and local communities the power to influence decisions, and thus a greater sense of responsibility.
- Stakeholder consultation can help build local capacity.
- Public confidence in decision makers is enhanced.
- Stakeholders and decision makers learn from each other by exchanging information and experiences.

Stakeholder consultation – also known as a participatory approach – is the integration of the opinions and concerns of relevant stakeholders in the decision-making process. The aim is to make the decision-making process more transparent; to gather more input on which to base decisions; and to create support for the decisions that are made. Generally initiated by the decision makers or project team, stakeholder consultation can also be solicited by the stakeholders themselves. The involvement of stakeholders should be regarded as a permanent and long-term activity. It can be implemented at all stages of the policy-making process: planning, implementation and/or evaluation. (Auwerx, et al., 2011) With the deployment desk meetings and workshops every few months during the whole project runtime this approach will be implemented in Store4HUC as given in figure 1.

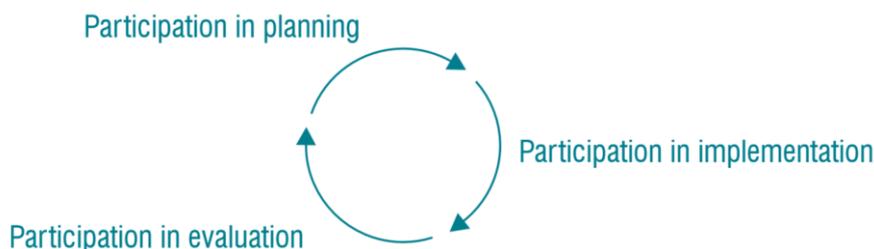


Figure 1: Participatory approaches to be used in some or all of the three-steps cycle (Elliot, 2005)

1.7. Relevant stakeholders of the cities / regions in general

As first step for the establishment of the deployment desk the local stakeholders in every country/region had to be identified and informed about the project. This was done by the local project partners and the results are shown in the corresponding regional part. Though the initial situation is different in the participating regions, some stakeholder groups have been identified which are important in every country:

- Technical experts: For every pilot site the knowledge transfer with technical experts from different fields will be an advantage. The kind of invited experts is varying dependent on the storage to be installed (thermal, electrical, etc.) and other planned measures. Some of them are already in the project team and some will be involved as external stakeholders.
- Local energy agencies: The knowledge transfer with local energy agencies which are focused on RES will also be an advantage for both sides and will enlarge the purview of the project.
- Local authorities/politicians: The success of a project like this is strongly dependent on the support of the local authorities and politicians. Therefore, the project team will ensure a close cooperation with them. Many of them as for example the Municipality of Lendava or the City of Cuneo are already parts of the project. Others will be involved as external stakeholders.
- Representatives for the cultural heritage protection: The installations of storages in historical urban areas require a close cooperation with the cultural heritage protection office, as their agreement is necessary for many installations in protected areas. On the other hand, these offices can also profit from good practice examples and knowledge transfer from other countries.
- Other municipalities: Also, other municipalities will be important stakeholders as one project goal is to invent a good practice example which can be replicated in other areas too. Moreover, the project team can benefit from the experiences other municipalities may have.

In addition to that, there are also groups of stakeholders which are particularly important for one/some of the participating regions. In Weiz for example biomass producers and biomass district heating companies are identified as essential stakeholders. Moreover, a special thing in Weiz is, that the storage is placed in a church. Even though a representative of the church is not officially part of the deployment desk, their interests will of course be considered. In Cuneo the participation of different departments of the municipality is particularly high. This also includes the department of mobility. Moreover, a sloping elevator manager and maintainer will also be part of the deployment desk. Because of the installation of an electrical storage, the electric energy distribution company which owns the local electricity grid, the Regulatory authority for energy networks and environment as well as the National company for energy service are also identified as important stakeholders. In Croatia at Bračak Manor the installation of an electrical storage is planned too. Therefore, there is an analogy between the stakeholders of Cuneo and Bračak Manor in this respect. In Lendava in Slovenia the Geological Survey of Slovenia as well as the operator of the geothermal district heating network are important stakeholders.



The role of all these stakeholders and the approach, methods and tools for their integration into to project as well as the used communication channels are described in the local part.

1.8. Time-wise Stakeholder cooperation and engagement activities in general

The stakeholder cooperation is very important for the project Store4HUC and will be a major Task in every participating country/region. The four deployment desk meetings will be a tool to ensure a close cooperation with the different stakeholder groups, but there will be much more activities all over the project runtime where stakeholders can participate. The goal is to involve the stakeholders in the planning, the implementation, and the evaluation processes as well as in follow-up activities. The already planned activities are listed in the tables in the local part separately for every stakeholder (group). As we are still at an early stage of the project, not every activity is already known now. Moreover, it will make sense to adapt some planned activities accordingly to the project outputs and probably appearing challenges. Therefore, the project team has decided to use this chapter (in the local part) as a living document which will be updated regularly. Nevertheless, there are already a lot of activities planned which are documented in the local parts.



2. Regional part: Austria

2.1. Executive summary

In the region/municipality of Weiz already a lot of experiences about renewable energies and EMS are available from different previous projects. In the project Store4HUC, the focus of the demonstration site will be on the integration of a thermal storage for the church on Weizberg, which is connected to the public district heating grid. For the local deployment desk 14 stakeholders have been identified. Five of them are internal ones, who are already part of the project team. The others are external stakeholders, like technical experts in different fields, local authorities or members of the biomass network. These stakeholders will be involved through periodic meetings, via e-mail newsletter and social network communication. A first version of an action plan for the integration of every stakeholder has also been created. The technical experts for example will help W.E.I.Z. and the regional actors to check the installations progress and perform final verification. With the members of biomass networks an intense knowledge transfer is planned. The goal is, that at the end the project team as well as every external stakeholder should enrich their expertise by the participation in the deployment desk.

2.2. Introduction

Weiz represents eight hundred years of history in the field of energy technologies. On the one hand, the region/city is the centre of the Austrians electrical industry with companies such as the successor companies of the former ELIN UNION - Siemens AG Österreich Transformers Weiz, Andritz HYDRO and ELIN Motoren - and the international Knill Group. On the other hand, research topics on renewable and sustainable energy generation, usage and storage have always been important for the city. In 1997 the city of Weiz established for this reason the present Energy and Innovation Centre (W.E.I.Z.) to ensure continuous research and the implementation of energy innovation projects. W.E.I.Z. implemented in the last years successfully RES and EMS, also in their own office buildings. A 30 kWp photovoltaic system is installed on the roof of the W.E.I.Z. 3 workshop building. The system is divided into three different photovoltaic module systems (mono, poly and thin film). A separate inverter is connected to each of these different photovoltaic plant systems, which can supply the electricity for different purposes of use and analysis. The photovoltaic installation provides information about efficiencies, power generation and CO₂ savings via different real-time outputs. This data is displayed on a central screen on the ground floor of W.E.I.Z. 3 and can also be accessed on the internet. The real time system is also used for demonstration and training purposes, in particular for the bfi-Bildungszentrum Weiz.

The building W.E.I.Z. 4 is a customized research house for the Institute of "Materials" of the JOANNEUM RESEARCH Forschungsgesellschaft m.b.H. The building was successfully realized as part of the Smart City lead project **iEnergy 2.0**. The plus energy house uses the operational waste heat of the research laboratories (energy index 12 kWh/m²a) and generates enough electricity for the electrical self-sufficiency of the building services via a 30 kWp photovoltaic system. The system was installed by the regional energy supplier Energie Steiermark GmbH as a green electricity plant by means of plant contracting. Currently buildings with a photovoltaic system have hardly any stationary electricity storages and offer even less cross-building photovoltaic electricity. In order to continue using photovoltaic electricity economically, low green electricity tariffs require not only a high use of own electricity, but also the possibility to offer the energy-surplus directly to other customers or to feed it into a daily storage. This multiple utilization system for photovoltaic electricity with maximum own electricity utilization will be realized within the framework of the **WEIZconnected** project with the buildings W.E.I.Z. 2 and W.E.I.Z. 4. The technical, economic and legal (ElWOG) system solution will be demonstrated as a pilot plant at the W.E.I.Z. Innovation Centre. W.E.I.Z. also deals with issues relating to energy management systems. In the various implementation and research projects, several energy monitoring systems have been developed and/or implemented in order that the consumption and



production of energy can be monitored. Knowing how much energy is needed is important for the Weiz site. Therefore, a **smart meter system** for the power consumption of the W.E.I.Z. 4 was installed to make it visible.

Another example is the **MULTI-transfer** project, in which innovative control and operating strategies for a bidirectional heat transfer station were developed. Because of the decentralization of the heat production in district heating grids, more and more consumers want to act as prosumers and feed their surplus heat into the district heating grid. Up to now, two transfer stations have always been required for such cases, one for the heat consumption and one for the heat supply. In this project, a bidirectional heat transfer station was developed, which can be transferred heat in both directions. The functionality of the innovative heat transfer station could be reviewed by laboratory tests and simulation studies.

2.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement

The municipality of Weiz has decades of experience in renewable energy, energy efficiency, sustainability and climate change projects. For example, in 1994, the "Energierregion Weiz-Gleisdorf" was founded. Only three years later, in 1997, the construction of the "W.E.I.Z Energy Innovation Center" began. Meanwhile, the Innovation Center W.E.I.Z. (<http://www.innovationszentrum-weiz.at>) engage for many years both in the municipality of Weiz and in the entire district of Weiz with projects regarding energy and advise private individuals, companies and communities in regional, national and international projects in the fields of renewable energy, energy efficiency, sustainability and climate change (Stadtgemeinde Weiz, 2016).

Based on the activities of the municipality of Weiz and the Innovation Center W.E.I.Z., in 2005 an attempt was made to draw up a comprehensive picture of energy consumption and CO₂ emissions in the municipality of Weiz (Stadtgemeinde Weiz, 2005) by drawing up the energy action plan. Another step towards the reduction of energy consumption and especially towards independence from fossil fuels was set with the accession to the e5 program (www.e5-steiermark.at) in 2006. The city of Weiz was the first municipality in Styria to be certified with 5.e and the e5 program was above all the pioneering role of the municipality of Weiz in terms of renewable energy and energy efficiency, the consistent expansion of biogenic district heating and the cooperation with the local industrial companies highlighted (Österreichische Energieagentur, 2019).

Only three years later, in 2009, the (energy) mission statement of the municipality of Weiz was developed in a comprehensive process in cooperation with the Karl-Franzens-University Graz (municipality Weiz 2009). As further milestones, the appointment as "Climate and Energy Model Region" 2014 as well as the cooperation of the energy region Weiz-Gleisdorf with the Almenland can be called "Almenland & Energierregion Weiz-Gleisdorf". Furthermore, in 2016, the urban development concept was adopted with goals and measures that contribute significantly to the mitigation and adaptation to climate change (Stadtgemeinde Weiz, 2016). In addition, in 2014 (Kern et al., 2014) and 2017 (Stadtgemeinde Weiz, 2017), extensive studies on the topics of energy vision, energy data collection, location development, and mobility emerged have been carried out.

Within the project Store4HUC a thermal storage will be implemented in the parish church of Weizberg which is connected to the public heating grid. The parish church is located on a hill in the historic area of Weiz. The history of the parish church goes back to the 11th century, when the church on the "Himmelberg" was popular for pilgrims. In this time, it was a three-nave Romanesque basilica with a two-storey east tower. The basilica was enlarged in the mid-14th century by the addition of a choir. As the only windows have been hatches under the roof, it was very dark in the church. Various attempts to renovate the church and to improve the lighting conditions failed, which is why the dean decided to build a new church in the 18th century. This church, shown in Figure 2, is on the Weizberg, on a hill in the north



of Weiz. With date of 6 December 2017, the church, was raised to the Basilica Minor, making it the fifth church in the Diocese of Graz-Seckau, which has received this title.



Figure 2: Parish Weizberg¹

The parish church of Weizberg, which is under monumental protection, is connected to a district heating grid with a heating load of about 220 kW. The heating station with its four separate transformer stations is located close to the church as shown in Figure 3. Only regional biomass is used as fuel. In course of the project Store4HUC new regulations, heat exchanger, thermostatic valves and a monitoring system will be installed.



Figure 3: Location of the heating station where the storage will be installed

Furthermore, the comfort in the individual rooms should be increased. Through the installation of a building management system, visualisations and the continuous recording of measured values, the plants should be able to be optimized in retrospect by evaluating this "historical data". Moreover, the reduction of the return temperature to the biomass district heating is also a huge target, and if it is possible a new thermal storage with a volume of about 38 m³ will be installed. Figure 4 a schema of the implementation of the planned storage is shown. The storage will be installed on the network side.

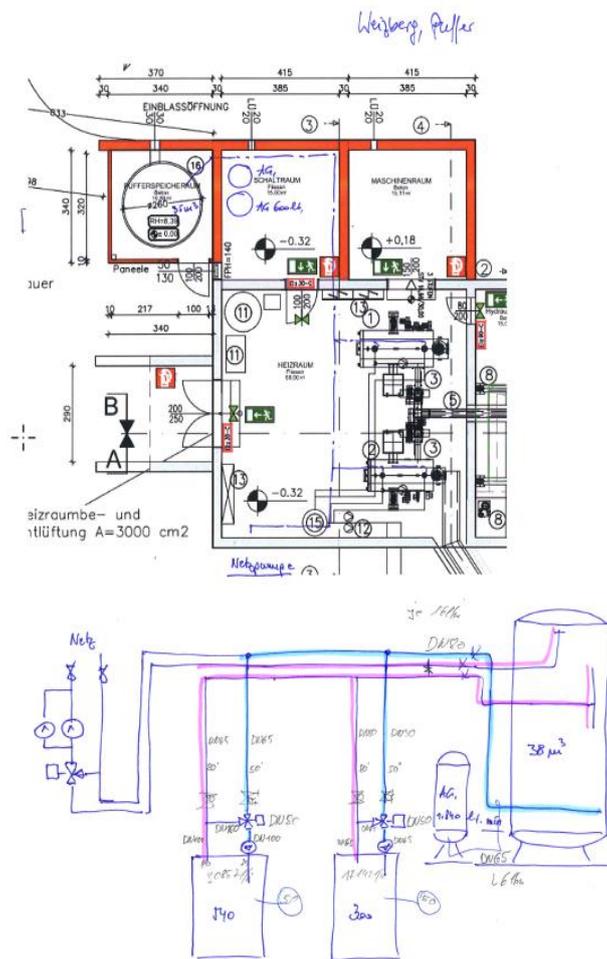


Figure 4: Scheme of the district heating station

The biomass heating plant Weizberg has been operated by 24 innovative farmers for 20 years (founded in 1999). Through the use of regional wood chips, the added value remains in the region. The heating plant supplies a total of 12 objects on the hill of Weizberg, including the elementary school as well as some commercial enterprises and residential buildings. Using renewable energy, the guiding principle of the farmer cooperative "Energy from the region for the region" is completely fulfilled in regard to the following rough figures:

- Heat consumption: Max. 812 kW / 1.200 MWh/a
- Wood chips consumption: About 1.500 loose cubic metre per year (100 % wood chips from regional farmers)
- Heat plant: 300 kW and 540 kW biomass boilers with rotation combustion

2.4. Overview of stakeholders for the city / region

For the city of Weiz, Table 1, is divided into internal (employees) and external stakeholders (mayors, politicians, head of departments, storage manufacturers, Federal Monuments Authorities, NGOs, agencies, region bodies, PR companies, etc.). The table is not final and will be enlarged during the project period. The W.E.I.Z. partners are going to hold a local kick-off meeting and at least 4 deployment desk meetings during the project life span. The meetings should have an average composed of 5 to 7 members, of which



two are project partners (PP3 W.E.I.Z. and PP4 4WARD) and the others are either associated partners (AP 14, Climate and Energy modelregion - climate friendly naturepark Almenland and AP 15 Biomasse district heating Weizberg), or technical experts and local decision makers.

The main scope of these meetings should be to design the solutions (storage implementation, energy savings within the parish church of Weizberg) together with the involved stakeholders and to monitor the implementation phase, in order to eventually initialize modifications and improvements if necessary. The obtained storage solutions and energy saving actions requires the active involvement of all members of the deployment desk. Another important Task of the deployment desk will be the definition of the monitoring of the actions, which will be implemented. It should be decided within the meetings of the deployment desk, how to create one or more workshops of practical nature, mostly addressed to municipal employees, biomass heating members, or technicians. The aim of this workshops is on the one hand to present the measures which have been implemented in the participating regions (especially in the Pilot of Weiz) and on the other hand to improve the cooperation between those regions in order to exchange experiences and good practice examples.

Moreover, there are several communication measures planned during the runtime of the project. There will be at least one participation event for the general public (the opening of the storage is foreseen). In addition, with the help of solar-power banks and other communication materials, attention will be drawn on the topic of energy storages. It is also important for the project that the results can be duplicated/multiplied in other regions. Our communication manager (AP 14 of Table 1), will also participate in the deployment desks to ensure the dissemination of the results to the neighbouring regions. Other regions / regional managers will be invited to the deployment desk too. Furthermore, some media releases are planned. The focus will be on local, regional and national newspapers.

Table 1: List of stakeholders in Austria

<i>Group</i>	<i>Stakeholder</i>	<i>Role of stakeholder</i>	<i>Approach, method and tools for integration into to project of the stakeholders, communication channels</i>
<i>internal</i>	<i>Employees of WEIZ</i>	<i>Members of the deployment desk; contributes their experiences in project management, strategic planning, energy consulting, technical know-how, regional management and implementation of sustainable energy and climate action plans</i>	<i>the internal stakeholders for Austria are already part of the project team</i>
<i>internal</i>	<i>4ward Energy Research GmbH</i>	<i>Will participate in deployment Desk meetings; will contribute their experiences in project management, strategic planning, regional management, energy consulting and technical know-how.</i>	
<i>external</i>	<i>IT Solution Company</i>	<i>Member of the deployment desk; brings experience in electrical engineering, energy monitoring solutions and energy management to the meeting.</i>	<i>the external stakeholder will be involved through periodic meeting and by e-mail newsletter and social network communication</i>
<i>external</i>	<i>Mayor of Thannhausen</i>	<i>Member of the deployment desk, major and responsible for policy strategies</i>	
<i>external</i>	<i>Managing director of biomass district heating Weizberg</i>	<i>Member of the deployment desk, Head of the biomass district company, energy expert</i>	



external	Engineering office	Member of the deployment desk, technician, specialist for energy planning	
external	Member of Biomass district heating Weizberg	Member of the deployment desk, farmer, biomass producer,	
external	Technical Office	Member of the deployment desk, technician, biomass expert, expert of energy storage solutions	
external	Research Organisation	Member of deployment desk, researcher in the fields of energy and innovation and intelligent energy storage solutions,	
external	City of Weiz	Member of deployment desk, Energy and environmental department of the City of Weiz	
external	Region Almenland	Member of deployment desk, will contribute his experience in project management, strategic planning and regional management	

2.5. Time-wise Stakeholder cooperation and engagement for follow up activities

The following tables show the time-wise stakeholder cooperation. The identified stakeholders have been summarized in groups with similar activities. The tables (Table 2 to Table 7) will be used as living document, what means that they will be updated during the project time. As far as they are already known the planned activities are listed.

Table 2: Stakeholder 1: WEIZ (employees of WEIZ)

Actions		Deadline	Responsible
1.	Establishment of feasibility study	November 2019	WEIZ
2.	Organization of deployment desk meetings	Start June 2019	WEIZ
3.	Lead the implementation process, local support	March 22	WEIZ
4	Support within the implementation of actions	March 22	WEIZ

Table 3: Stakeholder 2: 4ward Energy (employees of 4ward Energy)

Actions		Deadline	Responsible
1	evaluate self-sustainability of different pilot options in the pilot preparatory phase - together with WEIZ	January 20	4ward Energy
2	providing other consulting services - support of WEIZ	March 22	4ward Energy



Table 4: Stakeholder 3: Technicians

Actions		Deadline	Responsible
1.	technical organization in terms of energy management; regularly	January 21	WEIZ
2.	checking with WEIZ and the regional actors the installations progress and perform final verification	March 21	WEIZ
3	Approve the planned investments within the project after the planning phase is finished	February 21	WEIZ

Table 5: Stakeholder 4: local authorities in reach of WEIZ, cities and municipalities representatives from Weiz, Thannhausen and Almenland

Actions		Deadline	Responsible
1.	knowledge transfer of the pilot to make it relevant also for other sites	March 22	WEIZ

Table 6: Stakeholder 5 members of the biomass network

Actions		Deadline	Responsible
1.	knowledge transfer of the pilot to make it relevant also for other sites	March 22	WEIZ
2.	Investor of the measures and the storage (storage is on the network side)	April 21	WEIZ

Table 7: Stakeholder 6 researcher and biomass experts

Actions		Deadline	Responsible
1.	Feasibility study	November 19	WEIZ
2.	Pre investment concept	February 20	WEIZ
3.	providing other consulting services based on experience from investments in historical urban centers	March 22	WEIZ



2.6. Benefit of the stakeholder involvement

- Technicians of technical offices are regional experts in planning of biomass storages, EMS Systems and energy efficiency measurements. They will gain extra knowledge, and experiences in implementation of renewable energy systems and storages in the envisaged historical urban area.
- Other Styrian cities and municipalities will be educated about the benefits of energy efficiency and the use of renewable energy sources as well as on storages in buildings under cultural heritage protection. The pilot will provide a good showcase to the local authorities which will also benefit in sense of improved energy efficiency, increased usage of renewable energy sources and lower costs for energy.
- The members of the biomass district heating systems will be educated how to enable further development of projects dedicated to renewable energy sources on other cultural heritage buildings and will gain knowledge about possible technologies of district heating networks.



3. Regional part: ITALY

3.1. Executive summary

The Municipality of Cuneo is part of the "Covenant of Mayors for Climate & Energy", which is the world's largest movement for local climate and energy actions, that involves more than 9.600 local and regional authorities from all over Europe. Within this project an electrical storage for an already existing slope elevator in combination with a PV-system is planned. For the deployment desk seven internal and twelve external stakeholders are identified. Most of the internal stakeholders are directly involved in Store4HUC project and a part of the external stakeholders is directly involved in the implementation of the pilot project. The others will be involved through periodic meetings, e-mail newsletters and social network communication. These external stakeholders are for example representatives of bank foundations and of the chamber of commerce as well as electric energy distribution companies, technical experts, representatives of other municipalities or multi-utility companies. The goal is that every stakeholder benefit from the participation in the project. The Municipality of Cuneo for example can gain new contents for the improvement of the Cuneo Building regulation and Cuneo Urban Plan, or for the improvement for the Cuneo Smart City level. The electric energy distribution companies can improve the electricity distribution service thanks to the installation of RES and storages and so on.

3.2. Introduction

Cuneo is a medium-sized city situated in the north-west of Italy. The city has about 56.000 inhabitants and is the capital of a province Cuneo of nearly 600.000 inhabitants in total. Cuneo takes its name from the shape of the plateau on which it stands, at the confluence of two rivers: called Gesso and Stura. It forms a triangle with a point stuck in the heart of the plain and the other two open towards the mountains and the six wonderful valleys that lead to France. The shape of the city is the reason why it is called Cuneo, that in Italian means "wedge".

The Environment and Mobility Service, Public Work and Environment Sector, has been engaged for years in promoting policies in favour of sustainable mobility and energy saving (panoramic elevator, cycling paths, policies for "soft" mobility, parking). Next to the sloping elevator, that is the recipient of the funding, there is a structure called "La Casa del Fiume" (the house of the river), which is dedicated to environmental education for both adults and children. This structure was built with co-financing from ERDF funds - Interreg ALCOTRA Program and represents an example on how sustainable mobility and good practices are already present in the city.

The Municipality of Cuneo has adhered to the "Covenant of Mayors for Climate & Energy", it is the world's largest movement for local climate and energy actions, that involves more than 9.600 local and regional authorities from all over Europe. Thanks to the signature of the Covenant of Mayor the Municipality of Cuneo is implementing a sustainable energy and climate action plan (SECAP) outlining the key actions it plans to undertake in order to reduce at least 40% of CO₂ emission by 2030.

In the next years the street lighting of the main road that connects the historical city centre with the „Santuario degli Angeli“ will be refurbished with smart technologies for energy monitoring and management. The Smart mobility strategy has been adopted for the historical centre, a large pedestrian area was created in the city centre and communication campaigns to raise awareness of the citizen on the issues of energy saving have been carried out by the Municipality of Cuneo in the last years.

3.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement

In Italy it is necessary to request specific permits to the municipality for the installation of energy storages and renewable energy systems in historic city centres. All these interventions have to respect the rules and constraints imposed by the municipal development plan and building regulation. Moreover, landscape constraints controlled by a national authority for architectural and landscape heritage has to be considered in the historical city centre. Regional permits are required for the implementation of PV panel on building roofs.

The pilot project of the municipality of Cuneo is settled on the border of the city centre. For this reason, there are no specific constraints that have to be considered for the implementation of energy storage while a specific permit was obtained by the Piedmont Region for the PV plant. However, a preliminary opinion will be required by the municipality to the national authority for architecture and landscape.

In Cuneo the project Store4HUC focuses on the energetic optimization of an already existing slope elevator, shown in Figure 5. In average the elevator makes about 160.000 races per year transporting more than 700.000 people. Today the elevator is entirely powered by electricity without using renewable energy. In 2018 the elevator had a consumption of 18.226 kWh of electricity (3.584 €). Therefore, the purpose of the project is to carry out a pilot project that allows the use of renewable energy for the operation of the elevator system, limiting the energy consumption to a minimum. Through a precise analysis of consumption, the strategy for the realization of the pilot project will be defined, which will see the combination of a photovoltaic system with direct exchange to a part combined with a storage system.



Figure 5: Slope elevator in Cuneo

The total investment of the energy efficiency project forecast in the project actions amounts to a total of € 89.000 including taxes. The project will be defined and approved by 2019. By 2021 the project will be contracted and implemented. The major aim of the project is to create a pilot project that allows the sloping elevator to free itself in large part from grid energy using renewable sources. It should be an



example of best practice that can be replicated in other areas of the city center of Cuneo and also in other cities with a similar situation.

3.4. Overview of stakeholders for the city / region

In the region/city of Cuneo seven internal and twelve external stakeholders have been identified. Most of the internal stakeholders are directly involved in the Store4HUC project, and the others will be involved through periodic meetings and internal communication by e-mail and phone calls. Part of the external stakeholders are directly involved in the implementation of the pilot project, the others will be involved through periodic meetings, e-mail newsletters and social network communication. The role of each stakeholder is explained in Table 8:

Table 8: List of stakeholders in Italy

<i>Group</i>	<i>Stakeholder</i>	<i>Role of stakeholder</i>	<i>Approach, method and tools for integration into to project of the stakeholders, communication channels</i>
<i>internal</i>	<i>Municipality of Cuneo - Settore Edilizia e pianificazione urbanistica /Construction and urban planning sector</i>	<i>Municipal sector for planning and regulation of public and private buildings</i>	<i>Most of the internal stakeholders are directly involved in Store4HUC project, the other will be involved through periodic meetings and internal communication by e-mail and phone calls</i>
<i>internal</i>	<i>Municipality of Cuneo - Settore elaborazione dati / data processing sector</i>	<i>Municipal sector for the implementation of smart city strategies</i>	
<i>internal</i>	<i>Municipality of Cuneo - Settore Lavori pubblici, Fabbricati / Public Buildings managment</i>	<i>Municipal sector for O&M in public buildings</i>	
<i>internal</i>	<i>Municipality of Cuneo -- Ufficio tecnologico /Technology office</i>	<i>Municipal Office that deals with the O&M of technological systems of buildings and streets</i>	
<i>internal</i>	<i>Municipality of Cuneo - Servizio ambiente mobilità /mobility and environment</i>	<i>Municipal Office with expertise in sustainable mobility, environment and waste</i>	
<i>internal</i>	<i>Environment Park - Green building sector</i>	<i>The Green Building sector of Environment Park provide expertise in all sectors of green building: from energy efficiency to building energy audits, from support in home energy retrofit interventions to the research of products and components</i>	



		<i>capable of satisfying sustainability requirements</i>	
<i>internal</i>	<i>Environment Park - Clean Tech sector</i>	<i>The Clean Tech sector is dedicated to providing technology transfer support services to promote innovation among businesses and public administrations, within the field of clean technolog</i>	
<i>external</i>	<i>Bank foundation</i>	<i>The Bank Foundation is a private, independent, non-profit entity which carries out socially-oriented and economic development projects. It is active in Province of Cuneo's social and economic life both in their role as philanthropic entity (also in the field of energy efficiency and renewable energy for Public Authorities) and as important institutional investors</i>	<i>Part of the external stakeholders are directly involved in the implementation of the pilot project, the other will be involved through periodic meeting and by e-mail newsletter and social network communication</i>
<i>external</i>	<i>Regional Public Administration responsible for territorial and environmental governance</i>	<i>The Regional Public Administration in Italy is responsible for territorial and environmental governance. The participating department is responsible of the management of ERDF and every year it publishes the regional energy action plan</i>	
<i>external</i>	<i>Chamber of Commerce</i>	<i>The Chambers of Commerce, Industry, Craft and Agriculture are functionally independent public bodies within the territorial boundaries for which they are responsible. Within the territorial area they cover the chambers of commerce provide support and promote the general interests of companies and the local economy. With the exception of the responsibilities assigned by the Constitution and the laws of Italy to state authorities, regional authorities, local authorities, they also have administrative and economic functions in relation to the business system.</i>	
<i>external</i>	<i>Electric energy distribution company owner of local electricity grid</i>	<i>In Italy the power distribution is carried out by some operators who have obtained state permits. According to the legislation, distribution companies cannot sell energy</i>	
<i>external</i>	<i>Regulatory authority for energy networks and environment</i>	<i>AREARA is an independent body created under Italian Law for the purposes of protecting consumer interests and promoting the competition, efficiency and distribution of services with adequate levels of quality, through regulatory and control activities.</i>	
<i>external</i>	<i>National company for energy service</i>	<i>GSE has been identified by the Italian State to pursue and achieve environmental sustainability through the two pillars of renewable sources and energy efficiency. It manages more than twenty</i>	



		<i>mechanisms aimed at promoting electricity generated from renewable sources and energy efficiency</i>	
<i>external</i>	<i>Order of Architects of the Province of Cuneo</i>	<i>To practice, in Italy the architect must register with the Ordine degli architetti (Order of Architects), which following a recent reform also includes planners, landscape architects and conservationists (architectural heritage). The Orders are organised by province, and registration is based on place of residence of the architect. Within the order there are currently several classes and categories, depending on specific qualifications.</i>	
<i>external</i>	<i>Superintendence of Archaeology, Fine Arts and Landscape</i>	<i>The Superintendence of Archaeology, Fine Arts and Landscape, ensure the protection of cultural heritage in the territory of Cuneo</i>	
<i>external</i>	<i>Sloping elevator manager and maintainer</i>	<i>It is the company that manages and performs O&M of the Cuneo's sloping elevator</i>	
<i>external</i>	<i>Municipality of Mondovi</i>	<i>The city of Mondovi is situated in the province of Cuneo on the Monte Regale hill, is divided into several rioni (ancient quarters): Piazza (the most ancient), Breo, Pian della Valle, Carassone, Altipiano, Borgato and Rinchiuso, lower, next to the Ellero stream, developed from the 18th century when industries developed in Mondovi and when it was reached by the railway, a <u>funicular railway</u> (similar to the Cuneo sloping elevator) links Breo with Piazza.</i>	
<i>external</i>	<i>Multiutility IREN</i>	<i>Iren is one of the largest multiutility companies on the Italian scene and operates in the sectors of electricity, thermal energy for district heating and gas, and in the management of integrated water services, environmental services and technological services.</i>	
<i>external</i>	<i>Multiutility EGEA</i>	<i>Egea is a local multiutility company that operates in the sectors of electricity thermal energy and in the management of integrated water services, environmental services and technological services.</i>	



3.5. Time-wise Stakeholder cooperation and engagement for follow up activities

Table 9: Stakeholder 1: Municipality of Cuneo - Construction and urban planning sector

Actions		Deadline	Responsible
1.	Definition of existing constrains in the municipal plan and regulation for the installation of RES and Storage in public and private buildings in the HUC	12.2019	Municipality of Cuneo
2.	Proposal to eliminate the constraints in the municipal building regulations and plans that prevent the installation of RES and energy storage in HUC	06.2020	Municipality of Cuneo

Table 10: Stakeholder 2: Municipality of Cuneo -data processing sector

Actions		Deadline	Responsible
1.	Definition of smart city strategies in HUC for the implementation of RES and Energy Storage	12.2019	Municipality of Cuneo

Table 11: Stakeholder 3: Municipality of Cuneo -Public Buildings Management

Actions		Deadline	Responsible
1.	identification of potential benefits in the installation of energy Storages and RES in public buildings in Cuneo HUC	10.2019	Municipality of Cuneo
2.	identification of the constraints that prevent the installation of energy Storages and RES in public buildings in Cuneo HUC	12.2020	Municipality of Cuneo
3.	Definition of investment plan for the implementation of RES and energy storages in the public buildings in Cuneo HUC	End of project	Municipality of Cuneo



Table 12: Stakeholder 4: Bank Foundation

Actions		Deadline	Responsible
1.	identification of potential benefits in the installation of energy Storages and RES in public buildings in Province of Cuneo HUC	10.2019	Bank Foundation
2.	Definition of a new philanthropic measure for the implementation of RES and energy storages in public Building in the Province of Cuneo	6.2020	Bank Foundation

Table 13: Stakeholder 5 Regional Public Administration responsible for territorial and environmental governance

Actions		Deadline	Responsible
1.	identification of potential benefits in the installation of energy Storage and RES in public buildings in Piedmont Region HUC	12.2019	Regional Public Administration
2.	definition of new strategies for the promotion of the use of storage and RES in HUC to be included in the regional energy action plan	6.2020	Regional Public Administration

Table 14: Stakeholder 6: Chamber of commerce

Actions		Deadline	Responsible
1.	identification of potential benefits for the associated SMEs in the installation of energy Storage and RES in HUC	12.2019	Chamber of commerce
2.	definition of new strategies for the promotion of the technology innovation of the associated SMEs for the production or implementation of energy Storages and RES in HUC	6.2020	Chamber of Commerce



3.6. Benefit of the stakeholder involvement

- Municipality of Cuneo -Construction and urban planning sector: New contents for improving the Cuneo Building Regulation and Cuneo Urban Plan
- Municipality of Cuneo -data processing sector: New strategies for improving the Cuneo Smart City level
- Municipality of Cuneo -Public Buildings Management: learn new strategies for improving the management of public buildings
- Municipality of Cuneo --Technical office: Support to design and implement the pilot Store4HUC project in Cuneo
- Municipality of Cuneo - Mobility and environment office: Support to design and implement the pilot Store4HUC project in Cuneo
- Environment Park - Green building sector: Improve its competence and expertise in energy storage and RES
- Bank foundation: support in defining new calls for contributions to the public administrations of the province of Cuneo in the field of Energy Efficiency in Public Buildings
- Regional Public Administration responsible for territorial and environmental governance: Define new strategy for its regional energy action plan.
- Chamber of commerce: Define new strategy to support the innovation in the field of RES and energy storages for its SMEs members
- Electric energy distribution company: improve the electricity distribution service thanks to the installation of RES and storages
- Order of architect of the province of Cuneo: Define new business opportunities for architects in the Province of Cuneo in the HUC buildings refurbishment
- Superintendence of Archaeology, Fine Arts and Landscape: verify the possibility of integrating energy efficiency interventions with the protection of historic buildings
- Sloping elevator manager and maintainer: Define new strategy to improve the sloping elevator O&M service reducing the energy and maintenance cost
- Municipality of Mondovì: Define new strategy for reducing the energy and O&M cost of its urban elevator
- Multiutility IREN: Define new business opportunities and improve its energy service
- Multiutility EGEA: Define new business opportunities and improve its energy service



4. Regional part: Croatia

4.1. Executive summary

In Croatia, the so called Bračak Manor has been chosen as the pilot site. Manor is a protected cultural and heritage monument listed in Register of Cultural Goods of the Republic of Croatia. Within the Store4HUC project it is planned to install a properly sized photovoltaic system and battery storage in addition to the already installed air-water heat pump and the advanced central BMS system. Because of the cultural heritage protection, the competent authority needs to approve the planned investments within the project after the planning phase is finished. Therefore, the department that deals with the preservation of cultural heritage sites is an important stakeholder. In addition to that there have been six other stakeholders, like the Regional energy agency which is in service of energy transition or identified “Experts in the field of Energy efficiency and renewable energy storages”. A first action plan of the involvement of these stakeholders has also been created and will be updated time by time. At the end every stakeholder should gain a benefit for participating in the project, either it is an advanced knowledge of the integration of storages in historical urban centres or some new ideas for other similar sites, etc.

4.2. Introduction

Krapina-zagorje County is a county in northern Croatia, and it encompasses most of the historic region called Hrvatsko Zagorje. It borders on the Varaždin County in the northwest, Zagreb County in the southwest and southeast, the city of Zagreb in the south and Slovenia in the west. Krapina-Zagorje County is divided into 7 towns or cities, 25 municipalities and 422 settlements. The county has 132.892 inhabitants and covers an area of 1.229 km².

Bračak Manor is located in the village Bračak, which is part of the City of Zabok. City of Zabok has a total population of 8.994 and it is situated on the main crossroads in the heart of Hrvatsko Zagorje region. Manor was built in the period 1889-1890 and it was designed by engineer Seca from Zagreb. The manor is a protected cultural and heritage monument listed in Register of Cultural Goods of the Republic of Croatia, and it is owned by Krapina-Zagorje County. Bračak Manor was reconstructed and restored in 2017 in accordance with the best practices in renewing heritage on the principle of energy efficiency. The long-term goal is to show innovative materials and technology in reconstruction as a demonstrative example to other similar examples of cultural heritage and show that despite of strict conservation requirements project of this type is possible. It is equipped with wood pellets boiler for heating, micro CHP for hot water and power production during summer, air-water heat pump system for cooling and heating in transitional periods, wall insulation on the inside and energy efficient windows and doors, efficient lighting system, HVAC system, advanced central BMS for monitoring of heating, cooling and energy consumption, rainwater harvesting for irrigation of green areas and wastewater treatment as well as electric vehicle charging station.

Today the Bračak Manor is used as central place for organizations, companies and institutions interested in the renewable energy as well as small and medium companies (SME) from other sectors. It also serves as business incubator for young companies with favourable lease of business office space. The main objective of the Bračak Manor is continuing education, exchange of experience and information to all stakeholders on the sustainable use of energy. Within Store4HUC project it is planned to add a properly sized photovoltaic system and battery storage to it (up to 10 kWp and 10 kWh), in accordance with placement decisions and sizing decided during the pilot preparation phase. The already existing systems will be combined with the new ones through an advanced energy management ICT system that can be built on top of the already existing central monitoring system as a coordination service that optimally exploits different available assets. A picture of the Bračak Manor as well as a schematic illustration of a PV plant with the tracker are shown in Figure 6.



Types of Trackers

1) Single axis tracker

2) Dual axis tracker

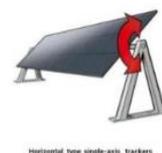


Figure 6: Left: Picture of Bračak Manor; Right: Illustration of PV systems with tracker

4.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement

Krapina-Zagorje County is actively committed to increase energy efficiency and use of renewable energy sources. Every year, the County develops the Annual Energy Efficiency Plan in accordance with the Energy Efficiency Act which represents a plan for an efficient use of energy. Annual Energy Efficiency Plan is aligned with the existing national and regional energy efficiency improvement documents such as Energy Development Strategy of the Republic of Croatia, National Energy Efficiency Program, Energy Performance Action Plan of Krapina-Zagorje County. The plan contains analysis of the objectives, implementation deadlines, measures to improve energy efficiency in accordance with the Energy Strategy and other strategic documents of the Croatian Government, calculation of planned energy savings, methods for monitoring the execution of the plan and methods for financing. The plan also includes a separate measure for energy renewal and revitalization of cultural heritage in the Krapina-Zagorje County. Bračak Manor on which the investment is planned to be implemented within the Store4HUC project is a protected cultural and heritage monument listed in Register of Cultural Goods of the Republic of Croatia. Because of that the Cultural heritage protection office needs to approve the planned investments within the project after the planning phase is finished.

4.4. Overview of stakeholders for the city / region

For Krapina-Zagorje County seven stakeholders have been identified. The primary stakeholders are the Regional energy agency which is in service of energy transition and the Experts in the field of Energy efficiency and renewable energy storages. In addition to that five key actors can be named: the Krapina-Zagorje County itself, Local authorities, and decision makers, the University of Zagreb Faculty of Electrical Engineering and Computing, a department that deals with the preservation of cultural heritage sites and the Croatian Association of historical towns.



Table 15: List of stakeholders in Croatia

<i>Group</i>	<i>Stakeholder</i>	<i>Role of stakeholder</i>	<i>Approach, method and tools for integration into to project of the stakeholders, communication channels</i>
<i>primary</i>	<i>Regional energy agency which is in service of energy transition</i>	<i>Expert institution in EE and RES, provides preferences, requests, defines problems within the current system</i>	<i>E-mail, web site, newsletter</i>
<i>primary</i>	<i>Experts in the field of Energy efficiency and renewable energy storages</i>	<i>In charge to lead the piloting process, from the concepting, drafting and publishing the public procurement, over watching pilot set-up by subcontractors, providing all needed local information and performing local simple support actions during the energy management system commissioning, monitoring of performance and communication with the tool developers, local dissemination to potential users of the solutions from Store4HUC in municipalities, cities and counties covered discussions how the pilot should be technically organized in terms of energy management; regularly checking with REGEA the installations progress and performing final verification of the performed installations, commissioning of the real-time energy management tools, over watching their on-line operation assessment of self-sustainability of different pilot options in the pilot preparatory phase which helps to select the right options for the pilot, verification of the tool during the pilot operation counselling support with experience from investments in historical urban centres, dissemination of the Store4HUC solutions within its member cities</i>	<i>E-mail, web site, newsletter</i>
<i>Key actors</i>	<i>University of Zagreb Faculty of Electrical Engineering and Computing, leading national and regional research and higher education institution</i>	<i>discussions how the pilot should be technically organized in terms of energy management; regularly checking with REGEA the installations progress and performing final verification of the performed installations, commissioning of the real-time energy management tools, over watching their on-line operation</i>	<i>E-mail, web site, newsletter</i>



Key actors	<i>Krapina-Zagorje County is primary administrative and representative body of region</i>	<i>check the pilot actions from the legal side, and discussion and directing of the pilot to make it relevant also for other sites</i>	<i>E-mail, website</i>
Key actors	<i>Local authorities, and decision makers</i>	<i>discussion and directing of the pilot to make it relevant also for other sites</i>	<i>E-mail, web site</i>
Key actors	<i>a department that deals with the preservation of cultural heritage sites</i>	<i>need to be involved to advise on feasible ways of the pilot investment planning</i>	<i>E-mail, web site, newsletters</i>
Key actors	<i>The purpose of the Association is to create a sustainable network of Croatian historic towns, to encourage and promote their interests nationally and abroad, as well as to identify community and local population needs.</i>	<i>counselling support with experience from investments in historical urban centres, dissemination of the Store4HUC solutions within its member cities</i>	<i>E-mail, web site</i>

4.5. Time-wise Stakeholder cooperation and engagement for follow up activities

In the following tables an action plan for each stakeholder is shown. This action plan is used as living document and will be regularly adapted as the stakeholders will be involved the whole time of the project and also later beyond the project ends. Therefore, not every action can clearly be defined at this early stage of the project but there are of course a lot of actions which are already planned.

Table 16: Stakeholder 1: Pilot site users (employees of REGEA on the pilot site)

Actions		Deadline	Responsible
1.	provide preferences, requests and define problems within the current system	12/2019	REGEA employees



Table 17: Stakeholder 2: local pilot experts from REGEA

Actions		Deadline	Responsible
1.	lead the piloting process, from the conceping, drafting and publishing the public procurement, overwatching pilot set-up by subcontractors, providing all needed local information and performing local simple support actions during the energy management system commissioning, monitoring of performance and communication with the tool developer, local dissemination to potential users of the solutions from Store4HUC in municipalities, cities and counties covered	End of project	Experts from REGEA
2.	decide how the pilot should be technically organized in terms of energy management; performing final verification of the performed installations, commissioning of the real-time energy management tools, over watching their on-line operation	4/2020	Experts from REGEA
3.	evaluate self-sustainability of different pilot options in the pilot preparatory phase	4/2020	Experts from REGEA
4	providing other consulting services based on experience from investments in historical urban centers	12/2020	Experts from REGEA

Table 18: Stakeholder 3: energy management tool developers University of Zagreb Faculty of Electrical Engineering and Computing

Actions		Deadline	Responsible
1.	technical organization in terms of energy management; regularly	6/2020	University of Zagreb
	agreeing with REGEA on the final tool outlook for the site and performing necessary adaptation and extensions to the existing 3Smart tool to exhibit best possible effects on the pilot site; off-line analysis of the achievable performance	9/2020	University of Zagreb
2.	checking with REGEA the installations progress and performing final verification	End of project	University of Zagreb
3.	commissioning of the real-time energy management tools, and watching their on-line operation	End of project	University of Zagreb



Table 19: Stakeholder 4: Owner of Bracak Manor (Krapina-Zagorje County) representatives

Actions		Deadline	Responsible
1.	check the pilot actions from the legal side	End of project	Krapina-Zagorje County representatives
2.	Sharing knowledge of the pilot to make it relevant also for other sites	End of project	Krapina-Zagorje County representatives

Table 20: Stakeholder 5: Local authorities, and decision makers

Actions		Deadline	Responsible
1.	knowledge transfer of the pilot to make it relevant also for other sites	End of project	cities and municipalities representatives from the Krapina-Zagorje County area

Table 21: Stakeholder 6: Department that deals with the preservation of cultural heritage sites

Actions		Deadline	Responsible
1.	advise on feasible ways of the pilot investment planning	6/2020	Department that deals with the preservation of cultural heritage sites
2.	Approve the planned investments within the project after the planning phase is finished	12/2019	Department that deals with the preservation of cultural heritage sites
3.	providing other consulting services based on experience from investments in historical urban centers	End of project	Department that deals with the preservation of cultural heritage sites



Table 22: Stakeholder 7: Croatian Association of historical towns

Actions		Deadline	Responsible
1.	contribute to the promotion of Croatian cultural and historical heritage	End of project	Croatian Association of historical towns
2.	work on the public awareness about the importance of Croatian cultural heritage and history	End of project	Croatian Association of historical towns

4.6. Benefit of the stakeholder involvement

- REGEA is regional energy agency and their employees and experts will gain extra knowledge, and experience in implementation of renewable energy systems and storages in historical urban areas.
- University of Zagreb Faculty of Electrical Engineering and Computing will learn how to implement photovoltaic systems and storages on objects under cultural heritage protection and will gain experience in setting up of the energy management tool for the case of high level of already existing presence of energy efficiency measures.
- Krapina-Zagorje County representatives will be educated about the benefits of energy efficiency and the use of renewable energy sources and storages on buildings under cultural heritage protection. The pilot will provide a good showcase to the local authorities which will also benefit in the sense of improved energy efficiency and increased usage of renewable energy sources and lower costs for energy.
- Cities and municipalities will be educated about the benefits of energy efficiency and the use of renewable energy sources and storages on buildings under cultural heritage protection, and also what careful planning with the tools for energy management and operation of on-line energy management brings to the efficiency of the investment itself (optimal sizing, optimal on-line operation; what difference the storages bring especially if smartly controlled).
- A Department that deals with the preservation of cultural heritage sites will be educated how to enable further development of projects dedicated to renewable energy sources on the other cultural heritage buildings and will gain knowledge about possible technologies in renovation and reconstruction of such buildings.
- Croatian Association of historical towns will be educated how to enable further development of projects dedicated to renewable energy sources on the other cultural heritage buildings and will gain knowledge about possible technologies in renovation and reconstruction of such buildings.



5. Regional part: Slovenia

5.1. Executive summary

In the Municipality of Lendava the installation of a paraffin-based latent heat storage is planned in the local library building. Moreover, the library should be connected to the geothermal grid. The pilot of a paraffin-based latent storage in connection with a geothermal district heating system is a highly innovative investment in Slovenia because no similar installation has yet been built anywhere else in Slovenia. Therefore, the installation can be a very good best practice example for the region.

For the deployment desk eleven groups of stakeholders have been identified. The internal stakeholders (employees of the municipality, Mayor of the municipality and employees of Development agency Sinergija) are already involved in the project. The external ones will be integrated via personal meetings, workshops, emails and telephone calls. These are for example owners of district heating networks, representatives of the municipalities and cities in Slovenia, representatives for cultural heritage protection or local energy agencies.

An action plan for the time-wise stakeholder cooperation has also been created. The preparation of the invitation for the deployment desk meeting will be done by the employees of the Municipality of Lendava. The preparation of the agenda, content and minutes will be done by the LP. The external stakeholders will participate in these meetings. The goal is that the project team as well as the internal stakeholder benefit from the participation at the deployment desk. The desired result for Petrol Geoterm for example is to increase the number of customers of the district heating. The Association of Municipalities and Towns of Slovenia can benefit from new examples of energy efficiency and from increased number of best practices and the Pomurje technology Park can improve their technical knowledge about energy storages. A detailed list of all actions and benefits can be found in the chapters *5.5 Time-wise Stakeholder cooperation and engagement for follow up activities* and *5.6 Benefit of the stakeholders involvement*.

5.2. Introduction

The Slovenian pilot site is located in Lendava whose geographical position is in the eastern part of Slovenia, near Slovenian - Hungarian and Slovenian - Croatian border. The city has about 10.600 inhabitants. The unique position of Municipality at the foothills of picturesque vineyards originates from its rich historical role and a profuse cultural image, contributed by inhabitants with diverse ethnic definition. The municipality of Lendava is economically less developed than the average for Slovenia. The economy is based on industry, agriculture and tourism. A key role in its development plays the geographical position between Slovenia, Hungary and Croatia, which has a positive influence on international trade.

Pomurje as a region and in this particular Lendava municipality has at its disposal a wide range of energy options already at the level of energy sources: from natural gas, various types of biofuels (wood, straw, oil, bio-gas), geothermal energy and industrial waste. The potentials of geothermal energy in the municipality of Lendava are well-drained. Geothermal energy is sufficient in the municipality of Lendava, more than it is now exploited. Thermal water is extracted from five wells. It is used in two areas: spa tourism and heating of buildings.

Measures, especially in the field of efficient energy use, are foreseen in buildings owned or operated by the municipality. The implementation of these measures in practice will serve as an example to the public in presenting practical options for reducing energy costs in their buildings.

Municipality of Lendava is aware of the challenges of optimising the district heating, energy storages and on the system connected buildings. In the project, the municipality will approach with innovative solutions - the challenge of storage of (geo)thermal energy for heating of a building that is under cultural



historical protection and cannot be properly energy renovated. The pilot site is a city library, profane building heritage. It is written in the Decree on the proclamation of cultural monuments of local importance in the area of the Municipality of Lendava. It is a ground floor, neo-Baroque villa with elements of secession from 1906. It has 4 corner towers. The facade is divided into Baroque cartridges and sewn slats. Also, the ground floor auxiliary building in the yard is protected as well.

The investment in a pilot energy storage system will be the first in the region and at national level. The storage, which will be installed by the municipality in the cultural and historic protected building of Public library of Lendava, shown in Figure 7, will represent a decentralized system of thermal energy advancement in the system with paraffin - latent storages. Municipality of Lendava is one of two Slovenian municipalities that has geothermal district heating, in parallel, the municipality also works on energy efficiency, where there are restrictions on cultural and historical protected structures. Pilot paraffin-based latent storages in connection with geothermal district heating system in Lendava is an innovative investment at the national level, such installation has not yet been built anywhere in Slovenia. Investment can serve as an example of good practice in the project area; example of innovative solution of storing renewable energy in an effective way.



Figure 7: Pilot building in Lendava

The investment costs for the installations are calculated with approximately 100.000 €:

- Connection of the building to the existing geothermal pipeline/distribution network - to use it for space heating (150 m of new pipeline, heat exchanger, thermal regulation system, construction works, etc.) - approx. 75.000€;
- Installation of an innovative energy storing system - paraffin-based latent storages (40 pieces; sizes 2,5 m x 1 m x 1 m) - approx. 25.000 €

The major goals are:

- Reduction of energy consumption/share of fossil fuels: 60 MWh (current consumption of heating oil in Lendava Library);
- Reduction of CO₂ Emissions Pollution: 16,8 tons of CO₂ (geothermal energy has an CO₂ emission factor of “0”);
- Exploitation of renewable energy - geothermal energy: 57 MWh (savings related to energy storing included)



- Increase of energy efficiency: 5,5 % or 3 MWh
- Implementation and presentation of an innovative way of energy storing
- Integration of political decision makers/public sector in the development and implementation process of the pilot project - as a basis for further promotion of the project to other sectors and integration of measures into the policies

5.3. Detailed description of city- and country-specific framework conditions in the context of the stakeholder involvement

Public participation in spatial planning and environmental protection processes in Slovenia is regulated by:

- Convention on access to information, public participation in decision-making and access to justice in environmental matters
- Spatial Planning Act and
- Environmental Protection Act

This is a legal national frame, but within the EU projects there are no formal/official rules how to involve stakeholders. This is sometimes a current decision, depending also on the current conditions and needs. Informally it is set that the stakeholder involvement is crucial and should be always considered when planning.

It depends also who is a funder. Usually they condition a stakeholder involvement (e.g. some banks, etc.). They understand public consultation and stakeholder involvement as a permanent process that begins in the earliest stages of the environmental impact assessment process and continues throughout the lifetime of the project.

The stakeholder organisations are thematically related, refer also to the financial aspects, permit aspect and technical aspect.

The construction permit is compulsory due the character of the investment. Prior to interventions in cultural heritage or land for construction within a registered archaeological site, a cultural conservation consent must be obtained from the competent regional unit of the Institute for the Protection of Cultural Heritage of Slovenia, and before that, the cultural protection conditions have to be obtained. All works, maintenance works and other works, activities and practices that change the appearance, structure, internal relationships and use of cultural heritage are considered as interventions.

The procedure for obtaining cultural protection conditions and approvals and the form of these acts depends on whether or not the construction permit is prescribed for the intervention.

5.4. Overview of stakeholders for the city / region

The List of stakeholders for Slovenia and for the municipality of Lendava in particular is shown in Table 23. Three internal stakeholders and eight external ones are identified. The internal stakeholders (employees of the municipality, Mayor of the municipality and employees of Development agency Sinergija) are already involved in the project and will be informed via personal meetings, emails or telephone calls. External stakeholders are for example owners of district heating networks, representatives of the municipalities and cities in Slovenia, representatives for cultural heritage protection or local energy agencies. The communication channels will be similar as for the internal ones.



Table 23: List of stakeholders in Slovenia

<i>Group</i>	<i>Stakeholder anonymous</i>	<i>Role of stakeholder</i>	<i>Approach, method and tools for integration into to project of the stakeholders, communication channels</i>
<i>internal</i>	<i>Employee of Municipality of Lendava</i>	<i>Pilot funder, implementer</i>	<i>Personal meetings, emails, telephone calls.</i>
<i>internal</i>	<i>Mayor of the Municipality of Lendava</i>	<i>Decision-maker, it politically supports the pilot</i>	<i>Personal meetings, emails, telephone calls.</i>
<i>internal</i>	<i>Employees of Development agency Sinergija</i>	<i>technical and administrative support in pilot</i>	<i>Personal meetings, emails, telephone calls.</i>
<i>external</i>	<i>Petrol - Geoterm</i>	<i>Business company Petrol Geoterm is the owner of the district heating network with geothermal energy, it is also distributor and supplier of the electricity and geothermal energy. Their role in the deployment desk will be the practical and technical point of view on investment and after the investment, network maintenance.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Geological Survey of Slovenia</i>	<i>The Geological Survey of Slovenia provides information about geological setting and natural resources of Pomurje region and they will participate in the development of the pilot investment with their knowledge and data. They are experts in field of geothermal energy.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Association of Municipalities and Towns of Slovenia</i>	<i>Association of Municipalities and towns of Slovenia is the biggest representative association of municipalities established in 1992. Association has 175 member municipalities (212 of them) and they will expand and promote project aim and pilot investments across the association network</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Institute for the Protection of Cultural Heritage of Slovenia</i>	<i>The institute for the Protection of Cultural Heritage of Slovenia is a public institute that carries out professional and administrative tasks with regard to the preservation of immovable and corresponding movable property and intangible cultural heritage. Institute will be responsible for frames of pilot investment based on the rules for monument protection.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Pomurje technology Park</i>	<i>Pomurje technology Park is supporting institution for the promotion of entrepreneurship and</i>	<i>Personal meetings, emails, telephone calls,</i>



		<i>innovation. They are supporting the new products, services and technologies. Their role in the stakeholder involvement will be in part of development of the innovative investment.</i>	<i>stakeholder meetings.</i>
<i>external</i>	<i>Local energy agency Pomurje (LEA Pomurje)</i>	<i>The mission of Local Energy agency is promotion and fostering of continuous improvement of energy efficiency and accelerated introduction of use of renewable energy sources in Pomurje Region. LEA Pomurje is an expert in the field of RES & RUE (rational use of energy) project implementation.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Ekopark d.o.o.</i>	<i>Business company Ekopark d.o.o. is in charge for the commercial public service. Their role in the deployment desk will be the practical point of view on investment and after the investment, network maintenance.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>
<i>external</i>	<i>Institute for Tourism and Development Lendava</i>	<i>Institute for Tourism and Development Lendava is part of a partnership for implementation of the general development priorities in Pomurje region. They are responsible for infrastructure. Their role in deployment desk is to expand and promote project aim and pilot investments in Pomurje region.</i>	<i>Personal meetings, emails, telephone calls, stakeholder meetings.</i>

5.5. Time-wise Stakeholder cooperation and engagement for follow up activities

Table 24 to Table 34 show the time-wise stakeholder cooperation plan for Slovenia. The preparation of the invitation for the deployment desk meeting will be done by the employees of the Municipality of Lendava. The preparation of the agenda, content and minutes will be done by the Development agency Sinergija. The external stakeholders will participate in the deployment desk meetings. The responsibility therefore is shared by the Development agency Sinergija and Municipality of Lendava.

Table 24: Stakeholder 1: Employee of Municipality of Lendava

Actions		Deadline	Responsible
1.	Preparation of the invitation for the deployment desk	05.2019 05.2020 03.2021 12.2021	Development agency Sinergija & Municipality of Lendava



Table 25: Stakeholder 2: Mayor of Municipality of Lendava

Actions		Deadline	Responsible
1.	Participation in meetings of deployment desk	05.2019 05.2020 03.2021 12.2021	Mayor

Table 26: Stakeholder 3: Development agency Sinergija

Actions		Deadline	Responsible
1.	Preparation of the agenda for all deployment desk meetings	05.2019 05.2020 03.2021 12.2021	Katja Karba
2.	Preparation of the content for all deployment desk meetings	05.2019 05.2020 03.2021 12.2021	Štefan Žohar
3.	Preparation of the minutes from all deployment desk meetings	06.2019 07.2020 04.2021 03.2022	Tadeja Bencak



Table 27: Stakeholder 4: Petrol - Geoterm

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava

Table 28: Stakeholder 5: Geological Survey of Slovenia

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava



Table 29: Stakeholder 6: Associations of Municipalities and Tows of Slovenia

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava

Table 30: Stakeholder 7: Institute for the Protection of Cultural Heritage

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava



Table 31: Stakeholder 8: Pomurje Technology Park

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava

Table 32: Stakeholder 9: Local energy agency Pomurje (LEA Pomurje)

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava



Table 33: Stakeholder 10: Ekopark d.o.o.

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava

Table 34: Stakeholder 11: Institute for Tourism and Development Lendava

Actions		Deadline	Responsible
1.	1 st deployment desk meeting - planning process	05.2019	Development agency Sinergija & Municipality of Lendava
2.	2 nd deployment desk meeting - planning process	05.2020	Development agency Sinergija & Municipality of Lendava
3.	3 rd deployment desk meeting - implementation process	03.2021	Development agency Sinergija & Municipality of Lendava
4.	4 th deployment desk meeting - follow-up activities	12.2021	Development agency Sinergija & Municipality of Lendava



5.6. Benefit of the stakeholders involvement

Petrol Geoterm - increased number of customers of district heating;

Geothermal Survey of Slovenia - will acquire a knowledge of energy storage linked with geothermal energy

Association of Municipalities and Towns of Slovenia - new example of energy efficiency, increased number of best practices

Institute for the Protection and of Cultural heritage - increased base of investment examples

Pomurje technology Park - acquired technical knowledge about energy storages

Local energy agency Pomurje - acquired technical knowledge about energy storages linked with geothermal energy

Ekopark d.o.o. - increased number of customers of district heating

Institute for Tourism and Development Lendava - new example of energy efficiency, spreading a good practice example



References

Auwerx, Patrick, et al. 2011. *Civitas Handbooks: Involving Stakeholders: Toolkit on organising successful consultations.* Szentendre (Hungary) : CIVITAS Initiative, 2011.

Elliot, Janice, Sara Heesterbeek, Carolyn J. Lukensmeyer and Nikki Slocum. 2005. Participatory methods toolkit. A practitioner's manual. [Online] 2005. [Zitat vom: 03. 05 2019.] www.kbs-frb.be.

GUIDEMAPS. 2004. *Successful transport decision-making. A project management and stakeholder engagement handbook. Volume I: Concepts and Tools.* 2004. www.civitas-initiative.org/docs1/GUIDEMAPSHandbook_web.pdf (accessed 03.05.2019).

Kern et al. 2014. *Study in the frame of the FFG Project: SUI- sustainable urban industry.* Weiz, 2014.

Österreichische Energieagentur. 2019. *e5 Programm.* 2019. <https://www.e5-gemeinden.at/>.

Stadtgemeinde Weiz. 2016. *Feasibility Study in the frame of the project „BUILD SEE“.* Weiz, 2016. <https://www.veda-bg.eu/projects/build-see>.

Stadtgemeinde Weiz 2017. *SEAP Weiz,* 2017. <http://www.innovationszentrum-weiz.at/veranstaltungen-aktuelles/detail/projekt-seap-alps>.

Stadtgemeinde Weiz 2005. *Stadtentwicklungskonzept Stadt Weiz.* Weiz, 2005.

Surbhi, S. 2015. *Difference Between Internal and External Stakeholders: Key Differences,* 2015. <https://keydifferences.com/difference-between-internal-and-external-stakeholders.html>.