

Project No: 691679



***Report on meetings with local
authorities of target communities***

WP 3 – Task 3.2 Deliverable 3.2

December 2017



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691679. The sole responsibility for the content of this report lies with the authors. It does not necessarily reflect the opinion of the European Union nor of the Innovation and Networks Executive Agency (INEA). Neither the INEA nor the European Commission are responsible for any use that may be made of the information contained therein.

CoolHeating website: www.coolheating.eu

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Abbreviations

BH	Bosnia and Herzegovina
DH	District heating
DHC	District heating and cooling
EPBIH	Public Enterprise Electric Utility of Bosnia and Herzegovina
EU	European Union
SDEWES – Skopje	International Centre for Sustainable Development of Energy, Water and Environment
UNIZAG FSB	University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture

1. Introduction

This report is elaborated as a part of Workpackage 3 of the CoolHeating project. The main goal of this Workpackage is to involve different stakeholders of the target communities in the project activities, including citizens as well as the policy makers, local authorities, utilities, regulators, etc. This will contribute to ensuring the sustained public acceptance of renewable energy projects and renewable energy overall, while taking into account the implications of the substantial increase in the share of renewable energy sources in the final energy consumption.

As a part of Task 3.2, project partners were in a continuous contact with the local authorities of the target communities, that way sharing the knowledge of the consortium with the important stakeholders. It has to be noted that in three of five target communities (Ljutomer in Slovenia, Šabac in Serbia and Visoko in Bosnia and Herzegovina), the local authorities participate in the project as project partners. In other two target communities, i.e. Ozalj in Croatia and Karposh in Macedonia, the local authorities supported the project by signing letters of support. The main goal of this task was to implement bi-lateral meetings with local authorities and politicians, enabling cooperating with these stakeholders in order to facilitate the set-up of small modular renewable district heating and cooling grids in target communities. The aim was to hold at least 3 bi-lateral meetings and presentations with local authorities per target community. Furthermore, one workshop was also organised for these stakeholders in each target community. This report provides an overview of the bi-lateral meetings and a workshop held with local authorities of target communities, giving the agenda and main conclusions of each event that took place.

2. Meetings with local authorities in Croatia

In Croatia, a number of meetings with the local authorities have been organised by UNIZAG FSB on various occasions. It also has to be stressed out that the representatives of the target communities in Croatia have been continuously informed about the progress of the project from its beginning, by participating on various CoolHeating dissemination activities. Furthermore, the e-mail communication was maintained on a regular basis, both with the mayor of the city of Ozalj and with other representatives of different departments in the city. The dedicated events were organised throughout 2016 and the communication was continued in 2017 in order to give a more detailed insight in the project activities and discuss possibilities of further cooperation with the target city in development of small renewable district heating and cooling systems.

2.1. First meeting

The first meeting was held shortly after the project kick-off meeting in Munich, in order to present the local authorities with the main concept of the project and their potential contribution. The meeting was held on 22nd of February 2016 in the city of Ozalj, at the premises of Ozalj city hall (Kurilovac 1, 47 280, Ozalj). Two members of UNIZAG FSB and for representatives of the city of Ozalj attended the meeting. The list of attendees is presented in Table 1, while the signing sheet from this meeting can be seen in Annex 1.

Table 1. List of attendees of the first meeting with representatives of the local authorities in Ozalj

Attendee of the meeting	Organisation which the person represents
Tomislav Pukšec	UNIZAG FSB
Neven Duić	UNIZAG FSB
Gordana Lipšinić	The City of Ozalj
Toni Šarić	The City of Ozalj
Vladimir Žakula	The City of Ozalj
Lidija Bošnjak	The City of Ozalj

During the meeting, the mayor and her closest associates were introduced to the main idea of the project. The basic concept of small modular renewable district heating and cooling systems was presented and the main workpackages of the project have been described. A more detailed explanation of the heat demand mapping method was given. UNIZAG FSB already carried out heat demand mapping for some other cities in Croatia as a part of another EU funded project. However, it was agreed that more detailed maps will be elaborated for Ozalj, which will be used for further planning of the development of the heating sector in the city. Tasks where potential contribution from the local authorities will be needed have been further elaborated.

Finally, the impact of this project to the city of Ozalj and its surrounding area has been explained, including knowledge and experience sharing, collaboration with other EU cities, local development of advance heating concepts, use of local resources, increased economy of the community, etc. The mayor shared her enthusiasm for the project implementation in Ozalj and promised her support for all the activities to be implemented in the city. This presented a foundation for a very good communication which was maintained throughout the project so far.

2.2. Second meeting

The second meeting was held on the 31st of March 2016 in the city of Ozalj, at the premises of Ozalj city hall (Kurilovac 1, 47 280, Ozalj). Two members of UNIZAG FSB and most of the city council attended the meeting.

The idea of this meeting was to give an insight into the project for the rest of the city council. At least 15 members of the city council attended this meeting, showing their high interest for the project activities. First the main idea and the objectives of the CoolHeating project have been presented. The detailed heat demand mapping idea for the city of Ozalj has been described by the representative of UNIZAG FSB and was well received by the attendees. After the presentation, an interesting discussion was continued. The most interesting benefits of the CoolHeating project for the members of the city council were the possibility for further application to the EU funds and the integration of the project with the goals elaborated in the Sustainable energy action plan of the city. Major points of integration include heat demand mapping of the city, development of the renewable energy based district heating system and support for the greenhouse gasses reduction measures.



Figure 1. Second meeting with the representatives of the local authorities in the target city of Ozalj

2.3. Other meetings and communication with the local authorities of the city of Ozalj

As previously mentioned, throughout the project UNIZAG FSB has maintained a continuous communication with the local authorities of the city of Ozalj. Their representatives have been invited to all the CoolHeating trainings held in Croatia. At least one person from Ozalj participated in each of these trainings, including the technical training as a part of Task 4.3 and capacity building on business models as a part of Task 5.5.

Furthermore, UNIZAG FSB was invited by the mayor to a meeting where the investors presented a biomass cogeneration project to be built in Ozalj. A representative of UNIZAG FSB had the opportunity to present the CoolHeating project and its current results at this meeting. This presented a foundation for further collaboration with the companies, which are developing a biomass cogeneration project in Ozalj. Members of the city council, as well as the city mayor also participated in this meeting. The meeting took place in the city hall of Ozalj on 21st of November 2016. After giving the brief introduction to the project, an interesting discussion followed regarding the seasonal thermal storage facilities and its integration with solar thermal in district heating systems.

Another meeting with the local authority representatives was held on 26th of January 2017 in the city hall in Ozalj. The basic idea was to present the updated results of the project and to invite the city council members, as well as all the other interested citizens to the study tour in Güssing. This was done by the help of GET. The response was significant and the study tour was deemed highly successful, showing the best practice examples of renewable district heating systems and their benefits to 47 citizens of Ozalj. UNIZAG FSB continues frequent communication with local authorities of the target city of Ozalj and will continue to do so until the end of the project.



Figure 2. Citizens of Ozalj, including the members of the city council and the mayor at the study tour in Güssing

2.4. Workshop

The workshop has been organised on 1st December 2017 at the premises of Energy Centre Bračak (Bračak 4, 49210, Bračak). This was done in cooperation with North-west Croatia Regional Energy Agency (REGEA). One member of UNIZAG FSB, four members of the city of Ozalj and 2 members of REGEA were present at the workshop. The list of attendees is shown in Table 2, while the signing sheet from this meeting can be seen in Annex 1.

Table 2. List of attendees of the workshop with representatives of the local authorities in Ozalj

Attendee of the workshop	Organisation which the person represents
Borna Doračić	UNIZAG FSB
Gordana Lipšinić	The City of Ozalj
Vladimir Žakula	The City of Ozalj
Alen Vrbos	The City of Ozalj
Marijana Gnjilac	The City of Ozalj
Valerija Vrček Habazin	REGEA
Martina Krizmanić	REGEA

Since the local authorities of Ozalj have been continuously informed about the project activities, the idea of this workshop was to give a more detailed insight into the economic calculation tool developed as a part of the CoolHeating project, alongside the presentation of the main outcomes so far and future final steps to be undertaken in the last year of the project.



Figure 3. Workshop for the representatives of the city of Ozalj

First the representative of UNIZAG FSB presented the most recent activities of the project, updating the attendees with current status of concept development for the city of Ozalj and the main results so far. Also, future steps were discussed in more detail in order to clarify the final outcome at the end of the project and its influence on the city of Ozalj. Representatives of the city of Ozalj showed great enthusiasm for supporting the project until its end but also cooperating with UNIZAG FSB to develop such renewable district heating in Ozalj and surrounding villages.

After this, an overview of the CoolHeating economic calculation tool was given. All the modules of the tool were described in detail and the representatives of the city of Ozalj showed high interest in using this tool, since it is easy to use and their employees are highly skilled in economy. Furthermore, they also have necessary basic knowledge of energy systems. In the discussion which followed, it was agreed that UNIZAG FSB will provide support for making techno-economic analysis for the renewable district heating system implementation in the surrounding villages, where there are already certain initiatives for such a project.

Finally, since this workshop was done in cooperation with REGEA, their employees presented the concept and current results of the similar EU Horizon2020 project BioVill, in order to further increase the interest of local authorities for renewable bioenergy projects. The main idea of this project is to foster the market uptake of bioenergy villages in south-east Europe, which is done by transferring knowledge and experience from countries where such concepts already exist and are well developed. After the workshop, representatives of REGEA gave a very interesting technical tour of the Energy Centre Bračak, a renovated castle, which now serves as an education centre and a business incubator.



Figure 4. Technical tour of the Energy Centre Bračak

3. Meetings with local authorities in Slovenia

In Slovenia the meetings with local authorities were planned and organised in cooperation between the CoolHeating project partners Municipality of Ljutomer and Skupina Fabrika. The meetings with local authorities were used for informing different departments of the project activities, to facilitate exchange of departments of the municipality of Ljutomer for close cooperation and effective preparation and implementation of procedures for the needed decisions and documentation for initiation of new DHC projects in the municipality of Ljutomer.

3.1 First meeting

The first meeting was held in Municipality of Ljutomer, Vrazova ulica 1, 9240 Ljutomer on 15th of November 2017 from 9.00 to 11.00. List of participants can be seen on Annex 2. The meeting was held among different departments of the Municipality of Ljutomer in order to discuss the needed internal municipal procedures and documentation for developing a DH project within the municipality. In addition to the representatives of the Municipality of Ljutomer also a representative of Skupina FABRIKA was present on the meeting.

Table 3. List of attendees of the first meeting with representatives of the local authorities in Ljutomer

Attendee of the meeting	Organisation which the person represents	Type of job
Mitja Kolbl	Municipality of Ljutomer	Project officer
Lilijana Koser	Municipality of Ljutomer	Public tender officer
Angelca Lukman	Municipality of Ljutomer	Head of department for spatial planning
Tatjana Fulder	Municipality of Ljutomer	Head of city administration
Olga Karba	Municipality of Ljutomer	Mayor
Aleš Vaupotič	Municipality of Ljutomer	Head of department for public services
Ana Žnidarič	Municipality of Ljutomer	Municipal lawyer
Rok Sunko	Skupina FABRIKA	Project manager

At the meeting all representative of different departments of the Municipality of Ljutomer were first informed on the progress of the CoolHeating project, with the emphasis on the expected outputs for initiation of new DHC projects. A more detailed information was presented on the current state of development of the DH technical concept for Cven settlement and other aspects of the potential Cven DH project.

Then, the financial and practical aspects of the project and plans to build a DH network in village of Cven were presented. A person in charge of public tenders explained what documentation has to be prepared if the municipality wants to make public tender on seeking of private investor. There was also discussion about all of the potential types of public private companies, which could be used in case of district heating in Cven. One of attendees was also a municipal lawyer, who assured that it would be no problem in any contract preparation. Municipality should first prepare all of the decrees, according to our project. In the end there was advice to have next meeting with local authorities, who are in charge of spatial planning, agriculture and public security. Mayor of the municipality was one of the attendants.

3.2 Second meeting

The second meeting was held in Municipality of Ljutomer, Vrazova ulica 1, 9240 Ljutomer on 20 th of November 2017 from 8.00 to 9.00. List of participants can be seen on Annex 2. In addition to the representatives of the Municipality of Ljutomer also a representative of Skupina FABRIKA was present on the meeting.

Table 4. List of attendees of the second meeting with representatives of the local authorities in Ljutomer

Attendee of the meeting	Organisation which the person represents	Type of job
Mitja Kolbl	Municipality of Ljutomer	Project officer
Karmen Jelen	Municipality of Ljutomer	Spatial planning officer
Dominika Vrbnjak	Municipality of Ljutomer	Spatial planning officer
Rok Sunko	Skupina FABRIKA	Project manager

As it was suggested on first meeting, the second meeting was held in the department for spatial planning of the Municipality of Ljutomer. The main reason was to inform the department for special planning on the CoolHeating project activities and to get the information what kind of permits are needed to build DH in the Cven settlement and to define potential locations for the DH plant in Cven settlement. To build DH plant and the DH grid network, investor needs building permit. First, the potential investor has to prepare all of the documentation and get all of the consensus with other utility companies. Potential location in Cven could be on land nr.466/5 k.o. Cven. The owner agrees with selling this land to municipality or to potential DH investor.

3.3 Third meeting

The third meeting was held in Municipality of Ljutomer, Vrazova ulica 1, 9240 Ljutomer on 24 th of November 2017 from 12.00 to 13.00. List of participants can be seen on Annex 2. In addition to the representatives of the Municipality of Ljutomer also a representative of Skupina FABRIKA was present on the meeting.

Table 5. List of attendees of the third meeting with representatives of the local authorities in Ljutomer

Attendee of the meeting	Organisation which the person represents	Type of job
Mitja Kolbl	Municipality of Ljutomer	Project officer
Branko Novak	Municipality of Ljutomer	Agriculture officer, and head of public security guard
Rok Sunko	Skupina FABRIKA	Project manager

Meeting was organised with person who is in charge for agriculture within the Municipality of Ljutomer. The same person is also the head of public security guard in Municipality of Ljutomer. Participants discussed the security and environmental impacts of a potential DH project. The potential investor in a DH project in Ljutomer should not forget to consider the fire security of the DH plant. The DH plant should be moved away enough from other objects to provide fire security. Plant should also have enough water supply to provide fire security. Also potential

renewable energy sources were discussed among the participants. Close to Cven village there are a lot of abandoned woods near Mura river, that could represent a potential energy source. Farmers should be also interested in producing other energy plants on that location. Also agricultural wastes and residuals like straw should be considered for the fuel for a DH project. It was decided that contact with local people on the technical training that will be held in Cven in December will be made in order to inform local population on this possibility and discuss options with them. Because of the pollution it was advised not to use pig farm waste for potential energy, especial if the plant will be located in the centre of the village.

3.4 Workshop

The workshop was organized on 16th of March 2017 on Turist farm Tompa in Stara cesta from 10.00 to 15.00. 11 people from municipality a representative of Skupina FABRIKA and two external experts attended the workshop. List of participants can be seen on Annex 2.

The aim of this workshop was to inform different departments of the Municipality of Ljutomer and key external experts on regional development on the activities and aims of the CoolHeating project. And to also involve these stakeholders in the early stage of the CoolHeating project activities.

Table 6. List of attendees of the workshop

Attendee of the meeting	Organisation which the person represents	Type of job
Mitja Kolbl	Municipality of Ljutomer	Project officer
Jerneja Rajner	Municipality of Ljutomer	Development officer
Tatjana Fulder	Municipality of Ljutomer	Head of city administration
Aleš Vaupotič	Municipality of Ljutomer	Head of department for public services
Branko Novak	Municipality of Ljutomer	Agriculture officer, and head of public security guard
Andreja Torič	Municipality of Ljutomer	Public services officer
Renata Zrinski	Municipality of Ljutomer	Development officer
Janko Špindler	Municipality of Ljutomer	Vice Mayor
Klaus Dieter Požgan	Skupina Fabrika	External expert
Sara Rajh	Svetovanje Sara Rajh s.p.	External expert
Goran Šoster	Prleška razvojna agencija/Development agency of Prlekija	External expert – development agency

At the beginning of the meeting CoolHeating project representatives introduced the basic goals of the CoolHeating project, after which they were shown a more detailed description of the concept being implemented in the project. A special emphasis was given to the aim to initiate new DH projects in the Municipality of Ljutomer.

Good practices described in the project were presented from partners from Denmark, Germany and Austria. The discussion was very alive while discussing best practices, especially the concept of cooperative DH projects. It was very useful to involve two external experts on regional development who could place such ideas also in the field of regional development in Slovenia. Use of cohesion funds to finance these ideas was discussed. The main outcome was that cohesion funds are in general very much suitable for cooperative and municipal run DH projects but that the situation in Slovenia with cohesion funds at the moment is very problematic with project being managed by three different ministries without a clear strategy and without real bottom up thrust.

It was concluded that municipality of Ljutomer can get a big benefit with CoolHeating project. The outcomes of the workshop for the population of Cven were also discussed with a clear outcome of a very positive attitude towards the CoolHeating project. Especially important is public / private relationship and involvement of residents who are potential consumers in planning of such a district heating plant. A DH network in Cven could be good practice and municipality could provide content also for industrial tourism.

4. Meetings with local authorities in Bosnia and Herzegovina

4.1. First meeting with Ministry of Spatial Planning, Transport, Communication and Environmental Protection and Ministry of Economy of Zenica-Doboj Canton

The Small hall of the Municipality of Visoko was a meeting place for a roundtable held on December 27th 2016 within the CoolHeating project, organized through WP3 - T3.2 dialogue with representatives of public institutions and cantonal authorities of Zenica-Doboj Canton.

The aim of the roundtable was:

- the exchange of information and to meet representatives with small modular systems heating and cooling systems based on renewable energy sources that should be implemented in a near future;
- the introduction of the representative of the Ministry of economic for a further guideline, providing guidelines for future activities in this area, finding common areas of interest for potential future cooperation.

For a successful meeting and a better and more efficient exchange of information, a brief overview (Agenda) of points to form the basis for presentation and accompanying discussion is delivered, as follows:

- Introduction by a representative of the Municipality of Visoko,
- About CoolHeating project,
- Examples of good practice: Germany, Denmark, Austria
- Planned activities: An overview of the activities in the project - the territory of BH
- Discussion about the planned projects.

Table 7. List of attendees of the meeting with representatives of the Ministry of Spatial Planning, Transport, Communication and Environmental Protection of Zenica-Doboj Canton

Attendee of the meeting	Organisation which the person represents
Amir Abazović	Ministry of Spatial Planning, Transport, Communication and Environmental Protection
Milada Mataradžija	Municipality of Visoko
Emir Fejzović	Municipality of Visoko
Emir Bukurević	Municipality of Visoko
Suad Efendira	Municipality of Visoko
Mirela Zukić	Municipality of Visoko
Nadina Čerimagić	Municipality of Visoko
Fejzić Nahida	Municipality of Visoko
Sumeja Uzunović	Municipality of Visoko
Jasmina Bešlagić	Municipality of Visoko
Aida Brkić	Municipality of Visoko

The signing sheets from meetings in Bosnia and Herzegovina can be seen in Annex 3.

CoolHeating project was presented in the introductory part. Two presentations with good practice examples of a small modular system based on renewable energy sources from the partner countries as well as planned activities in Bosnia and Herzegovina were delivered by the representatives of Municipality.

After the introduction, appropriate discussion was opened on laws and regulations and technical standards on renewable energy sources which have passed on higher levels of government, and it was concluded that these laws and standards on renewable energy are very scarce at the moment, insufficiently developed and have many shortcomings.

A representative of the Ministry outlined that the necessary plans for renewable sources should be created from lower to higher levels of government. Also, this Ministry is responsible for animating and collecting parameters for preparation of action plans, provide examples of good practices that have been implemented in Nemila (biomass), Breza (heat pumps), and projects in the municipalities of Olovo, Usora, and Doboju Jug, on the basis of public-private partnership.

The Ministry has been working on the development of energy certificates, audits and insulation of five schools in Visoko municipality.

Representatives of the Departments of Urban Planning, Housing - Municipal Affairs and Real Estate Cadastre of Municipality of Visoko, believe that it is necessary to make a plan to be able to choose priorities that would be included in the project implementation and realization of projects CoolHeating Horizon 2020, considering that these are the systems that are primarily ecologically very acceptable especially in winter when the highest concentration of particulates and carbon monoxide is present, being very harmful to human health.

4.2. Second meeting with the Federal Ministry of Energy, Mining and Industry

The second meeting was held on November 3rd 2017 in the city of Mostar at premises of the Federal Ministry of Energy, Mining and Industry. Three representatives of EPBiH attended the meeting with Minister Assistant for Energy, Head of department for energy planning and Head of department for gas, liquid fuels the thermo energy. There was also an expert from heat sector involved in promotion of bioenergy in BH.

EPBiH team has presented to the representatives of Ministry of Energy, Mining and Industry of the Federation of Bosnia and Herzegovina the details of the project CoolHeating as well as examples of good practice in Europe. The teams have exchanged information on the current situation in the field of district heating and cooling on the global and local levels.

Table 8. List of attendees of the meeting with representatives of the Federal Ministry of Energy, Mining and Industry

Attendee of the meeting	Organisation which the person represents
Tarik Begić	Assistant of Minister for Energy
Halko Balavac	Head of department for energy planning
Darko Pranjić	Head of department for gas, liquid fuels the thermo energy
Anes Kazagić	EPBiH
Elma Redžić	EPBiH
Dino Tresnjo	EPBiH
Nihad Harbaš	BioEnergy expert

Representatives of Ministry of Energy, Mining and Industry of the Federation of Bosnia and Herzegovina have introduced EPBiH team with the plans, status and problems of development of district heating projects based on renewable energy sources in Federation of Bosnia and Herzegovina: There is a need for a law on district heating and heat energy systems that will define measures for safe and reliable supply of heat, thermal systems for the use of heat energy for heating and cooling. At the moment, the Law on spatial planning and construction and Law on communal activities are being applied when constructing DH systems.

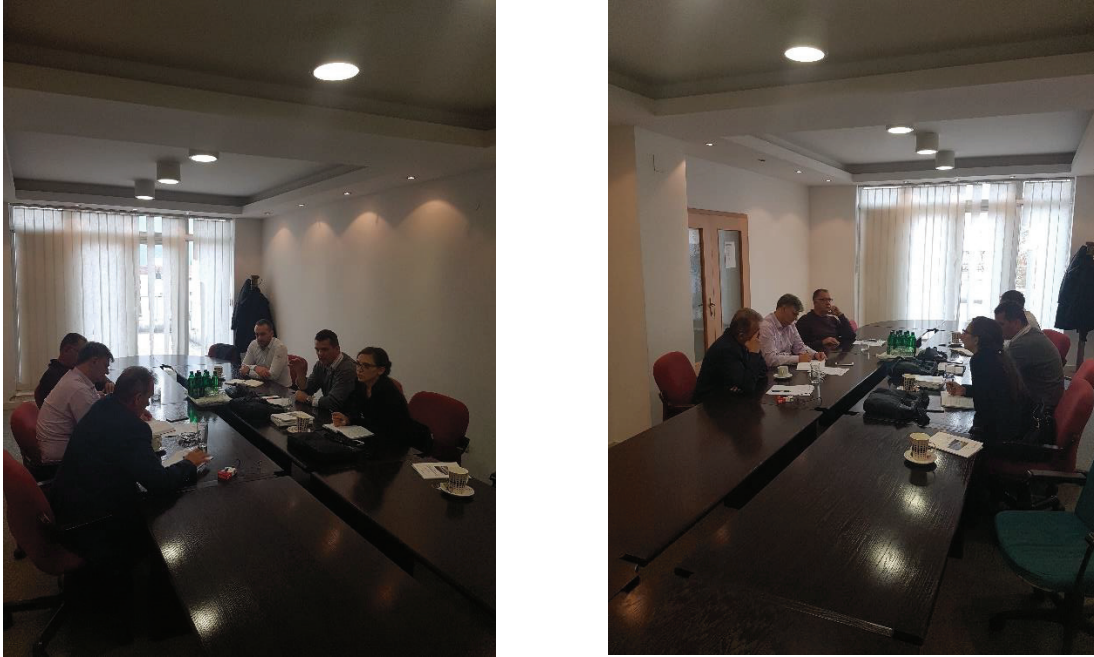


Figure 5. Meeting with the representatives of Federal Ministry of Energy, Mining and Industry

The Ministry of Energy, Mining and Industry of the Federation of Bosnia and Herzegovina, as the supreme institution, has expressed its readiness to accept expert assistance from EPBiH and other experts in drafting law on district heating systems.

4.3. Third meeting with Visoko Municipal Council

Third meeting was held on the 6th of December 2017 in the Small Hall of the Municipality of Visoko (Alije Izetbegovića 12a, 71300 Visoko). Entire Visoko team was participating at the meeting as well as the most of the Municipal council members.

The idea of this meeting was to give an insight into the project for the rest of the Municipal council. Members of the council were very interested about the project and actively participating in the discussion, showing their high interest for the project activities. First the main idea and the objectives of the CoolHeating project have been presented. The detailed heat demand mapping idea for the Municipality of Visoko has been described by the representative of Visoko and was well received by the attendees. After the presentation, an interesting discussion was continued. Major aim of the project for the town is to eliminate the black smoke from the Medical Centre boiler room as well as the smoke from individual housing units' chimneys as the air pollution from these sources is serious problem in the town during wintertime.

Table 9. List of attendees of the meeting with representatives of Visoko Municipal Council

Attendee of the meeting	Organisation which the person represents
Aida Zerdo	Centre for Social Work
Kemal Kardaš	Visoko Municipal Council
Elvedin Šabanović	Homeland Museum
Adnan Tajić	Visoko Municipal Council
Bajro Fejzić	Visoko Municipal Council
Emir Fejzović	Municipality of Visoko
Amra Babić	Municipality of Visoko
Izet Smajević	Visoko Municipal Council
Elvir Špiodić	Visoko Municipal Council
Fatić Mirnes	Visoko Municipal Council
Purišević Salih	Visoko Municipal Council
Edin Džafić	Visoko Municipal Council
Nedžad Mehmedagić	Visoko Municipal Council
Atif Ohran	Visoko Municipal Council
Fatić Mirnes	Visoko Municipal Council
Marin Petrović	Municipality of Visoko



Figure 6. Meeting with members of Visoko Municipal council

4.4. Workshop with local stakeholders from Visoko municipality

On the November 16th 2016 Municipality of Visoko held a workshop in the Small hall of the Municipality as a part of Workpackage 3 of CoolHeating project, task T3.2 concerning talks with local representatives and decision makers at the municipal level. The workshop was held with representatives of public institutions existing in the municipality with the aim to:

- Exchange information and present small modular heating and cooling systems based on renewable energy sources that should be implemented in a near future;
- Provide guidelines for future activities in this area;
- Find common areas of interest for potential future cooperation.

In order to enable a more efficient exchange of information, the invited parties were given a brief overview of points to form a basis for their presentations and the accompanying discussion, as follows:

- Introduction by a representative of the Municipality of Visoko;
- Introduction to CoolHeating project;
- Examples of good practice: Germany, Denmark, Austria;
- Planned activities: An overview of the activities in the project - the territory of BH;
- Talk about planned projects.

In the introductory speech of the workshop, CoolHeating project was briefly presented by the municipal representative and a representative of EPBiH. Three presentations were given by representatives of EPBiH showing good practices of small modular system based on renewable energy sources from the partner countries as well as planned activities in Bosnia and Herzegovina.

Table 10. List of attendees of the meeting with representatives of the following public institutions and companies

Attendee of the meeting	Organisation which the person represents
Mensura Alibegović	JU Centar za kulturu i edukaciju (Centre for Culture and Education)
Mubera Pulo	JU Zavičajni Muzej (Museum)
Bahra Dokso	Dokso Farm
Selma Trebo	Primary school Safvet-beg Bašagić
Halima Abdukić	JU za predškolski odgoj i obrazovanje Visoko (Crèche)
Edina Ahmetović	JU Vatrogasni dom (Fire Department)
Zlatko Handžić	JU Dom zdravlja (Medical Centre)
Senad Karavdić	JU Dom zdravlja (Medical Centre)
Abdulah Mataradžija	JP Visoko Ekoenergija
Ramiz Brkić	Primary school Kulin Ban
Sanela Slijepčević	Secondary school Hazim Šabanović
Samir Purišević	Gimnazija Visoko (Secondary school)
Fra Franjo Radman	Franciscan Monastery St. Bonaventura
Faruk Salčinović	JU KSC MLADOST (Sports Centre)
Dino Trešnjo	JP Elektroprivreda BiH (EPBiH)
Izet Smajević	JP Elektroprivreda BiH (EPBiH)
Alma Ademović - Tahirović	JP Elektroprivreda BiH (EPBiH)
Milada Mataradžija	Municipality of Visoko
Emir Fejzović	Municipality of Visoko

After the presentations, certain suggestions were given regarding the choice of area for implementation of sustainable small modular systems in Visoko.

Representatives of public institutions and companies have expressed interest and desire to get involved in CoolHeating project, considering these systems ecologically very acceptable. This is especially expressed in winter when the highest concentration of particulates and carbon dioxide is present in air, being harmful for the human health and causing respiratory diseases.



Figure 7. Workshop with local stakeholders from Visoko municipality

5. Meetings with local authorities in Macedonia

Recently, there has been a strong political interest to solve some of the environmental issues in Macedonia. Year after year measurements show that cities in Macedonia rank among the highest in pollution in Europe, and that is mostly in winter, when the existing heating systems are used. Surely, this was one of the reasons why all of the meetings were welcomed by the stakeholders throughout the duration of the CoolHeating project.

It is worth noting that the 15th October marks a milestone in the development of the project activities – this was the date of the local elections. Therefore, meetings were scheduled before and after the local elections, all with the aim of introducing the former and the current mayor with CoolHeating's activities and discuss future collaboration.

5.1 First meeting

The first meeting with local authorities in the Municipality of Karposh was held on 6th April 2016 at the municipality, in the mayor's office. As this was the initial, introductory meeting with local authorities in Karposh, three out of the 11 attendees were from SDEWES – Skopje, while all other were representatives from the Municipality. Among them were the former mayor Stevco Jakimovski, representatives of the Energy Efficiency department in Karposh, a representative of the council and employees of a local television. The dissemination aspect of the meeting was covered by the public relations department of the municipality and shared on the website of Karposh (<http://karpos.gov.mk/vest/3686>), but other news websites also shared the news (<http://vesti.mk/read/news/8648871/3130973/opshtina-karposh-kje-ja-podobruva-energetskata-efikasnost-preku-proektot-cool-heating>)

Table 11. List of attendees of the first meeting with representatives of the local authorities in Karposh

Attendee of the meeting	Organisation which the person represents
Jakimovski Stevco	Municipality of Karposh
Teov Petar	Municipality of Karposh
Vasil Bozhikaliev	SDEWES – Skopje
Dejan Jonuzovski	Municipality of Karposh
Vesna Angeleska	Municipality of Karposh
Ljupco Dimov	Municipality of Karposh
Igor Gjurovski	Municipality of Karposh
Ivana Stefanovska	Municipality of Karposh
Viktor Tasevski	Municipality of Karposh
Natasa Markovska	SDEWES - Skopje
Vladimir Gjorgievski	SDEWES - Skopje

Firstly, Ljupco Dimov, Head of the Department of Energy Efficiency at the Municipality of Karposh introduced the representatives of SDEWES – Skopje to the others and shared his excitement about the fact that Karposh is a part of the project and could broaden its focus on RES based DHC grids and not only focus on individual solutions. Later, Natasa Markovska

gave a thorough overview of the CoolHeating project structure, goal, participants and the role of Karposh. Thus, the concept of small, modular, renewable district heating and cooling grids provoked an interesting discussion. Although lots of efforts in Karposh were focused towards energy efficiency measures, the problem of using old boilers/stoves and bad fuels remained. This prevailing question was found most prominent and it was concluded that alternatives to the current state were necessary.



Figure 8. First meeting with the local authorities of Karposh at the mayor's office

5.2 Second meeting

The second meeting took place on 24th November 2017 at the Municipality of Karposh. This was the first meeting with the new governance of Karposh elected on 15th October 2017 and was aimed at acquainting the new mayor Stefan Bogoev and his team with the project. In order to keep the citizens of Karposh informed of the activities in the project, the event was communicated to the public through the website of the Municipality of Karposh (<http://www.karpos.gov.mk/vest/5548>), but other online portals quickly shared the news as well.

It was of key importance to confirm that the new authorities were interested in the project and would contribute in future cooperation. Considering the phase of the project at the time of this meeting (a location for a technical concept had been previously chosen), a confirmation of interest and cooperation was necessary, even more so than at previous meetings.

Table 12. List of attendees of the second meeting with representatives of the local authorities in Karposh

Attendee of the meeting	Organisation which the person represents
Stefan Bogoev	Municipality of Karposh
Vladimir Kirovski	Municipality of Karposh
Dimitar Karatashev	Municipality of Karposh

Ljupco Dimov	Municipality of Karposh
Petar Teov	Municipality of Karposh
Vasil Bozhikaliev	SDEWES – Skopje
Natasa Markovska	SDEWES – Skopje
Vladimir Gjorgievski	SDEWES – Skopje
Vesna Markovska	Municipality of Karposh
Angelina Cvetanovska	Municipality of Karposh
Violeta Cvetkova	Municipality of Karposh
Iva Zafirovska	Municipality of Karposh
Ivana Leuva Vukasinovikj	Municipality of Karposh
Ivan Gjurovski	Municipality of Karposh

That is why the focus of the meeting was threefold – basic acquaintance with the project, achieved results and future activities and discussion of the technical concept. In that order, Natasa Markovska introduced the local authorities with the CoolHeating project and discussed the role of Karposh in it. Afterwards, Vladimir Gjorgievski presented the main achievements of the project (reports, guidelines, survey etc.) The meeting was held shortly before the second technical training and at the time of developing the technical concept for the heating and cooling system in Karposh. Consequently, this topic was thoroughly addressed at the meeting. Ljupco Dimov presented the technical concept for Karposh for the neighborhood which should be built in Zlokukjani, Bardovci (Karposh). The opportunities of the greenfield approach were discussed for this micro-location and it was confirmed that this neighborhood shows potential for a future sustainable, renewable based community.



Figure 9. Second meeting with the local authorities of Karposh

The mayor stressed his dedication to projects of this kind. The problem of avoiding further cluttering of the central and urbanized area of the municipality along with the problem of air pollution were discussed as well. All of this laid the ground for establishing a firm collaboration between the municipality authorities and the Macedonian partner in CoolHeating and future meetings were discussed. It was concluded that a meeting with the sector responsible for urbanism in Karposh was needed in order to obtain data on the location chosen for the technical concept.

5.3 Third meeting

The third meeting with local authorities was held on 15th December 2017 at the Municipality of Karposh and it was aimed at informing the members of the Council of the local self-government in Karposh about the project. Vladimir Gjorgievski, as a representative of SDEWES – Skopje, and Ljupco Dimov, as Head of the Energy Efficiency Department of Karposh were joined by five Council members, all of which were member of the commission for ecology and energy efficiency in Karposh as well.

The meeting was held in a period of extremely high air pollution, i.e. only a day after measurements showed that Skopje had the highest concentration of PM10 and PM2.5 particles in the world.

Table 13. List of attendees of the third meeting with representatives of the local authorities in Karposh

Attendee of the meeting	Organisation which the person represents
Aleksandar Angjusev	Head of commission for ecology and energy efficiency in Karposh
Miki Filev	Member of commission for ecology and energy efficiency in Karposh
Svetlana Pandilovska	Member of commission for ecology and energy efficiency in Karposh
Vladimir Gjorgievski	SDEWES - Skopje
Ljupco Dimov	Municipality of Karposh
Filip Daskalovski	Member of commission for ecology and energy efficiency in Karposh
Elena Antonievikj	Member of commission for ecology and energy efficiency in Karposh

Following the initial round of introductions, the Council members discussed the possibilities of for actions which are within their authority. They showed interest in small renewable district heating systems, mostly regarding the cost-effectiveness, regulatory bottlenecks and general awareness of the community. The importance of a long term plan with respect to the heating systems was stressed.

Ljupco Dimov presented the case of Karposh and the possibility of developing a renewable DHC systems. He talked about the experiences of utilizing groundwater in Karposh in the elementary school “Vera Ciriviri Trena” and the subsidy scheme for energy efficient buildings in Karposh. Finally, the Energy Law and the importance of loosening some aspect of the regulations and procedures were discussed.



Figure 10. Third meeting with the local authorities of Karposh

5.4 Workshop

In times of significant dynamics in the energy sector, a new Energy Law was being prepared in Macedonia (second half of 2017) aimed at transposing the EU *acquis communautaire*. The draft text of the Energy Law was made available during the first half of December. The public discussion on the electricity markets and renewable energy was held on 11.12.2017 at 09:00, while the discussion of the natural gas market, the heat market and the oil and oil derivatives market sections of the Law was held on 12.12.2017 at 09:00. The workshop was realized through the participation of SDEWES – Skopje team in the two-day public debate on the draft Energy Law. Other participants in the public discussion were representatives from the governmental bodies such as Ministry of Environment and Physical Planning, Ministry of Finance, Ministry of Justice, Ministry of Economy, academic institutions such as Macedonian Arts and Science Academy, the Faculty of Electrical Engineering and Information Technologies, the Faculty of Mechanical Engineering, as well as the representative from the non-governmental sector, for instance the organization Eko Svest.

Based on the knowledge gathered throughout the CoolHeating project and taking into account the project's objective of improvement of national policies (including better permitting procedures, codes, targets and legislation), representatives from SDEWES – Skopje participated in the discussion and proposed that certain changes should be introduced in the draft in order to make an enabling environment for small district heating and cooling systems. The remarks, a draft version (translated) of which is provided in Annex 3, are also submitted in a written form to the Ministry of Economy in a standard procedure.

6. Meetings with local authorities in Serbia

City administration is a key player in project implementation because the city of Šabac has a threefold role: a) the founder of the public company that produces heat, distributes and supplies heat to public users, corporations and citizens; b) purchases and uses heat for the needs of heating its own buildings; c) performs a regulatory role in the sense of functioning of the district heating system.

It was concluded that continuous communication is necessary for the successful implementation of the project, therefore the numerous informal meetings were organized on the weekly basis with the local authorities in City of Šabac, among them four meetings and workshop have been formally selected for this report. The lists of attendees have been given in Annex 5.

6.1. First meeting

The project was presented to the stakeholders in Šabac very soon after it was started. The first formal meeting with local authorities has been held on 29th March 2016 in Šabac educational centre (srb. Centar za strucno usavršavanje", [CSU]).



Figure 11 First meeting in Šabac

The meeting was attended by representatives of the city administration, the local heating company and others who are interested in supporting the CoolHeating project and the uses of renewable energy. The meeting provided general information on the project and it was discussed on the significance of the project for the local economic development of the City of Šabac as well as its connection with other activities that have been conducted in the city. Discussion was focused on using local renewable sources (biomass) as well as creating conditions for the development of the energy services market. Most important topic was the legal framework in which energy entities perform their activities.

Also, the meeting objective was to introduce partner from Güssing and overall project to the citizens and stakeholders.

The representatives of City of Šabac welcomed the project activities and invited all citizens and stakeholders to support its activities.

As result of this meeting, the city administration adopted Energy policy that encourages the construction of small district heating networks in suburban and rural settlements aiming to increase the economic development of local communities, raising the living standards of the population and implementing the mechanism of environmental protection as well as combating versus the negative effects of climate changes.

6.2. Second meeting

The second formal meeting with representatives of the target community has been held on 2nd June 2016 in Šabac. The meeting objective was to coordinate the financial plan for the realization of future project activities in the workpackages where activities are merging. The representatives of City of Šabac and University of Belgrade agreed on the financial plan.

6.3. Third meeting

The third formal meeting was held on 19th September 2017 in Belgrade, during the progress meeting. The meeting objective was to finalize discussion about technical concepts in Šabac, and coordinate the organization of 2nd technical day in Šabac. The representatives of City of Šabac agreed on the plan for the technical concept development and technical day plan.

6.4. Workshop

The workshop and fourth informal meeting took a place in Šabac on 12th December 2017.



Figure 12 Workshop about technical concepts in City of Sabac

The workshop objective was to synchronize the activities on development of technical concepts for "Letnjikovac" site. Up to date consumption data have been analysed. Additionally, missing data collection and verification have been agreed.

The representatives from City of Šabac discussed the fuel supply methodology, the connection requirements for individual and public objects, financing scheme, health aspects of heating, industry demand, reasons for connection, further survey implementation, synergies with agriculture and energy cooperatives formation.

After the workshop fourth formal meeting took a place in the municipal building (Vojvode Mišića 18, Šabac).



Figure 13 Fourth formal meeting

The meeting objective was to finalize the activities plan until the progress meeting in Vienna.

The representatives from City of Šabac confirmed their support to the plan to complete the technical concept. Also, the date of Investor day in Šabac, Letters of Intention, tendering procedure and the next progress meeting in Vienna were discussed.