

DOCUMENTATION ON DECISIONS OF 4TH “DEPLOYMENT DESK MEETING”

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1. Introduction

The document provides a summary of the 4th deployment desk meetings, which took place in Slovenia, Croatia, Austria, Italy in February 2022. In Germany the 4th deployment desk meeting was combined with the second part of the tool training session, which was carried out online at the CAIC2021 conference in September 2021. Detailed minutes of every deployment desk meeting can be found in the appendix.

The deliverable is structured in the following chapters:

Date and place, which shows the date and place the 4th deployment desk meetings took place,

Number and type of participants, which provides some information about the participants of the deployment desk meeting and

Topics tackled, which provides a content-related summary of the outcomes of the meetings. This chapter is divided in a transnational summary, which compares the countries/pilots with each other and a regional summary, which is the summary of the respective deployment desk meeting per participating country. Therefore, there is a subchapter for each country.

In the chapter Implemented actions and links to deliverables and outputs the procedure of the meetings is described in detail and the connection to the other deliverables is explained. Moreover, the implemented actions and the used promotion materials are listed.

The chapter Results, effects and the response describes the achievements during the deployment desk meeting. The main emphasize is on the expected effects, the impact that is obtained by having different (or single) action(s) and on the response of the targets, if possible, together with some measurable data (via feedback forms, etc.).

The last chapter provides a Conclusion, followed by the detailed protocols of the deployment desk meetings in the appendix.

2. Date and place

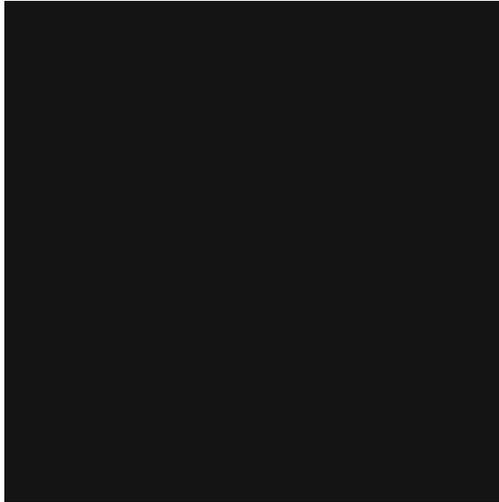
- In Slovenia, the 4th deployment desk meeting took place at the municipal premises in Lendava on 24th of February 2022.
- The 4th deployment desk meeting in Croatia was held on 23rd of February 2022 at the pilot site of the Bračak Manor (Energy Centre Bračak), Bračak 4, 49210 Zabok, Croatia.
- The 4th deployment desk meeting in Austria took place on the 2nd of February 2022 at Gasthof Ederer in Weiz
- The 4th deployment desk meeting in Italy took place both in Cuneo, at the Casa del Fiume building, and online on Zoom platform, on February 23rd 2022 from 10 am to 12 pm.
- In Germany the 4th deployment desk meeting was carried out together with the second part of the Store4HUC tool training sessions, which took place online on the second and third days of the CAIC2021 conference at the Expo event-market place/ exhibition in the timeslots of 10:30-11:00 and 12:30-14:00 on 09.09.2021 and 13:00-14:45 on 10.09.2021.



3. Number and participating organisations

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■ Austria:

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■ Italy



- Germany: The maximum number of audiences in Expo event in all 17 different exposition booths was at the time of making the screenshot around 94. The participants attending were mostly representatives of municipalities in Europe, and also some representatives of the private sector working in the field of renewable energy.

For the EMS face to face tool training deployment desk members and city representatives have been invited. 3 municipalities and one energy agency accepted the invitation. Two of these stakeholders received a personal training, which is reported in Deliverable D.T 3.3.3. The two German deployment desk members were representatives from

- City of Eschborn and
- City of Nürnberg



4. Topics tackled

4.1. Transnational summary

The main focus of the 4th deployment desk meetings was bringing together all stakeholder once more before the project ends and to discuss the final outcomes, strategies and monitoring results of the pilots. Moreover, the transferability and the sustainability of the project results have been put on the agenda. Some guiding questions have been prepared for these thematic topics, which were used to varying degrees by the organizers (see national reports in the appendix).

In general, the members of all deployment desk agreed, that the solutions applied in the different pilot plants have a good chance to be replicated in neighbouring regions. In all countries various measures to transfer the results have already been carried out and further measures will be set in the last months of the project and beyond. In Slovenia for example there is already one other city (Ptuj), which is interested in the Lendava pilot in detail because they plan to do a similar installation in one of their own public buildings and in Austria there are many district heating grids with a similar initial situation which have partly already been involved in the project. Moreover, it could be ensured that the sustainability of all pilot results is given as planned, underlined by monitoring results even after the project end.

There was a good transnational cooperation during the whole duration of the project. All project partners worked together in order to reach the project objectives. Partners learnt from each other, and they deepened their knowledge via mutual learning. With the transfer of project outputs and results, the consortium reached wider area in terms of new municipalities that could apply for the project tools. The specific objectives of the Store4HUC project contribute to the programme objective to develop and implement solutions for increasing energy efficiency and renewable energy usage in public infrastructures. All energy storages have been linked to renewable energy sources.

Transnational cooperation helps to reduce regional disparities and increases cohesion in specific territories and when regions and cities work closely together becoming more resilient.

4.2. Regional summary

This chapter provides short summaries of the outcomes of discussed topics per country/pilot. Detailed minutes of the 4th deployment desk meetings are available in the appendix.

4.2.1. Slovenia

The 4th deployment desk meeting in Slovenia was used to discuss the economic efficiency of the pilot investment as well as the transferability and sustainability of the results and the status of transnational cooperation.

Regarding the transferability of the results, the participant agreed, that this type of pilot could also be implemented in some similar cities in Slovenia. There is one information from the energy expert from Ptuj (the size of the city is similar to the city of Lendava) who is interested in details of the Lendava pilot as the city plans similar installations in their own public building. Although the pilot is specific, for which you need geothermal system (which is quite rare in Slovenia), the transfer of knowledge could be performed. The paraffin storage can also be connected to a biomass district heating system which is even better as the grid temperatures are higher.

The establishment of new ideas and implementations of energy storage in additional regions will only happen if there is a lot of communication on this topic and if it is well presented. It is especially necessary



that the set performance is underpinned by published monitoring results. Additional motivation could be an integration of the energy storages into the Local energy concept or SECAPs and SEAPs.

Economic impacts have also been discussed during the meeting. At the moment the costs for the energy are lower than at the beginning or when the original heat boiler was still running. But the city still has to negotiate the prices of the geothermal water with the energy distributed, so the final prices are not yet known. However, the environmental impact is thus bigger than if still using fossil oil. The institutional impact is ensured as the city of Lendava has pledged itself to invest in the pilot. It has also adopted the project strategy which defines that energy storages will be integrated into the city policies in the future. There are also other two Slovenian organisations (Local energy agency Pomurje and Smart house) that took up the strategy and have declared that the energy storage solutions will be embedded into the Local energy concepts and SEAPs that LEA develops and into the strategy of Local action group for the rural development that is led by Smart house.

Overall, the project and the pilot investment brought some specific knowledge to the Lendava region. It was definitely an innovative implementation. Lendava already uses geothermal energy, but not in this way. At the same time, the municipality also reduced their CO₂-emissions.

4.2.2. Croatia

The main target of the 4th deployment desk meeting in Croatia was to bring together all relevant stakeholders and present to them the results of the Croatian pilot project after all the works have been completed. Through ppt presentations, the participants were introduced to the technology and mode of operation of the photovoltaic power plant and the battery system, and they were introduced to the operation of the central energy management system. Also, the benefits of installing such systems were explained, primarily with a focus on expected electricity savings. Project partners from the University of Zagreb Faculty of Electrical Engineering and Computing (PP9 UNIZGFER) provided the stakeholders with project results through ppt presentations of other pilot projects that are implemented within Store4HUC in other countries.

The program included four main presentations which were delivered by PP9 and PP8. They covered the following topics:

- Store4HUC - Pilot projects and developed tools
- Presentation of the pilot project Bračak - Newly built photovoltaic system with battery system and integration into the Central Monitoring Control System - analysis of work based on data collected
- Possibilities for further improvements by smart battery management
- Possibilities of system replication at other locations in Croatia with special emphasis on solar power plants on the roofs of buildings with cultural property status in the context of green energy transition and climate neutral Europe

After the presentations, other cultural and historical sites in Croatia were discussed, with focus on the possibilities of applying such technology to other cultural heritage buildings in Croatia. Focus was put on the technical requirements, standards and restrictions economic aspects, legal aspects of installation and regulatory framework of protected cultural assets, sustainability and replicability of the Bračak pilot project, transfer of knowledge and experiences gained in the pilots.

4.2.3. Austria

The 4th deployment desk meeting in Austria was dedicated to discussing the ongoing transfer and the sustainability of the pilot results. Moreover, all three calculation tools and the Store4HUC Strategy



Document have been presented and the stakeholders who were interested were given the opportunity to sign the Letter of Acceptance.

To transfer the pilot result, the Austrian project team already set several dissemination measures to boost the usage of energy storages in other regions, for example through to the participation at external events (Rostock, Vienna, Bolzano, and Graz). Moreover, the energy infrastructure companies Fernwärme Weiz and Energienetze Steiermark have been involved in the project. A cross-fertilization event organised by the Climate Alliance Styria, with contribution of the W.E.I.Z., took also place in Weiz and further local publicity events are planned in course of the project closing. Furthermore, other Styrian cities and municipalities have and will be informed about the outcomes of the project. An inauguration ceremony of the energy storage with many participants of other municipalities ranging from politicians to technicians was organised in summer 2021.

The pilot will serve as an innovative good-practice example and as a model for simplified technical and above all economic implementations at other protected sites and should lead to a significant increase of the share of renewable energy sources in historic city centres. The installation of the storage tank increases flexibility in the district heating network and ensures that district heating remains competitive with other heating systems. This will safeguard regional jobs and continue to ensure favourable prices for customers.

The project has shown that positive effects can be achieved by integrating storage solution. However, from a financial perspective, it is still difficult to implement such storage solutions without subsidies, which means that there is a need for further innovation actions. For this reason, a new project was recently started in Weiz with the focus on the integration of a jointly used large-scale redox flow storage system within a renewable energy community.

4.2.4. Italy

In Italy, the 4th deployment desk meeting was divided into three sessions. The first one was an introduction to the project for those stakeholders that were not involved since the beginning of Store4HUC. The second session was conducted by the engineers that took care of the pilot intervention technical design. The works which were conducted and the constraints and solutions that have been faced during the construction as well as monitoring results have been presented during this session. The third session was conducted by the Environment Park staff presenting in speeches of Luca Galeasso and Mario Lo Curzio, the other Store4HUC pilot interventions and related project results, and the transnational strategy. A last brief session was left for discussions and Q&A.

Energy storages are raising the interest of all stakeholders. The most recent facts occurring in Europe are pointing out the importance of improving the countries' independence from external energy sources, so the use of RES and energy storages might represent a good solution becoming more and more energy self-sufficient. The most valuable example of how the topic of storages is growing in attention also in the Piedmont territory is given by school classes that participated at the event. The classes are in fact working on projects that address the integration of storages in different contexts, from stationary residential to mobile applications.

Even though the pilot project in Cuneo and the foreigner pilots implemented in the other countries were quite site specific, they can give interesting inputs for spreading similar projects. Some constraints have arisen during the discussion session.

All participants agreed on the fact that the national legislation needs to be updated to the most recent technical solutions in order to allow a smoother replication of RES and storages. In the case of Cuneo, for example, the PV plant was inevitably located along the runway of the sloping elevator, while in the very proximity the roof of the Swimming Stadium was available for hosting a much bigger PV plant that could have served solar electricity to other facilities. The energy provided by such a plant would have anyway come from a provider different from the elevator system operator, and the national legislation on



Renewable Energy Communities would have not allowed it. This is indeed an obstacle in the spreading of RES and storages, above all where the RES cannot be placed on site.

Another constraint faced during the Cuneo pilot project implementation was raised by the landscape authorisation that required the use of specific colours for the materials (such as the steel bars) not always easily available. It was noted that, in the case of the Cuneo pilot where the materials amount was very small, the production and delivery of such specific components might take up to two years, thus limiting the willingness to undertake such interventions. This constraint might be even worse in case the RES and the storage have to be located in historical city centres, where more authorisations are needed.

Also, within the Cuneo pilot site, the technical designer had to adapt the whole project to the fact that the sloping elevator, according to the Italian legislation, is meant as a railway system, thus requiring specific adaptations for the integration of different energy sources. This proved the fact that each context has its own specifics, but pilot projects might serve for paving the way to other projects or for finding the weaknesses of the legislation.

4.2.5. Germany

In Germany there has not been a discussion on transferring of the pilot results and on their sustainability, as there is no pilot in Germany. Instead, the outcome of the other four deployment desk meetings has been and will be shared with the German stakeholders via the Climate Alliance network.



5. Links to deliverables and outputs

The 4th deployment desk meetings were carried out in Slovenia, Croatia, Austria, Italy, and Germany. In Austria, Croatia and Slovenia it was possible to conduct the deployment desk meetings face-to face. The Italian deployment desk meeting was carried out as a hybrid meeting. The Italian project staff also decided to involve school classes because the topic of the pilot project and of the transnational strategy might be interesting for students tackling and working with energy management and sustainable mobility. All classes that participated belonged to specific technical departments of the schools teaching about above-mentioned topics.

In most countries the audiences have been informed about the possibility to sign the *Official Letter of Acceptance for the Tools* (of D.T 3.3.4) and the *Adoption of the Store4HUC Strategy* (of D.T 2.3.4). The participants were asked for final feedback of their experiences on the concept of establishing deployment desks. Feedback will be documented in deliverable D.T 1.1.6 *Transnational report on capacity building in each participating HUC*.

In Italy also a synthesis of the *transnational evaluation of pilot projects* (of D.T 2.3.3) was given and in Germany the 4th deployment desk meeting was combined with the second part of the Store4HUC tool training sessions (of D.T 3.3.3), which took place online on the second and third days of the CAIC2021 conference in Expo event-market place/ exhibition on 8-10.09.21.

In the context of communication activities, on the 4th deployment desk meetings promotion material like the solar power banks (of D.C. 3.3), the cotton bags (of D.C. 3.1) and the leaflets (of D.C. 2.1 - second version) have been distributed to the participants in most of the countries. The project roll-up (D.C. 3.2) was used, too and the project videos (of D.C. 4.9 - D.C. 4.12) have been shown to the participants in some countries.

The meeting was also an opportunity to invite the stakeholders to the upcoming 2nd project webinar (of D.C. 6.6).



6. Synthesis

The most important achievement of the 4th deployment desk meetings was to bring together all relevant institutions and organizations at local level close to the project end, to present them the outcomes of the Store4HUC project and discuss the final steps regarding the transferability and sustainability of the project results. By establishing the stakeholder deployment desks, the project team could ensure, that the main local actors have been integrated and properly involved in the whole project process. With this instrument, we could reach the relevant players to share the knowledge and transfer it to other external audiences that are not part of the inner circle. Especially in these difficult times with COVID-19 the deployment desk meetings were important to stay connected with the stakeholders and to complete successfully the project. Of course, the option to have an online meeting instead of a physical meeting was offered to the invitees.

In Slovenia, the 4th deployment desk meeting was attended by employees of the municipality and the leading partner to celebrate the pilot investment completion. The meeting offered opportunities to contribute directly to the development of the energy storage topic as well as policy development. With the meeting stakeholder expertise was leveraged and the lines of communication were made more open and transparent. With the guiding questions the stakeholders are more open up to honestly provide their opinion. What was found out during the meeting is the fact, that the city is truly concerned of the price the energy distributed will be offered in future. Rising prices of fossil fuels and conventional electricity could change the course of the slow implementation of energy storages smartly integrated into the system.

In Austria, the 4th deployment desk meeting was mainly dedicated to discuss the ongoing transfer of the monitoring results and related sustainability assessments. The implementation of the fully integrated, intelligent load management system in interaction with the central heat storage tank and the decentralised heat storage tanks at the customers' premises made it possible to minimise the disadvantageous operation modes of the boiler plant and prevents the local heating network from being used as a thermal buffer. These measures increase the flexibility and energy efficiency of the entire biomass district heating plant. Essentially a lot of positive effects could be achieved which will be transferred to other regions and stakeholders in the last project month and beyond.

Moreover, the Store4HUC-Strategy Document and the three developed calculation tools were on the agenda and the Letters of acceptance was presented to the stakeholders. Three signatures each (D.T 2.3.4 Strategy and D.T 3.3.4 Tools) could already be collected.

In Croatia, the fourth deployment desk meeting was very fruitful and constructive, where general information on project results were presented to stakeholders through power point presentations. Also, the results of EM tools were presented, with a special focus on the Bračak pilot project. In total 11 people attended the meeting. Although more people were invited to the meeting, not everyone responded probably caused by the Covid-19 pandemic situation at that time. All stakeholders were very satisfied with the meeting, which is confirmed by the feedback forms that the stakeholders filled in anonymously after the meeting. The stakeholders especially liked the fact that they had the opportunity to be actively involved in the implementation of the project and about the content of presentations with a lot of useful information for them.

In Italy, during the meeting, the strengths of the Cuneo pilot project, the photovoltaic system (and the storage) installed at the sloped elevator. Also the other 3 European pilot projects in Slovenia, Croatia, and Austria were shown. They represent good practices for the integration of thermal or electrical energy storages with advanced energy management/monitoring systems, all in complex and challenging regulatory contexts, such as those concerning the historical urban centres. The meeting has ranged from regulatory to more technical aspects, touching also the political and social vision of the city of Cuneo, the Piedmont Region and the whole Italy (as receptor of European regulations). During the meeting,



therefore, emerged a strong interest on the part of all stakeholders coming from various fields, and not only.

Among the participants, there was a member of a local high school, whose topics of study are renewable energy, environmental sustainability and green mobility, who showed a strong interest for the Store4HUC project. The Deployment Desk, in this regard, proved to be an important come together for the creation of a network of local actors interested in the renewable energy sector, also coming from educational environment, with the aim of creating synergies to other activities and lay the foundations for interesting future projects.

In Germany, the similar procedure as for previous deployment desk meetings was used, since this procedure turned out to work well. The combination with the second part of D.T 3.3.3 at the CAIC2021 conference was quite successful. More than 94 participants attended at the presentations followed by a fruitful discussions.

Through the personal and direct consultation with the Store4HUC tool programmers, it has been possible to get several city representatives interested in the tools and to make an agreement to stay in contact after the tool training, to promote the Autarky Rate Tool in the city channels or to test the EMS tools or to tell about their existence to the service providers who carry out the local energy advice for the general population on behalf of the city.

7. Conclusion

The 4th deployment desk meetings were a good possibility to meet once more with the involved stakeholders before the end of the project and to present them the final outcomes, strategies and monitoring results of the pilots. The members of the deployment desk really liked the concept of the periodical deployment desk meetings as this gave them the possibility to get the latest news from the project, discuss the upcoming work and exchange experiences and knowledge gained from the pilot implementation and operation.

Even if it was still difficult to organize such deployment desk meetings because of the COVID-19 situation, it was once more confirmed by almost all participants that such events are very important for the stakeholders to remain informed about the project progress and to have the possibility to be actively involved in the project as also for the project team to be able to get feedback and valuable inputs from the stakeholders.



8. Appendix

- Minutes of 4th “deployment desk meeting” in Slovenia
- Minutes of 4th “deployment desk meeting” in Croatia
- Minutes of 4th “deployment desk meeting” in Austria
- Minutes of 4th “deployment desk meeting” in Italy
- Minutes of 4th “deployment desk meeting” in Germany

DOCUMENTATION ON DECISIONS OF 4th „DEPLOYMENT DESK” MEETING

“SLOVENIA”

D.T 1.1.5

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1. Summary

As part of the stakeholder engagement, this time we held only one meeting, which we held in the municipality of Lendava. The event was attended only by employees of the municipality and the leading partner, as in principle the pilot investment is completed. The topic of conversation was achieving the sustainability of the investment, for which the municipality has already committed itself to take care of the maintenance and improvement of the energy storage. At the same time, the municipality is considering and planning for the overall energy improvement of the public building of the library, as it wants to replace the existing windows with new ones and thus rehabilitate the building, which would also improve the efficiency of the new heat storage.

The municipality also plans to expand the district heating system to geothermal energy. Their wish is for the municipal building to be connected to this system as well, as they are currently using natural gas for heating. As part of the transition to the use of renewable energy sources, they want to use local energy sources and this is offered to them in the form of geothermal energy. They are also interested in the idea of replicating the idea from the library and the implementation of an energy store in the municipal building, which was also the original idea of the project.

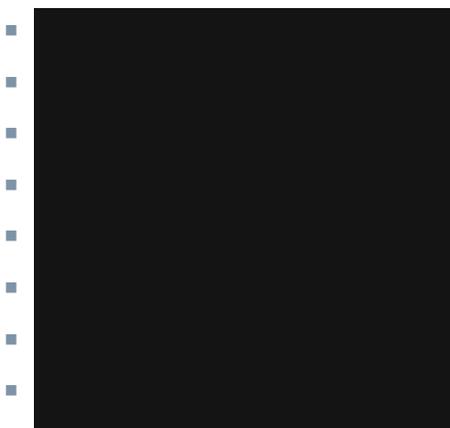
2. Date and place

In Slovenia there was one meeting in the frame of the 4th Deployment desk in Slovenia.

- Date: 24th of February 2022
- Place: Municipal premises in Lendava.

3. Number and types of participants/target groups

The meeting was attended by the lead partner and the representatives of the municipality of Lendava.





4. Topics tackled

During the stakeholder meeting the guiding questions have been asked. First, we have been introducing to each other, gained the commitment and we tried to define some meeting objectives.

During the meeting the most we talked about the economic efficiency of the pilot investment. We definitely agreed that it will be necessary to wait a few more months and some additional heating seasons to clarify the situation. The municipality of Lendava is certainly satisfied already now. The remaining topics we covered were also pre-debated on the basis of the proposed ones as indicated below. Some of them have been answered based on the desk research and based on the previous input.

4.1. Suggested questions

First topic: Transferring the results

- *Did you transfer the project outputs and results to additional target audiences and territories and how the relevant stakeholders and target groups have been actively involved?*

For Slovenia, this type of pilot can also be implemented to some similar cities. There is one information from the energy expert from Ptuj (the size of the city is similar to the city of Lendava) who is interesting in Lendava pilot in detail because they really want to do the similar installation in their own public building. Although the pilot is specific, for which you need geothermal system (which is quite rare in Slovenia), the transfer can be also done partly (only paraffin latent storage). However, the storage can be also connected to biomass district heating system which is even better as the temperatures are higher.

That would definitely be a huge benefit for the project if we manage to already within the project lifetime transfer our activities to another fitting area.

- *How the project has made use of specific synergies and coordination with other European, national or regional initiatives or projects and the added value gained, if applicable?*

PP2 built on a project implemented in past - district heating system with geothermal energy (geothermal energetic source). After the construction of entire district heating system with geothermal energy system, this is the first and so far, the only system of its kind in Slovenia which we used for the pilot action.

- *Give recommendations and inspiration in planning improvement for monumental protection and implementation of energy storages.*

- Involvement of all stakeholders from the beginning of the project;
- Good calculations of data, better knowledge on the topic, detailed knowledge of the existing geothermal remote network, knowledge of the substation (temperatures, pressure, distances);
- Detailed knowledge of the legislation within protected buildings.
- A complete renovation of the building, not just a partial renovation (in our case also the windows should be renovated or new).



- *Provide the recommendation for further action in energy storages, outline the measures and methods for transferring.*
 - Detailed monitoring must be provided
 - Monitoring process before and after the installation in order to know the input data and the size of the instalment.
 - Establish a central control system as part of the project and finance it as well
 - Involvement of geothermal experts (who can predict temperature drop by including additional user in the system)
- *How to boost the usage of energy storages in additional regions?*

The establishment of new ideas and implementations of energy storage will only happen if there is a lot of talk about this topic and if it is well presented. It is especially necessary that the performance we set as an example is also well executed.

Additional motivation could be an integration of the energy storages into the Local energy concept or SECAPs and SEAPs.

Second topic: Transnational cooperation

- *Which major outputs and results have been achieved by the project and how they have helped to solve the challenges of your policies; Please also describe how regions have benefitted from transnational cooperation?*

Project partners worked together in order to reach the project objectives. In principle, partners learnt from each other, and they deepened their knowledge by mutual learning. With the transfer of project outputs and results, the consortium reached wider area in terms of new municipalities that could apply for the project tools. Our specific objectives contribute to the programme objective which is to develop and implement solutions for increasing energy efficiency and renewable energy usage in public infrastructures. All energy storages have been linked to the renewable energy sources.

Transnational cooperation helps to reduce regional disparities and increases cohesion in specific territories and when regions and cities work closely together, they all become stronger.

Third topic: Sustainability of the results

- *What are results achieved by the project during its lifetime. What the project managed to change in your region and sector, compared to the initial situation, and how target groups benefitted from it. How project results contributed to the:*

Overall, the project and the pilot investment brought some specific knowledge to our region. It was definitely an innovative implementation. Lendava already uses geothermal energy, but not in this way. At the same time, the municipality could also reduce their CO₂-emissions.

- *policy improvements/adoption of new policies:* the pilot implementation has certainly stimulated reflection on the direction of including energy storage in Local Energy Concepts. There are currently no updates to this concept, but such a measure will be included when the document is first amended.
- *application of tools and services:* so far, 8 organizations have signed a letter of intent to use the tools we have developed as part of the project in the future.



- *leverage of investments:* the Municipality of Lendava has not leveraged the funds for the direct investment. But the investment itself will probably results also in the additional investments such as new windows for library, this is to be an investment in the rational use of energy.
- *creation of jobs:* no new or additional jobs have been created.
- *What are the expected results and impacts (e.g. economic, institutional, governance effects, continued or new cooperation etc.) in your region and - if applicable - beyond those regions, considering a mid-term perspective of 5 years after the project end?*

Economic impacts have been discussed also during the meeting which was the main topic. At the moment the costs for the energy are lower than at the beginning or when the original heat boiler was still running. But the city still has to negotiate the prices of the geothermal water with the energy distributed, so the final prices are not yet known. However, the environmental impact is thus bigger than if still using fossil oil. The institutional impact is ensured as the city of Lendava has pledged itself to invest in the pilot. It has also adopted the project strategy which defines that energy storages will be integrated into the city policies in the future. There are also other two Slovenian organisations (Local energy agency Pomurje and Smart house) that took up the strategy and have declared that the energy storage solutions will be embedded into the Local energy concepts and SEAPs that LEA develops and into the strategy of Local action group for the rural development that is led by Smart house.

Several organisations in the consortium have strengthened the tights and build on the project achievements and thus apply for new funding. The cooperation among partners made even stronger in the development phase where the energy storages get the new positions and will play a role as an asset in decreasing the peak loads.

- *Explain the sustainability (financial, institutional and political) and mainstreaming of project outputs and results.*
 - *Financial sustainability:* the city will finance the windows replacement which is in line with the idea of the whole rational use of energy. The city will also ensure the sources for covering future operating and maintenance costs of the storage as it is the owner of the facility.
 - *Institutional sustainability* will be also ensured by the city itself; it secures that storage will stay in place after the project end.
 - *Political sustainability* is guaranteed by the city as the measures linked to the energy storages will be integrated into the city policies, with this the structural impact of project outputs and results is ensured. LEA Pomurje and Smart house will also ensure the political sustainability and mainstreaming of the storages in the whole region.
- *Have you been granted additional funding from any other external public source? If yes, specify more in detail and the amount of the grant received.*

NO



5. Implemented actions and links to deliverables, outputs

The meeting was scheduled according to the agreement with the Lendava municipality. All participants have been proactive and trying to find a common and smart solutions, they were communicative and ready to solve some open issues. The meetings were led by Development agency Sinergija which took the place as a leading moderator during the meetings.

6. Results, effects and the response

The stakeholder meeting this time took place in a limited group. Only representatives of the municipality of Lendava and the leading partner were present.

The meeting offered great opportunity to contribute directly to the development of the energy storage topic as well as policy development. With the meeting we leveraged stakeholder expertise and it makes lines of communication more open and transparent. With the guiding questions the stakeholders are more open up to honestly provide their opinion. What we found out during the meeting is the fact that the city is truly concerned of the price the energy distributed will offer. This could change the course of the slowly implementation of energy storages into the life.

7. Conclusion

The benefits of following-up after investment is completed are that it allows you to gauge the satisfaction of the city, keeps the authority engaged and thinking about the meeting, and allows you to gather any information that was potentially missed.

Stakeholder meetings give all of those with an interest in your business a chance to stay involved in the operations of the city.

The municipality is certainly satisfied at the end of the project, which is also reflected in the idea they want to realize regarding the overall energy efficiency of the library. As far as ensuring the sustainability of the energy storage is concerned, the municipality will take care to maintain its investment, as it owns both the storage and the public library building. It also undertakes to improve the operating conditions of the storage.



8. Annexes

8.1. Invitation and Agenda

N/A

8.2. List of participants



LISTA PRISOTNOSTI

D.T1.1.5: 7. srečanje deležnikov

24.02.2022



D.T1.1.5: 7. srečanje deležnikov, Lendava, 24.2.2022





8.3. Pictures





8.4. Media coverage

N/A

8.5. Web-links

N/A

DOCUMENTATION ON DECISIONS OF 4th „DEPLOYMENT DESK” MEETING

CROATIA

D.T1.1.5

final version

03.2022





Title Documentation on decisions of 4th “Deployment Desk” meeting in Croatia
Deliverable D.T 1.1.5
Authors Martina Krizmanić Pećnik, Mario Vašak, Filip Vrbanc, Kristina Radoš Cvišić, Filip Rukavina
Contributors
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Submission Martina Krizmanić Pećnik



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1. Summary

Fourth deployment desk meeting was organized in Zabok where the pilot site Bračak Manor is located. It demonstrates decisions of the deployment desk related to upscaling of the achieved results. The recently renovated Bračak Manor is already 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. With the implementation of the pilot project, a photovoltaic power plant (10 kWp) was built, and a battery system (8 kWh) was installed, and the already existing systems are combined with the new ones through an advanced energy management ICT system as a coordination service that optimally exploits different available assets.

The main target of the fourth Deployment desk meeting was to bring together all relevant Stakeholders and present to them the results of the Croatian pilot project after all the works have been completed. Through ppt presentations, the participants were introduced to the technology and mode of operation of the photovoltaic power plant and the battery system, and they were introduced to the operation of the central energy management system. Also, the benefits of installing such systems are explained, primarily with a focus on electricity savings. Also, project partners from the University of Zagreb Faculty of Electrical Engineering and Computing (PP9 UNIZGFER) through ppt presentation provided the stakeholders with project results from other pilot projects that are implemented within Store4HUC in other countries. The second part of the meeting was reserved for an open discussion and a question-and-answer session.

2. Date and place

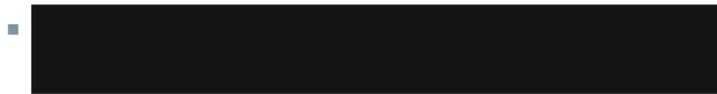
Date: 23rd February 2022

Place: Energy centre Bračak - Manor Bračak; Bračak 4

3. Number and types of participants/target groups

The meeting was attended by 11 people. While individual persons changed since the last deployment desk meeting, the structure of the deployment desk and the involved organizations did not.

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4. Topics tackled

In the first part of the 4th Deployment desk meeting, partners from University of Zagreb Faculty of Electrical Engineering and Computing (PP9 UNIZGFER) presented to stakeholders the pilot projects implemented within the Store4HUC project and the software tools that were applied on the pilots. After that, REGEA held a presentation on the Croatian pilot project, where the stakeholders were explained in detail how the photovoltaic power plant works together with the battery storage system and their integration into the central energy management system. Also, the benefits of installing such systems are explained, primarily with a focus on electricity savings. The second part of the meeting was reserved for best practice examples of solar power plants on the roofs of architectural heritage buildings (valuable buildings, individually protected or in the protection zone) in Europe, an open discussion of impact of the project, sustainability and transferability, and a question-and-answer session.

The programme included four main presentations which were delivered by PP9 and PP8. They covered the following topics:

- Store4HUC - Pilot projects and developed tools
- Presentation of the pilot project Bračak - Newly built photovoltaic system with battery system and integration into the Central Monitoring Control System - analysis of work based on data collected in the paper
- Possibilities for further improvements by smart battery management
- Possibilities of system replication in other locations in Croatia with special emphasis on solar power plants on the roofs of buildings with cultural property status in the context of green transition and climate neutral Europe

Velimir Šegon, Deputy Managing Director of North-west Croatia Regional Energy Agency (REGEA), opened the 4th deployment desk meeting by welcoming the participants. In his address, he used the opportunity to draw attention to the importance of the use of renewable energy sources in the context of heating and cooling systems in cultural protection buildings, since in the process of transition this topic is not given enough importance.

After the welcome speech, Prof. Mario Vašak (FER) gave a presentation *Tools and pilots of the Store4HUC project*. At the very beginning of the presentation, he presented and explained 3 tools: ART - tool for determining energy self-sufficiency, Module 1 - Optimal parameterization of photovoltaic and battery system for the consumer, Module 2 - Determining the optimal plan of heat source with storage. He also presented all 4 pilots implemented within the Store4HUC project, the initial state of the pilots, investments and expected effects and results according to the tools.

In the continuation Miljenko Jagarčec (REGEA) through the ppt presentation provided the stakeholders with detailed description of newly installed photovoltaic system, battery system and central energy management system in the Manor Bračak. It was explained what type of battery system is installed, its advantages over others and other important technical details such as capacity and mode of operation. Also, the stakeholders were explained about the photovoltaic power plant, which is installed, its peak power, type of converters, wiring, system performance and its installation on the canopy for which it was necessary to obtain a building permit. Also, the process of integrating batteries and photovoltaic systems into a central monitoring system is explained which serves as a coordination service that optimally exploits different available assets in the building. The first results are explained in comparison with the expected productivity of the photovoltaic system.



After the presentation of the pilot project Bračak, Mr. Filip Rukavina from FER presented the Possibilities for further improvements by smart battery management. Results of regular management without any predictive features were compared with that to show further upgrade possibilities with a predictive control algorithm. Mario Vašak also discussed further gains possible via inclusion of a building with a battery system in a demand response service. At the end Filip Rukavina also explained the possibilities of daily planning of heat sources operation in Bračak Manor where the expenses by engaging also a CHP may be even halved. However, here also a problem with high maintenance costs for a CHP are emphasized by REGEA team which need to be carefully considered.

Last presentation was focused on *Solar power plants on the roofs of buildings with the status of cultural goods in the context of green transition and climate-neutral Europe.*

Marko Zlonoga from REGEA explained that solar power plants are an environmentally friendly energy source and belong to the category of renewable energy systems. In addition to an extremely important role in preserving the climate by reducing carbon dioxide emissions, solar power plants also contribute to reducing operating costs and operating energy costs.

He showed examples of good practice from European cities where photovoltaic systems have been installed on protected cultural buildings. Marko explained with an example of the successful installation of the solar system on the roof of the Nervi Hall which demonstrates how leading-edge technology can be efficiently and intelligently integrated with historic buildings. In the heart of Vatican 2,134 m² of idle roof space is converted into a source of green renewable energy. The energy produced by this plant is directly fed into the Vatican's grid, helping to evade around 225 tons of CO₂ emissions each year.

At the end of the presentation, he showed more video examples of solar power plants on the roofs of architectural heritage buildings (valuable buildings, individually protected or in the protection zone) in Europe as follows:

- Bundestag, German parliament building (http://www.pvdatabase.org/projects_view_details.php?ID=272)
- Gare Maritime, Brussels, Belgium - The historic station concourse that was part of the Gare Maritime has been transformed into an indoor city with its own food hall, exclusive shops and offices. (https://www.youtube.com/watch?v=W6K9jI_4uSs)
- Single Family House - Gstaad, Switzerland (<https://www.hiberatlas.com/en/single-family-house-gstaad-switzerland--2-220.html>)
- PalaCinema, Locarno, Switzerland (<https://www.hiberatlas.com/en/palacinema-locarno-locarno-switzerland--2->)

He concluded that the energy generation systems in all mentioned and described buildings would appear to be transferable to other buildings and consumers in Croatia only if similar consumption characteristics are present in terms of the simultaneous demand for heat and power or cold and power.

5. Implemented actions and links to deliverables, outputs

N/A



6. Results, effects and the response

A total of 11 people attended the meeting. Although more people were invited to the meeting, not everyone responded, which we attribute to the Covid-19 pandemic. The stakeholders especially liked the fact that we gave them the opportunity to be actively involved in the implementation of the project and content of presentations with a lot of information which is confirmed by anonymous feedback forms on a questionnaire that we shared after the meeting. A total of 11 people filled out an anonymous feedback form. We evaluated the feedback forms, whose statistics are shown in the table below.

	Very dissatisfied	Dissatisfied	Indifferent	satisfied	Very satisfied	Satisfaction rate
Registration process					X,X,X,X,X,X,X,X,X,X,X	100%
Location					X,X,X,X,X,X,X,X,X,X,X	100%
Venue					X,X,X,X,X,X,X,X,X,X,X	100%
Drinks					X,X,X,X,X,X,X,X,X,X,X	100%
Food					X,X,X,X,X,X,X,X,X,X,X	100%
Presenters					X,X,X,X,X,X,X,X,X,X,X	100%
Hygiene					X,X,X,X,X,X,X,X,X,X,X	100%
Content					X,X,X,X,X,X,X,X,X,X,X	100%

7. Conclusion

Fourth Deployment desk meeting was held on 23rd of February 2022, at the Bračak Manor - location of CRO Pilot. At the meeting were invited all relevant stakeholders, to inform them about the implemented activities, achieved results, and tools prepared within the project. The meeting was attended by representatives of the University of Zagreb Faculty of Electrical Engineering and Computing (UNIZGFER), Ministry of Physical Planning, Construction and State Assets, Croatian Association of Historic Towns and North-West Croatia regional energy agency.

The fourth deployment desk meeting was very fruitful and constructive, where general information on project results was presented to stakeholders through power point presentations. Also, the results of EM tools were presented, with a special focus on the Bračak pilot project. In general, all stakeholders were very satisfied with the meeting, which is confirmed by the feedback forms that the stakeholders filled in anonymously after the meeting.

After the presentations, other cultural and historical sites in Croatia were discussed, with focus on the possibilities of applying such technology to other cultural heritage buildings in Croatia. Focus was put on the technical requirements, standards and restrictions economic aspects, legal aspects of installation and regulatory framework of protected cultural assets, sustainability and replicability of the Bračak pilot project, transfer of knowledge and experience from pilots.

Energy storages, and photovoltaic systems as well as the smart building management systems are important for the development of a sustainable energy system in HUCs and these systems play an important role in Energy transition. The biggest obstacle to the improvement and greater use of renewable energy sources and energy storages in buildings under cultural heritage is the insufficiently adapted legal framework to new technologies. Croatian Law on the Protection and Preservation of Cultural Property prohibits any action that could directly or indirectly change the properties, like the shape, the meaning, and the appearance of cultural property and it is obligatory to protect and preserve cultural goods in their pristine and original condition, and to pass on cultural goods to future generations.



Therefore, the installation of a photovoltaic system on the roof of a building is impossible and for that reason, it was necessary to look for other solutions to accommodate a photovoltaic system. Given the technologies available today, the legal framework needs to be adapted to simplify the procedures for installing energy storages and photovoltaic systems on historical urban sites. In Croatia, this would enable further integral renovation of buildings that are under cultural heritage, which would be adapted to modern requirements and needs. Historical urban sites would thus be modernised and would stop lagging in time. In this way, historical urban sites would become more comfortable to live in, and their market value would increase.

Bračak pilot project will serve as an innovative good-practice example over the next years and as a model for simplified technical and economic implementation in historical urban sites and will lead to a significant increase in the proportion of renewable energy sources in historic urban centres. The long-term goal is to show innovative materials and technologies in reconstruction as a demonstrative example to other similar historical urban sites and to show that despite of the strict conservation requirements the project of this type can be realised.

With this last deployment desk meeting all outputs and knowledge has already been transferred to stakeholders, who represent decision-makers at all levels in the implementation of renewable energy sources in historical urban sites in the Krapina-Zagorje county. Most stakeholders also participate in the process of issuing permits for the installation of storage systems and photovoltaic systems in the county, and this is the first of such projects in this part of Croatia. Given that this is the first pilot in this part of Croatia, stakeholders gained the necessary experience and knowledge. This will allow all processes to be shorter in the future when implementing similar projects. As Krapina-Zagorje County is rich in cultural heritage that needs to be restored and put into operation, this pilot project can pave the way for the restoration of such historical urban sites. If the goals of the European Union for the decarbonisation of buildings are to be achieved, some legal frameworks will certainly have to be adjusted to facilitate the realization of such projects. Also, the realization of such projects on cultural heritage buildings is more expensive than in normal conditions so for more widespread realization, it is necessary to encourage such investments with subsidies.



8. Annexes

8.1. Invitation and Agenda



Četvrti sastanak dionika pri provedbi investicije u spremnike energije na zaštićenoj lokaciji dvorca Bračak (HR deployment desk meeting)

Datum: 23.02.2022.

Lokacija : Energetski centar Bračak - dvorac Bračak; Bračak 4

Vrijeme: 11:30 h

Terminski plan događanja

- 11:30: Doček sudionika ispred Energetskog centra Bračak
- 11:40: Pozdravni govor domaćina (REGEA)
- 11:45: Store4HUC - Pilot projekti i razvijeni alati (FER)
- 12:00: Prezentacija pilot projekta Bračak - Novoizgrađeni fotonaponski sustav s baterijskim sustavom te integracija u Centralni nadzorni upravljački sustav - analiza rada na temelju podataka sakupljenih u radu (REGEA)
- 12:20 Mogućnosti daljnjih unapređenja pametnim vođenjem baterijskog spremnika (FER)
- 12:40 Mogućnosti replikacije sustava na drugim lokacijama na području djelovanja REGEA-e, s posebnim naglaskom na sunčane elektrane na krovovima zgrada sa statusom kulturnog dobra u kontekstu zelene tranzicije i klimatski neutralne Europe - osvrt na energetska krizu, rast cijene plina i električne energije (REGEA)
- Otvorena diskusija s dionicima: tehnički zahtjevi, standardi i ograničenja ekonomski aspekti, pravni aspekti instalacije i regulatorni okvir zaštićenih kulturnih dobara, održivost i replikabilnost pilot projekta Bračak, prijenos znanja i iskustava drugim zemljama. Daljnje preporuke za nova pokretanja sličnih projekata na objektima koji su kulturno-povijesno dobro, što bi doprinijelo novim ulaganjima u obnovljive izvore energije na temelju već ostvarenih pozitivnih dostignuća.
- 13:10: Obilazak dvorca, fotonaponske elektrane i baterijskog sustava uz prezentaciju rada, pitanja i odgovore (REGEA)
- 13:30: Druženje uz ručak



Martina Krizmanić Pećnik

Pošiljatelj: Martina Krizmanić Pećnik
Poslano: 4. veljače 2022. 10:14
Prima: sanja.mihovilić@kzz.hr; Tatjana Kuhar; Melinda Trbojević; Lana Križaj; Mario Vasak; Kristina Radoš-Cvišić; Filip Rukavina; Dunja Babić; Karolina Barilar; Jurica Mužek; daniel.makar@kzz.hr; mgolub@mgipu.hr; nevena.strbic@mgipu.hr; diana.horvat@mgipu.hr; georgina.presecki@hep.hr
Kopija: Velimir Šegori; Miljenko Jagarčec
Predmet: Poziv na završni sastanak projekta Store4HUC
Privici: AGENDA_HR_deploy ment_desk_Store4HUC.pdf
Važnost: Visoko

Poštovani,

Nastavljamo sa završnim aktivnostima na projektu **Store4HUC: Integration and smart management of energy storages at historical urban sites** te nam je zadovoljstvo pozvati Vas na četvrti sastanak čiji će glavni fokus biti na održivosti i replikabilnost pilot projekta Bračak te na prijenosu znanja i iskustava. Također ćemo se otvorenom diskusijom osvrnuti na daljnje preporuke za nova pokretanja sličnih projekata na objektima koji su kulturno-povijesno dobro, što bi doprinijelo novim ulaganjima u obnovljive izvore energije na temelju već ostvarenih pozitivnih dostignuća.

Pilot projekt u Hrvatskoj se odnosi na instalaciju fotonaponskog sustava za proizvodnju električne energije te ugradnju baterijskog sustava za pohranu energije sa pretvaračem u dvorcu Bračak te integraciju sustava u postojeći napredni ICT sustav upravljanja zgradom u svrhu optimalnog upravljanja proizvodnjom, potrošnjom i skladištenjem energije u zgradi, sa mogućnošću predikcije i upravljanja troškovima. Slični piloti pokreću se kroz Store4HUC projekt i u Sloveniji, Italiji i Austriji.

U sklopu projekta Fakultet elektrotehnike i računarstva (FER) razvio je programske alate za planiranje optimalnog rada sustava pohrane energije u okruženju povijesnih gradskih jezgri pri čemu se poštuju specifična ograničenja takvih zaštićenih sredina. Istraživački tim FER-ovog Laboratorija za sustave obnovljivih izvora energije razvio je programski alat za optimalno dimenzioniranje kombinacije fotonaponskog i baterijskog sustava. Na temelju zadanog godišnjeg profila potrošnje alat određuje optimalnu konfiguraciju s obzirom na zadane tehničke i ekonomske pokazatelje. Alat je nastao iz težnje da se ovakav sustav optimalno konfigurira za kulturno-povijesno zaštićene lokalitete uzimajući u obzir njihove posebne uvjete, ali koristan je svim stručnjacima iz sektora energetske učinkovitosti. Ovaj vrijedan alat možete besplatno preuzeti [ovdje](#) te ubrzo saznati vašu optimalnu kWp-kW-kWh kombinaciju! Razvoju kalkulatora najviše su doprinijeli mlađi istraživač Filip Rukavina, mag. ing. te voditelj LARES-a i projekta Store4HUC na FER-u, prof. dr. sc. Mario Vašak. Trogodišnji projekt Store4HUC traje do kraja ožujka 2022. godine, a sufinancira ga Europska unija iz Europskog fonda za regionalni razvoj putem programa Interreg CENTRAL EUROPE.

Sastanak će se održati **23. veljače (srijeda) 2022. godine s početkom u 11:30h u Energetskom centru Bračak, Bračak 4, 49210 Zabok.**

Agendu događanja, možete vidjeti u prilogu ovog mail-a.

Molimo potvrdite Vaš dolazak najkasnije do **17. veljače 2022. godine na e-mail mkpecnik@regea.org** ili na broj **099 202 6425**.

U ime Store4HUC projektnog tima,



8.2. List of participants



Trening radionica sa dionicima pri provedbi investicije u spremnike energije na zaštićenoj lokaciji dvorca Bračak (Workshop with partners and members of the „deployment desks“ - D.T1.1.5)

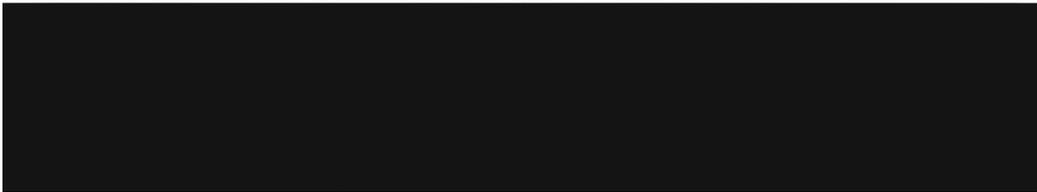
Datum: 23. veljače 2022.
Lokacija: Energetski centar Bračak - dvorac Bračak; Bračak 4
Vrijeme: 11:30 h

“Osobne podatke koje REGEA i Fakultet elektrotehnike i računarstva, Sveučilište u Zagrebu prikupljaju na potpisnim listama prikupljaju se dana 23.02.2022. od 11 do 14 sati u svrhu provedbe projekta pod nazivom Store4HUC, odnosno, u svrhu evidencije i dokaza broja sudionika trening radionici (Workshop with partners and members of the „deployment desks“ - D.T1.1.5), slijedom čega se isti neće upotrebljavati za niti jednu drugu svrhu osim ovdje navedene, te se isti neće dostavljati bilo kojim trećim osobama u Republici Hrvatskoj i/ili inozemstvu.”

“Svi sudionici trening radionice projekta Store4HUC dana 23.02.2022. od 11 do 14 sati mogu biti fotografirani za potrebe vidljivosti, a fotografije mogu biti korištene za potrebe slanja priopćenja za medije, za potrebe objava na društvenim mrežama, te u druge reklamne i/ili promidžbene svrhe. Fotografiranje će obaviti Martina Krizmanić Pečnik. Ako ne želite biti na fotografiji, odnosno, ako ne želite da se Vaša fotografija koristi za potrebe slanja priopćenja za medije i/ili objave na društvenim mrežama i/ili u druge reklamne ili promidžbene svrhe molimo da se obratite na mail ibelic@regea.org.”

Regionalna energetska agencija Sjeverozapadne Hrvatske i Fakultet elektrotehnike i računarstva, Sveučilište u Zagrebu postupaju u cijelosti u skladu s odredbama UREDBE (EU) 2016/679 EUROPSKOG PARLAMENTA I VIJEĆA od 27. travnja 2016. godine o zaštiti pojedinaca u vezi s obradom osobnih podataka i o slobodnom kretanju takvih podataka te o stavljanju izvan snage Direktive 95/46/EZ (Opća uredba o zaštiti podataka).

Potpisna lista







8.3. Pictures





8.4. Media coverage

N/A

8.5. Web-links

N/A

DOCUMENTATION ON DECISIONS OF 4th „DEPLOYMENT DESK” MEETING

“AUSTRIA”

D.T 1.1.5

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1. Summary

The 4th deployment desk meeting in Austria took place in Weiz on the 2nd of February 2022. The meeting was mainly dedicated to discussing the ongoing transfer and the sustainability of the pilot results. The implementation of the fully integrated, intelligent load management system in interaction with the central heat storage tank and the decentralised heat storage tanks at the customers premises made it possible to minimise the disadvantageous operation mode of the boiler plant and prevents the local heating network from being used as a thermal buffer. These measurements thus increase the flexibility and energy efficiency of the entire biomass heating plant. Essentially a lot of positive effects could be achieved which will be transferred to other regions and stakeholder in the last months of the project and above.

Moreover, the Store4HUC-Strategy Document and the three developed calculation tools were on the agenda and the Letters of acceptance was presented to the stakeholders. Three signatures each (D.T 2.3.4 Strategy and D.T 3.3.4 Tools) could already be collected.

As it was the last deployment desk meeting the participants have been asked for general feedback on the format of the deployment desk. All members agreed that the meetings have been a very good tool to stay informed about the project, discuss the upcoming work and exchange experiences and knowledge gained from the pilot implementation.

2. Date and place

The 4th deployment desk meeting in Austria took place in

- Weiz, Gasthof Ederer, Weizberg 2, 8160 Weiz
- on the 2nd of February 2022 at 8 pm

3. Number and types of participants/target groups

- 



4. Topics tackled

The 4th deployment desk meeting in Austria was dedicated to discuss the ongoing transfer and the sustainability of the pilot results. Moreover, all three calculation tools and the Store4HUC Strategy Document have been presented and the stakeholders who were interested were given the opportunity to sign the Letter of Acceptance.

The **Autarky Rate Tool** is an easy-to-use web application for the calculation of electrical storages in combination with renewable energy sources. The planner Johann Haas and the managing director will test this tool. The second tool, the **Optimal sizing calculator** which can be used for the calculation of the optimal storage size. It is an excel based tool with a Python interface for energy agencies and other experienced users. The **Optimal heat source scheduler** shows the optimal day-ahead scheduling of heat sources connected to a heat storage that supplies a certain heating load, based on minimization of the overall operation costs of the heating system. One version was especially customized for the Weizberg pilot. Johann Haas has tested the tool and already provided very positive feedback to the developer. Moreover, final identification of the KPI's were discussed and the so far achieved results were shown.

4.1. Suggested questions

First topic: Transferring the results

- *Did you transfer the project outputs and results to additional target audiences and territories and how the relevant stakeholders and target groups have been actively involved?*

Other Styrian cities and municipalities have and will be informed 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. An inauguration ceremony with many participants from representatives of other municipalities to politicians and technicians was organised in summer 2021. The expanded biomass heating plant initiate an energy-efficient and climate-friendly future for the energy supply on the Weizberg and hopefully also on many other places under monument and landscape protection.

- *How the project has made use of specific synergies and coordination with other European, national or regional initiatives or projects and the added value gained, if applicable?*

The Austrian project partners have cooperated with the Interreg Central Europe project TARGET. With the consortium of this project, also the final conference will be organised together. An ongoing cooperation with the research Agency AEE Intec to apply for further European projects concerning thermal storages and the enlargement of the biomass district heating plant Weizberg is planned. Moreover, the project is linked to the activities of the Energy Region Weiz Gleisdorf and the City of Weiz.

- *Give recommendations and inspiration in planning improvement for monumental protection and implementation of energy storages.*

The most important advice we can provide is to involve all relevant stakeholders already at an early stage of time. Moreover, we can share some experiences related to the establishment of the Austrian pilot. The implementation of the pilot Weizberg for the accommodation of a heat storage tank, a machine room, a switch room, a retaining wall as well as the associated changes in the terrain on the southwest side of the



boiler house, behind the laying-out hall, directly influence the existing townscape. Therefore, the following requirements had to be fulfilled by special structural measures due to the approval situation

- Implementation of the storage the building, mostly underground, below ground level
- Utilization of existing buildings to cover the extension and associated restrictions regarding the dimensions of the extension
- Specially adapted design of the visible facades with regard to colour and geometry while complying with the requirements for weather resistance,
- Minimally invasive integration, in order not to influence existing natural conditions such as trees and bushes

The structural integration of the storage facility in the historic urban centre, which is protected as a landscape protection zone, is intended to meet all these requirements and to ensure that the extension blends in unobtrusively with the overall view and does not have any negative effects on the landscape.

- *Provide the recommendation for further action in energy storages, outline the measures and methods for transferring.*

The project has shown that positive effects can be achieved by integrating storage solution. However, from a financial perspective, these solutions are often not yet economically feasible without subsidies, which means that there is a need for further research actions. For this reason, a new project was recently started in Weiz with the focus on the integration of a jointly used large-scale redox flow storage system within a renewable energy community.

- *How to boost the usage of energy storages in additional regions?*

The Austrian project team set several measures to disseminate the project results and therefore boost the usage of energy storages in additional regions, for example through to the participation at external events (Rostock, Vienna, Bolzano, Graz). Moreover, the energy infrastructure companies Fernwärme Weiz and Energienetze Steiermark have been involved in the project. A cross-fertilization event organised by the Climate Alliance Styria, with contribution of the W.E.I.Z., took also place in Weiz and further local publicity events are planned in course of the project closing.

Second topic: Transnational cooperation

- *Which major outputs and results have been achieved by the project and how they have helped to solve the challenges of your policies; Please also describe how regions have benefitted from transnational cooperation?*

At the Weizberg pilot site, a thermal storage tank for the local biomass heating network was implemented successfully. There is a great possibility to multiply the solution and to install similar systems in other HUCs too. In general, storage technologies are important pieces of the puzzle for a sustainable energy system, as it is also stated in the energy plans of the City of Weiz, the KEM Weiz-Gleisdorf and the Catholic Church of Styria. Hence, the pilot project is fully integrated into the regional climate and energy strategies of the City of Weiz, the KEM Weiz-Gleisdorf and the Catholic Church of Styria



Third topic: Sustainability of the results

- *What are results achieved by the project during its lifetime. What the project managed to change in your region and sector, compared to the initial situation, and how target groups benefitted from it. How project results contributed to the:*

The pilot should serve as an innovative best-practice example and as a model for simplified technical and above all economic implementation at other protected sites and should lead to a significant increase of the share of renewable energy sources in historic city centres. The storage tank increases flexibility in the district heating network and ensures that district heating remains competitive with other heating systems. This will safeguard regional jobs and continue to ensure favourable prices for customers.

- *What are the expected results and impacts (e.g. economic, institutional, governance effects, continued or new cooperation etc.) in your region and - if applicable - beyond those regions, considering a mid-term perspective of 5 years after the project end?*

Besides of new cooperation's and the strengthening of existing cooperation's, to which the deployment desk meetings have also contributed significantly, it must be distinguished between the impacts for the directly involved stakeholders (district heating company, customers, etc) and the general impacts for the region. The impact of the directly involved stakeholders are best illustrated within the defined KPIs which can be found in the Final Pilot Report (Deliverable D.T 2.2.7). For the Weiz region, as well as for other regions, the pilot will serve as a best practice example, whose technology can be applied to further pilot plants.

- *Explain the sustainability (financial, institutional and political) and mainstreaming of project outputs and results.*

The integration of the storage in the district heating grid enables an efficient and ecological heat supply of the local residents. The pilot will serve as an innovative best-practice facility and as a model for simplified technical and above all economic implementation at other protected sites and lead to a significant increase in the proportion of renewable energy sources in historic city centres.

- *Have you been granted additional funding from any other external public source? If yes, specify more in detail and the amount of the grant received.*

As the only project in Austria, it was a great achievement for the Austrian Store4HUC team, as well as its local partners and stakeholders, that the storage expansion project in Weizberg received the "KEM Thermal Storage" funding, with the maximum eligible rate of 45 % of the investment costs. (107.000 € subsidies)



5. Implemented actions and links to deliverables, outputs

The 4th deployment desk meeting was linked to the Deliverable *D.T 3.3.4. Official Letter of Acceptance for the Tools*, the *D.T 2.3.4: Adoption of the Store4HUC Strategy* and the *D.T 1.1.6 Transnational report on capacity building in each participating HUC*.

6. Results, effects and the response

During the last deployment desk meeting the strategy for the ongoing transfer of the project results in the last months of the project and above has been defined and the possibilities to use the Optimal Heat Source Scheduler within the Weizberg pilot have been discussed. The following feedback was received:

“If you know all the parameters, have good records from the energy management system and the data is compatible (Excel) then it works well, and you get the information about what quantities you could store. It would be intended for biomass operators but is sometimes not so easy for those with a less technical background.”

Moreover, the Store4HUC-Strategy and the three developed tools were on the agenda and the Letter of acceptance was presented to the stakeholders. Three signatures each (D.T 2.3.4 Strategy and D.T 3.3.4 Tools) could already be collected.

7. Conclusion

As it was the last deployment desk meeting the participants have been asked for general feedback on the format of the deployment desk. Following statements were made in this regard (see also D.T 1.1.6):

Hannes Schinagl: General manager of the Biomass district heating network Weizberg: For me, the deployment desk meetings were really good organised, and the topics were great, each time we met, we came a step forward. The group was good selected, and everyone was motivated to build this storage.

Josef Hohegger: Wood chips producer: The meetings were very helpful for the project, every person who was involved in the implementation of the storage was actively involved and part of the deployment desk.

Gottfried Heinz: Major of Thannhausen: The project Store4HUC was a great project for our region and very important for the biomass district heating Weizberg - the organisation of these deployment desk meetings was very important for the implementation of the storage.



8. Annexes

8.1. Invitation and Agenda



Dieses Projektes „Store4HUC“ wird durch Mittel des transnationalen Interreg CENTRAL EUROPE Programmes zur nachhaltigen Entwicklung und Umsetzung von Energiestrategien und -maßnahmen in zentraleuropäischen Städten und Regionen gefördert!

AGENDA

Workshop: D.T 1.1.5 - 4. Deployment desk meeting

Ort, Datum: Weiz, 02. Februar 22, 20:00

1) Begrüßung:

Johannes Schinagl, Biomasse Heizwerk Weizberg, Johann Neuhold, Biomasseheizwerk Weizberg

2) Besprechung der Berechnungstools und der Store4HUC - Strategie

mit anschließender Möglichkeit zur Unterschrift der „Letter of Acceptance“ - Andrea Dornhofer

3) Vorstellung/Diskussion der Monitoringergebnisse

Johann Haas



8.2. List of participants



Dieses Projektes „Store4HUC“ wird durch Mittel des transnationalen Interreg CENTRAL EUROPE Programmes zur nachhaltigen Entwicklung und Umsetzung von Energiestrategien und -maßnahmen in zentraleuropäischen Städten und Regionen gefördert!

Workshop: T1 Deployment des
Ort, Datum: Wetz 2.2.2022 20-21.30

VORNAME, NACHNAME	ORGANISATION	UNTERSCHRIFT	Ja, ich stimme zu, dass das Innovationszentrum W.E.I.Z. meine persönlichen Daten speichert und verarbeitet.	Ich bin damit einverstanden per E-Mail, und Post weitere projektbezogene Informationen zu bekommen.	Ich bin damit einverstanden, dass Fotos von mir, im Zusammenhang der Veranstaltung veröffentlicht werden dürfen.
[Redacted content]					

By signing, you agree that your personal data may also be used for the purposes of the narrative and financial control of the provider of funds and other public authorities to



Dieses Projektes „Store4HUC“ wird durch Mittel des transnationalen Interreg CENTRAL EUROPE Programmes zur nachhaltigen Entwicklung und Umsetzung von Energiestrategien und -maßnahmen in zentraleuropäischen Städten und Regionen gefördert!

Workshop: _____
Ort, Datum: _____

VORNAME, NACHNAME	ORGANISATION	UNTERSCHRIFT	Ja, ich stimme zu, dass das Innovationszentrum W.E.I.Z. meine persönlichen Daten speichert und	Ich bin damit einverstanden per E-Mail, und Post weitere projektbezogene	Ich bin damit einverstanden, dass Fotos von mir, im Zusammenhang der Veranstaltung
[Redacted content]					

By signing, you agree that your personal data may also be used for the purposes of the narrative and financial control of the provider of funds and other public authorities to control the use of public funds. Your data are protected by public authorities in accordance with the European and Austrian regulations. The consent is required by the General Data Protection Regulation. If you do not want to share your personal information, enter only the name and surname and your signature.

8.3. Pictures



8.4. Media coverage

not applicable

8.5. Web-links

not applicable

DOCUMENTATION ON DECISIONS OF 4th „DEPLOYMENT DESK” MEETING

ITALY

D.T1.1.5

final version

02.2022





Title Documentation on decisions of 4th “Deployment Desk” Meeting in Italy
Deliverable D.T1.1.5
Authors Luca Galeasso, Mario Lo Curzio, Elisa Marino
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Submission



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1. Summary

The Italian 4th Deployment Desk meeting took place in Cuneo on February 23rd 2022 as a hybrid meeting. The meeting represented the opportunity for the Italian stakeholders to meet each other once more before the end of the project, and to invite new ones in order to provide an overview of the project outcomes and of the pilot intervention results. This means that the meeting was mainly focussed on the pilot project in Cuneo, because of the interesting results it provided, but also some other project activities were presented and discussed among the participants.

An interesting target group, which took part in the meeting, was represented by some classes, which are currently working on sustainable mobility topics, of technical schools coming from the whole province of Cuneo and from Torino as well. They provided an interesting audience for the project.

The meeting was also an opportunity to invite the stakeholders to the upcoming 2nd project Webinar.

The meeting proved to be successful, also thanks to the hybrid mode which allowed more people to join it even if unable to travel to Cuneo.

2. Date and place

The meeting took place both in Cuneo, at the *Casa del Fiume* building, and online on Zoom platform, on February 23rd 2022 from 10 to 12.

3. Number and types of participants/target groups

In total 15 stakeholders' representatives participated to the meeting, considering school classes as one participant each. 8 people, excluding the project staff from the City of Cuneo and from Environment Park, participated in presence while the remaining 7 participated through the use of Zoom platform. Here following the list:

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As previously mentioned, schools represented a new target group involved in the stakeholders' meeting. Other participants attended previous Deployment Desk meetings. The project staff decided to involve schools because the topic of the pilot project and of the transnational strategy might be interesting for students tackling and working with energy management and sustainable mobility. All classes that participated belonged to specific technical sections of the schools working on the above-mentioned topics.

4. Topics tackled

The agenda of the meeting forecasted three different sessions:

1. The first one was an introduction to the project for those stakeholders that were not involved since the beginning of Store4HUC. The session was introduced by Elisa Marino, providing a short introduction to the meeting and its goals; the floor was then given to the City of Cuneo Counsellor appointed for Environment Affairs, who presented the general strategy of the city and the plans for sustainability improving; afterwards the pilot project video produced within Store4HUC project was showed, giving interesting details on the pilot intervention works;
2. The second session was conducted by the engineers that took care of the pilot intervention technical design. The first speech was conducted by Dario Alberto, the designer of the whole pilot intervention on the sloping elevator in Cuneo, who explained how the works were conducted and the constraints and solutions that have been faced during the construction site. Bruno Brignone and Stefano Giordana, who took care of explaining the electric design of the pilot intervention and of the sloping elevator energy consumption monitoring, conducted the second speech. They also presented the pilot intervention monitoring results, lasting from October 2021 to February 2022;
3. The third session was conducted by Environment Park staff which presented, through the speeches of Luca Galeasso and Mario Lo Curzio, the other Store4HUC pilot interventions, with the relative results, and the transnational strategy. Also possible future developments of the project, beside the general outcomes and benefits it provided to the participating territories, were discussed.

A last brief part was left for discussion and Q&A session. Later on, for the participants who attend the meeting in presence at the *Casa del Fiume*, a study visit of the pilot intervention at the sloping elevator was organized and more questions and discussions arose.

4.1. Discussion

The topic of storages proved to be an interesting one among all stakeholders. The most recent facts occurring in Europe are pointing out the importance of improving the countries' independence from external energy sources, so the use of RES and energy storages might represent the optimal solution to such situation. The most valuable example of how the topic of storages is growing in attention also in the Piedmont territory is given by the schools that participated to the event. The classes are in fact working on projects that stress the integration of storages in different contexts, from the residential one to the mobility one.



Even though the pilot project in Cuneo and the foreigner pilots implemented in the other countries were very site specific, they can give interesting inputs for the spreading of similar projects. However some constraints on such a dissemination arose during the discussion session.

First of all, all participants agreed on the fact that the national legislation needs to be updated to the most recent technical solutions in order to allow a smoother dissemination of RES and storages. In the case of Cuneo, for example, the PV plant was inevitably located along the runway of the sloping elevator, while in the very proximity the roof of the Swimming Stadium was available for hosting a much bigger PV plant that could have served other facilities. The energy provided by such a plant would have anyway come from a provider different from the elevator system itself, and the national legislation on Renewable Energy Communities would have not allowed it. This is indeed an obstacle in the spreading of RES and storages, above all where the RES cannot be placed on site.

Another constraint faced during the Cuneo pilot project implementation was represented by the landscape authorisation that required the use of specific colours for the materials (such as the steel bars) not always easily available. It was noted that, in the case of the Cuneo pilot where the materials amount was very small, the production and delivery of such specific items might take up to two years, thus limiting the willingness to undertake such interventions. This constraint might be even worse in case the RES and the storage have to be located in historical city centres, where more authorisations are needed.

Also, within the Cuneo pilot site, the technical designer had to adapt the whole project to the fact that the sloping elevator, according to the Italian legislation, is meant as a railway system, thus requiring specific adaptations for the integration of different energy sources. This proved the fact that each context has its own specifics, but pilot projects might serve for paving the way to other projects or for finding the weaknesses of the legislation.

More generally, all four pilots and the transnational strategy developed from the project represent innovative elements of a change that is occurring in EU, but that needs a boost for becoming the normality.

5. Implemented actions and links to deliverables, outputs

During the 4th Deployment Desk meeting, there were many synergies with other project outputs and deliverables. First of all, the presentation of the other three foreign pilot projects was provided, giving a synthesis of the Transnational evaluation of pilot projects (D.T2.3.3). Thanks to the presentation of the WP T2 Leader Environment Park, a synthesis of the Transnational strategy for the implementation and capitalisation of energy storages in HUCs (D.T2.3.4) was provided and discussed.

On the WP Communication side, many links with outputs and deliverables were possible. The event was the opportunity to invite the participants to the 2nd project Webinar (D.C.6.6). The first version of the leaflets and the newly printed version (D.C.2.1) were available for participants, and many of those have been given to the technical schools teachers for their students.

During the meeting, the Cuneo pilot project video (D.C.4.11) was shown. The YouTube links to other three pilots videos were provided (D.C.4.9, D.C.4.10, D.C.4.12). Finally, after the meeting, the e-brochure (D.C.2.4) has been sent to all participants with the event presentations.

The tools from WP T3 were also mentioned during the meeting and promoted above all among the schools that participated to the meeting, since project partners think they might serve as a very useful test field for students, too.



6. Results, effects and the response

During the meeting, the strengths of the Cuneo pilot project, i.e. the photovoltaic system (and the storage) installed on the sloped elevator, but also of the other 3 European pilot projects (Slovenia, Croatia, Austria), were shown. They represent good practices for the integration of thermal or electrical energy storages with advanced energy management/monitoring systems, all in complex and difficult regulatory contexts, such as those concerning the historical urban centres. The meeting has ranged from regulatory to more technical aspects, touching also the political and social vision of the city of Cuneo, the Piedmont Region and the whole Italy (as receptor of European regulations). During the meeting, therefore, emerged a strong interest on the part of all stakeholders coming from various fields, and not only.

Among the participants, there was a member of a local high school, whose topics of study are renewable energy, environmental sustainability and green mobility, who showed a strong interest for the topic. The Deployment Desk, in this regard, proved to be an important event for the creation of a network of local actors interested in the renewable energy sector, also coming from educational environment, with the aim of creating a strong synergy and lay the foundations for interesting future projects.

7. Conclusion

The interest of participants was proved by their active participation in the meeting. Many questions arose during the sloping elevator visit where, being in front of the intervention and having the two engineers available for questions and clarifications, an interesting discussion took place.

The main topics of discussion, apart from the more technical aspects of the inclined elevator, concerned the national regulatory framework regarding the installation of energy storages in urban centres and, above all, renewable energy communities.

The current EU objectives for a rapid energy transition and the neutralization of greenhouse gas emissions represent a very favourable framework for the implementation of energy storages. They provide very different services to respond to many of the current energy and climate challenges: increasing and optimizing the use of energy from RES, effective and efficient management of energy networks, enhancing the active role of citizens.

The lack of common guidelines and standards still represents a limitation for a massive deployment of storages: the benefits of storage installations as support to distribution and transmission networks, or, as said, the importance of energy communities for a more rational use of RES in the energy transition, for example, are not yet fully recognized. All participants agreed on the importance of improving the presence of RES and storages in our territories, and they were aware that something is moving on in this direction, from legislative and operative points of view.



8. Annexes

8.1. Invitation and Agenda



Sistemi di accumulo ed energie rinnovabili nei centri storici urbani Risultati del progetto Store4HUC e dell'intervento pilota di Cuneo

23 Febbraio 2022

ore 10.00 – 12.00

Casa del Fiume, Piazzale Walther Cavallera, 19 - Cuneo / Piattaforma Zoom

- 10.00 **Welcome Coffee**
- 10.15 **Saluti e presentazione del video del progetto pilota di Store4HUC – Comune di Cuneo**
- 10.30 **L'intervento pilota di efficientamento energetico dell'ascensore inclinato di Cuneo – Ing. Dario Alberto, Progettista e Direttore Lavori**
- 10.45 **Il monitoraggio dei consumi energetici dell'ascensore post-intervento pilota – Ing. Brignone, Studio Brignone**
- 11.00 **I risultati delle altre azioni pilota del progetto Store4HUC – Environment Park**
- 11.10 **La strategia transnazionale di implementazione di sistemi di accumulo nei centri storici urbani – Environment Park**
- 11.20 **Confronto sui possibili sviluppi del tema – Environment Park e Comune di Cuneo**
- 11.30 **Visita all'ascensore inclinato, conclusioni e saluti**



8.2. List of participants



Interreg 
CENTRAL EUROPE European Union
European Regional
Development Fund
STORE4HUC 

LIST OF PARTICIPANTS: D. T.1.1.5 4th Deployment Desk meeting, Cuneo, 23.02.2022

N°	NOME E COGNOME	ENTE/ORGANIZZAZIONE	CONTATTO	FIRMA
1				
2				
3				
4				
5				
6				
7				



8.3. Pictures







8.4. Media coverage

- <https://www.comune.cuneo.it/news/dettaglio/periodo/2022/02/17/il-progetto-store4huc-si-avvicina-alla-sua-conclusione-con-due-eventi-sul-tema-dei-sistemi-di.html>
- <https://www.targatocn.it/2022/02/17/leggi-notizia/argomenti/eventi/articolo/a-cuneo-il-progetto-store4huc-si-avvicina-alla-sua-conclusione.html>

8.5. Web-links

-

DOCUMENTATION ON DECISIONS OF 4th „DEPLOYMENT DESK” MEETING

“GERMANY”

D.T1.1.5

final version

03.2022





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Deliverable D.T 1.1.5
Authors Suhib Alhawamdh
Contributors Wolfgang Hofstetter
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Submission



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1. Summary

The 2021 Climate Alliance International Conference (CAIC2021) was being made possible both online and in Wels (Austria) with the cooperation and support of the State of Upper Austria, the City of Wels, Climate Alliance Upper Austria and Climate Alliance Austria.

Store4HUC has taken place online in the market places for 3 days in the conference via the conference software Hopin, where the idea of the project was clarified by Store4HUC team members, and an overview of it was given to the visitors. Most of the visitors were official representatives of different municipalities in Europe, where the idea of the project is improving and enriching energy and spatial planning strategies targeting historical city centers by focusing on integration of energy storage systems to enhance the public institutional and utility capabilities.

A large part of the discussions with people was awareness of the problem posed by the project, as the problem that Store4HUC is trying to solve was absent from the minds of many representatives of the municipalities, but most of them showed interest in the theoretical aspect of the project as well as the practical applications. It should be noted that the energy management tools have been showed by project partner Filip Rukavina for the audience and an explanation of how to use it, where the tools indicates the economic and reasonable utilisation of storages.

2. Date and place

Store4HUC tool training sessions for deployment desk members took place online on the second and third days of the conference in Expo event-market place/exhibition in the timeslots of 10:30-11:00 and 12:30-14:00 on 09.09.2021 and 13:00-14:45 on 10.09.2021.

3. Number and types of participants/target groups

The maximum number of audience in Expo event in all 17 different exposition booths was at the time of making the screenshot around 94. The participants watching, they were mostly representatives of municipalities in Europe, and also some representatives of the private sector working in the field of renewable energy.

For an EMS face to face tool training deployment desk members and city representatives have been invited. 3 municipalities and one energy agency accepted the invitation. Two of the new stakeholders received a personal training, this is reported in deliverable D.T3.3.3. The two German deployment desk members were representatives from

- City of Eschborn and
- City of Nürnberg



4. Topics tackled

The Store4HUC project was one of the 17 projects presented upon entering Expo event, where the participant can choose the project, he/she wants, and then team members such as Wolfgang Hofstetter and Filip Rukavina in Store4HUC team exchanged information with the audience and then began to explain and clarify what is essential about the project.

The project was interesting for many of the participants because they used to face the problem of installing renewable energy systems in old buildings and monuments, especially with regard to storage, because of the paperwork they face from the preservation of historical buildings to complete any project. And the ways to use EMS tools were explained and disseminated to the stakeholders and deployment desk members.

The event was held in English language. All the two trained municipalities expressed interest in further information. The follow up will be providing additional information to the interested stakeholders in national language and sending them download links. In case they are going to use the tools in their municipalities we are trying to get signatures related to Deliverable D.T 3.3.4.

4.1. Suggested questions

First topic: Transfer of results

- *Have the project outputs and results been transferred to other target groups and areas and how have the relevant stakeholders and target groups been actively involved?*

Efforts were made to transfer the Store4HUC results to other municipalities. Stakeholders were personally invited by email and personally contacted by phone and invited to participate.

- *How did the project exploit specific synergies and coordination with other European, national or regional initiatives or projects and what added value, if any, was achieved?*

Attempts were made to involve other representatives of German cities, to introduce them to the EMS tools in a personal conversation and to convince them to use the Store4HUC tools.

- *Provide recommendations and suggestions for the improvement of planning for heritage conservation and the implementation of energy storage.*

As there was no pilot implementation in Germany, dissemination of the results is not possible or only possible with great personal consulting effort. The project results and tools should be available in German.

- *Give recommendations for further action on energy storage, outline the measures and methods for transfer.*

It is necessary to maintain personal contact after the training. For a transfer, it is necessary to consider the local or regional situation. Does a city want to use storage solutions, or do they not fit the local concept? Are there already regional tools that do something similar to the Store4HUC tools or not?



- *How can the use of energy storage be promoted in further regions?*

The Store4HUC project lacks a budget to disseminate the project results in the sense of covering the costs (consulting hours) for external consultants, to whom cities have often outsourced their energy consulting for the population.

Second topic: Sustainability of the results

- *What results were achieved by the project during its lifetime? What has the project been able to change in your region and sector compared to the baseline situation and how have the target groups benefited?*

The direct results are unclear or not measurable. The Store4HUC theme has been disseminated through various channels from inclusion in our newsletter, training events to personal consultations. This has helped to raise awareness among many municipal staff and policy makers.

- *How did the project results contribute to:*

- *Policy improvements or introduction of new policies,*
as mentioned above, by raising awareness and addressing the issue

- *Application of tools and services,*

By promoting the tool on a municipal website, potentially all homeowners or housing companies that have e.g. PV systems on the roof can assess the impact of add-on storage solutions.

- *Leverage effect of investments,*
cannot be estimated at the moment

- *job creation, etc.*

cannot be measured at present

- *What are the expected results and impacts (e.g. economic, institutional, regulatory, continued or new cooperation, etc.) in your region and, if applicable, beyond these regions, taking into account a medium-term perspective of 5 years after the end of the project?*

The promotion of the tools developed in Store4HUC to the external energy advisors who implement the local energy advice for the city on the basis of a contract and the addressing of the local population via the promotion of the ART on the city's website are expected.

- *Explain the sustainability (financial, institutional and political) and mainstreaming of project outputs and outcomes.*

Demonstrated that the issue of heritage conservation and energy efficiency in protected buildings can be thought together.

- *Have you received additional funding from any other external public source? If yes, provide details and indicate the amount of the grant received.*

No, no additional funding



5. Implemented actions and links to deliverables, outputs

The Deployment Desk was included in the international Climate Alliance conference to gain greater visibility for the project and the tools. Different city representatives were personally invited and received a personal presentation of the tool by the EMS tool programmer with the possibility to discuss all related issues. It was hoped that this would lead to a closer connection to the Store4HUC project and consequently a higher willingness to promote or use the Store4HUC tools.

Furthermore, it was planned to create short video sequences in which the tool programmers talk to the local climate protection manager and explain the advantages of the Store4HUC tools. The short videos should have been linked to the municipal website. The face of the climate protection manager in the video, which is well-known in the city, was intended to strengthen the public's trust in the tools. Several meetings took place with PP10, city representatives and programmers, but the idea was not realised in the end.

6. Results, effects and the response

Through the personal and direct consultation with the Store4HUC tool programmers, it has been possible to get several city representatives interested in the tools and to make an agreement to stay in contact after the tool training, to promote the ART in the city channels or to test the EMS tools or to tell about their existence to the service providers who carry out the local energy advice for the general population on behalf of the city.

7. Conclusion

Following the face-to-face tool training, city representatives expressed interest in testing the tools, promoting them on the city website or making their energy advisors aware of the existence of the tools.

8. Annexes

8.1. Invitation and Agenda

	In Wels	Online
09:00 - 10:30	Opening & keynotes by Harald Welzer and Sigrid Stagl (EN DE)	Live stream of opening & keynotes by Harald Welzer and Sigrid Stagl (EN DE RU)
10:30 - 11:00	<i>Coffee break</i>	<i>Online networking</i>
11:00 - 12:30	Discussion The Austrian path to climate neutrality (EN DE)	Live stream of discussion The Austrian path to climate neutrality (EN DE RU)
12:30 - 14:00	<i>Lunch break</i>	<i>Online networking & exhibition</i>
14:00 - 17:00	Awards & Tributes 30 Years of Climate Alliance Upper Austria, General Assembly of Climate Alliance Upper Austria (DE; until 17:30)	Workshops RES in Amazonia, Mobility, Energy Poverty, Nature-based enterprises (languages offered below, until 15:30) <i>Online networking & exhibition</i> (as of 15:30)
17:30 - 18:30	<i>Networking & exhibition @Welios</i>	
From 18:30	Celebration & dinner 30 Years of Climate Alliance Upper Austria (DE)	

- Figure 1, the second day programme of CAIC2021, Thursday, 9 September

	In Wels	Online
09:00 - 09:15	Opening (DE)	Live stream of opening (DE)
09:15 - 11:15	Stream of online discussion Localising the EU Green Deal (EN DE)	Online discussion Localising the EU Green Deal (EN DE RU)
11:15 - 11:30	<i>Coffee & snacks</i> (as of 11:00)	<i>Online networking</i>
11:30 - 13:00	Workshops soil protection, climate-neutral companies, mobility, urban planning, climate & energy fund (languages offered below)	Live stream of workshops soil protection (EN DE RU) mobility (EN DE) Online workshop CO₂ Pricing (EN)
13:00 - 13:30	Closing (EN DE)	Live stream of closing (EN DE)
13:30 - 14:00	<i>Lunch break</i>	
14:00 - 15:30	<i>Networking & exhibition @Welios</i>	
As of 15:30	Excursions Welios centre tour, Wels city walk, Traun power plant (EN DE)	

- Figure 2, the third day programme of CAIC2021, Friday, 10 September



8.2. List of participants

- Deployment desk members from two cities got 1,5 hours face to face EMS tool training. They are deployment desk members from city of Eschborn and city of Nuremberg.

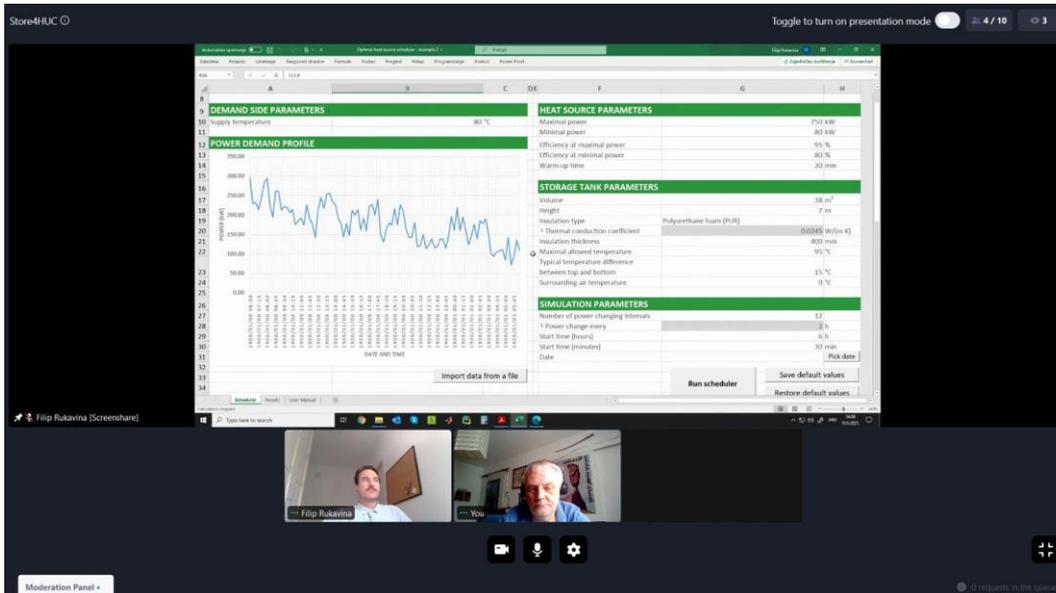


Figure 3, EMS tool training In Expo event for the deployment desk from the city of Nürnberg

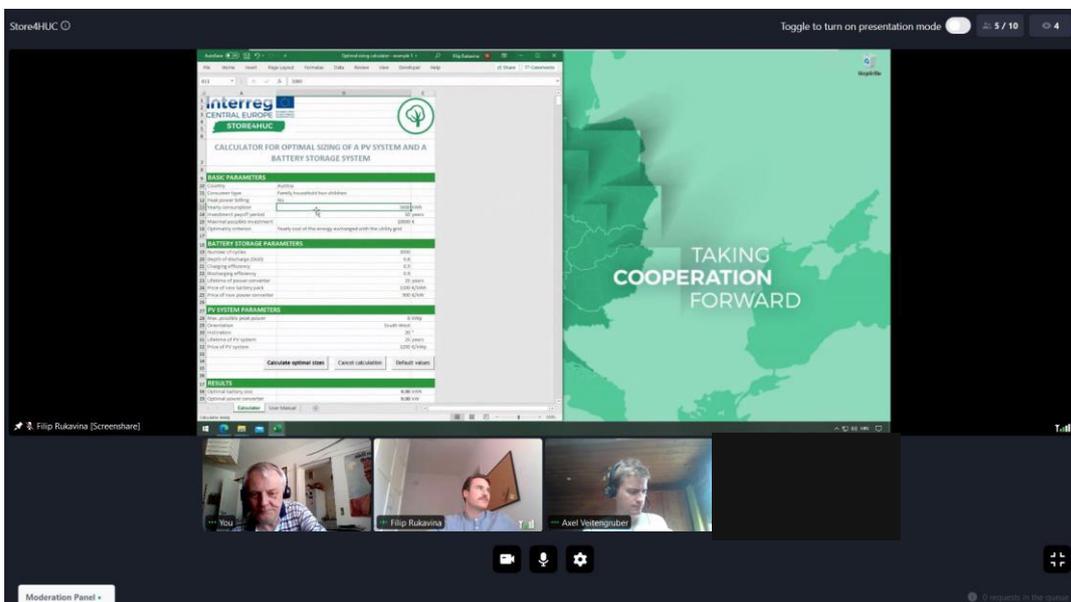


Figure 4, EMS tool training In Expo event for the deployment desk from the city of Eschborn



8.3. Pictures

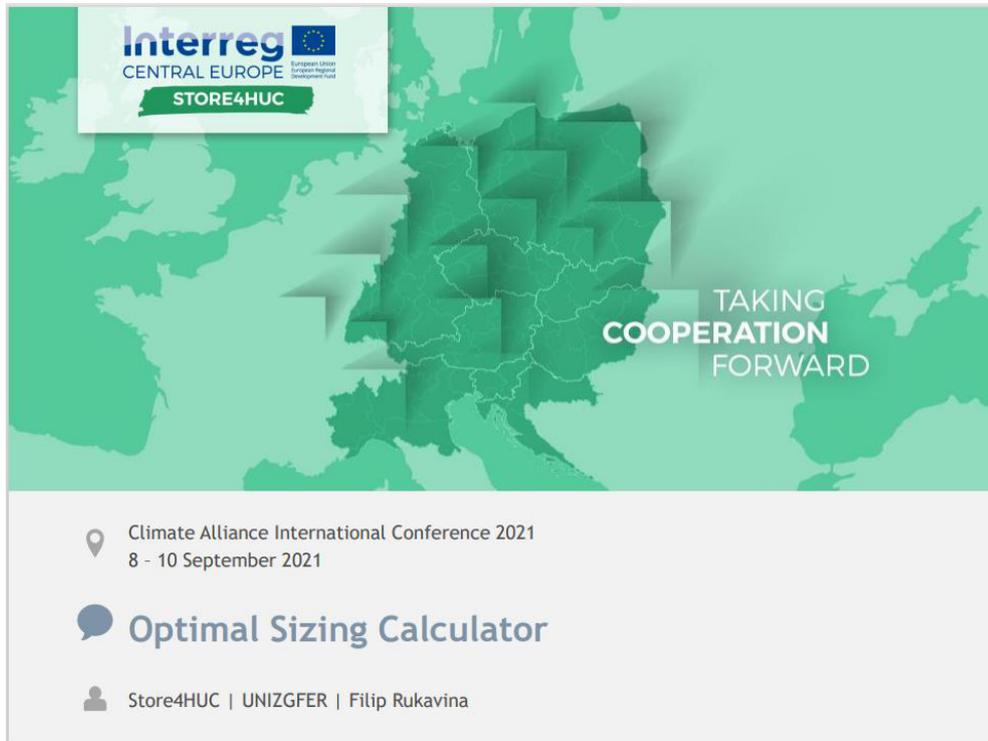


Figure 5: Starting page of a used presentation



Figure 6, introducing the consortium members to the audience



8.4. Media coverage

Climate Alliance and its conference partners did a wide range of activities advertising the conference. Store4HUC deployment desk members were approached personally.



Figure 7, Facebook post about CAIC2021

8.5. Web-links

Weblinks are related to advertise the conference, not only the Store4HUC tool training in the exposition booth

- https://www.climatealliance.org/events/international-conference/2021-registration.html?fbclid=IwAR3etZETXKWh2xsCcNhARTiH90nOBUcnBJR3a5R9XBxUVmUKelosrgf_YU0
- [https://www.facebook.com/ClimateAlliance/posts/4954718754542262?_cft__\[0\]=AZX10li1JpgYBfusno uKg187eRndY8iKrPbYszhr3DBLtWQ6cXYz8q0](https://www.facebook.com/ClimateAlliance/posts/4954718754542262?_cft__[0]=AZX10li1JpgYBfusno uKg187eRndY8iKrPbYszhr3DBLtWQ6cXYz8q0)