



DELIVERABLE D.T1.1.1

Report on the activities of the RSAGs

Version n° 1 03/2022

Joint English Version





D.T1.1.1: Report on the activities of the RSAGs

Issued by: **North-West Croatia Regional Energy Agency ° 2 - REGEA**
Reviewed by: **Ambiente Italia Ltd n° 1 - LP - AMBIT**
Version date: **31.03.2022**
Version. Revision **1.0**
Circulation **PU - Public**

Document History

Date	Version	Description of Changes
31.03.2022.	v 1.0	Document issued by PPn° 2

Partners involved



PPn° 2 - PP REGEA

PPn° 9 - PP KSENA



PPn° 5- PP APE FVG

PPn° 10 - Javne službe Ptuj d.o.o.



PPn° 8 - PP RVNA

PPn° 11 - PP PNEC



Interreg CENTRAL EUROPE

Priority:	2. Cooperating on low-carbon strategies in CENTRAL EUROPE
Specific objective:	2.2 To improve territorial based low-carbon energy planning strategies and policies supporting climate change mitigation
Acronym:	ENTRAIN
Title:	Enhancing renewable heat planning for improving the air quality of communities
Index number:	CE1526
Lead Partner:	Ambiente Italia Ltd
Duration:	01.04.2019 31.03.2022

AMBIENTEITALIA
we know green



solites  **APE** Agenzia Per l'Energia del Friuli Venezia Giulia
www.ape.fvg.it

 **ENERGIEAGENTUR**
Steiermark



Regionalverband
Oberzentrum



javne službe ptuj

 **POLSKA SIEĆ**
Energie Cités



Table of contents

1. EXECUTIVE SUMMARY	5
2. REGIONAL STAKEHOLDER ADVISORY GROUPS IN CROATIA	7
2.1. First regional meeting	7
2.2. Second regional meeting	7
2.3. Third regional meeting.....	8
2.4. Fourth regional meeting	9
2.5. Fifth regional meeting	10
3. REGIONAL STAKEHOLDER ADVISORY GROUPS IN GERMANY	13
3.1. First regional meeting.....	13
3.2. Second regional meeting	13
3.3. Third regional meeting.....	15
3.4. Fourth regional meeting	15
3.5. Fifth regional meeting	16
4. REGIONAL STAKEHOLDER ADVISORY GROUPS IN ITALY	17
4.1. First regional meeting.....	17
4.2. Second regional meeting	18
4.3. Third regional meeting.....	19
4.4. Fourth regional meeting	21
5. REGIONAL STAKEHOLDER ADVISORY GROUPS IN POLAND	24
5.1. First regional meeting.....	24
5.2. Second regional meeting	25
5.3. Third regional meeting.....	26
5.4. Fourth regional meeting	28
6. REGIONAL STAKEHOLDER ADVISORY GROUPS IN SLOVENIA	30



6.1. First regional meeting	30
6.2. Second regional meeting	30
6.3. Third regional meeting.....	30
6.4. Fourth regional meeting	32



1. EXECUTIVE SUMMARY

ENTRAIN project aims at improving the capacities of public authorities to develop and implement local strategies and action plans for enhancing the use of locally available renewable energy sources (RES) in small district heating (DH) networks.

With around half of EU's final energy consumption heating and cooling sector is the single most intensive sector with the renewable energy share of only 18% (*An EU Strategy on Heating and Cooling*). DH is seen as the main option to decarbonise heating sector in both urban and rural areas thus enabling higher penetration of RES. A further expansion of DH networks is part of the recent national and regional Climate and Energy Strategies, which are setting a focus on the extended use of biomass and enhanced integration of solar thermal and waste heat to improve air quality and foster more efficient use of biomass.

The outcome of the ENTRAIN project will lead to fossil fuels and CO₂ emission reduction, improvement of local air quality and, socio-economic benefits for local communities by developing technical expertise, initiating investments and launching innovative financial tools. ENTRAIN's main objective is to promote structural cooperation between public authorities and key stakeholders at transnational level and to build-up skills and know-how for a systematic, holistic and efficient planning of small DH systems within five target regions (Poland, Croatia, Germany, Italy and Slovenia), based on RES (solar, biomass, waste heat, and geothermal).

One of the core concepts of the ENTRAIN methodological approach is the knowledge transfer from forerunner region in RES DH of the Central Europe, namely Styria in Austria and Baden-Württemberg in Germany to the target regions. This knowledge transfer and exchange of experience will be a key input for developing the 5 action plans in target regions, where a portfolio of measures to foster the local transition to high RES DH is set up, including support to the development of pilot plants, municipal heat plan studies and innovative financing schemes.

The deliverable D.T1.1.1: Report on the activities of the RSAGs is elaborated as a part of the Thematic Work Package 1 - Preparing the local ground. Regional Stakeholder Advisory Groups have been established in each target region in order to guarantee structural cooperation, both regional and transnational, between public authorities, decision makers and other stakeholders in all project phases. The role of the RSAGs was crucial for the project implementation, fostering local stakeholders' involvement and active commitment, triggering consultation processes in order to share and coordinate approaches, strategies, reference schemes, procedures and tools applicable at international level and adaptable to regional level.

In every target region (Austria, Italy, Slovenia, Croatia, and Germany) at least four RSAG meetings have been carried out. The meetings have been organised over the whole project duration and every deployment desk had its own content related focus depending on the pilots and local context.

Due to Covid-19, some meetings had to be postponed or carried out online or under special circumstances, but at the end all meetings could take place. The work with this group was great, the members were active and open for new decisions and new ideas.

In all countries, where pilot actions were carried out, the RSAG meetings have been a very helpful instrument to ensure the efficient implementation of the pilots, from the planning phase until to the phase of realization. The most important achievement of the RSAG meetings was to bring



together all relevant institutions and organizations at local level in regular intervals, to give them an update of the latest proceedings and discuss the next steps as well as other relevant issues. By establishing the regional advisory group, the project team could ensure, that the main local actors have been integrated and properly involved in the whole project process. With this instrument, the project team could reach the relevant players to share the knowledge and transfer it to other external audiences that are not part of the inner circle.

Even if it was sometimes difficult to organize the deployment desk meetings because of the COVID-19 situation, it was 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.

Reliable cooperation is seen as a prerequisite for the successful development of a local renewable energy market as well as for the implementation of any future bioenergy project in the target countries. The Entrain project provides opportunities for improving the collaboration, e.g. by transfer of knowledge and good practice from other European countries.



2. REGIONAL STAKEHOLDER ADVISORY GROUPS IN CROATIA

2.1. First regional meeting

The first RSAG meeting was held in October 2019 in REGEA premises and it gathered participants from the three counties, as well as the representative of the state-owned company Hrvatske šume (public enterprise for forest and woodland management in the Republic of Croatia). County representatives were invited to participate in the working group due to their knowledge of the needs, challenges and opportunities in the area of the county they represent, and the representatives of the Croatian Forests were invited due to their know-how in the biomass area. All the representatives have experience in the implementation of renewable energy projects and their participation in the project is crucial due to their practical knowledge, but also access to potential customers.

During the first meeting, participants were presented the scope and the objectives of the ENTRAIN project, as well as the activities of the RSAG. All participants in the project meeting expressed their support for the implementation of activities in order to achieve project objectives, but also to raise awareness of the benefits of using renewables in district heating systems.

2.2. Second regional meeting

The second RSAG meeting was held in March 2020 as a web meeting due to the COVID-19 virus outbreak and protection measures issued on the national level. It gathered participants from Karlovac and Zagreb county and due to the extraordinary situation caused by the virus outbreak, participants from Karlovac-Zagorje County and Hrvatske šume apologized for not attending the meeting.

RSAG meeting was organized to comment on the draft Regional action plan and the measures given by the action plan. At the beginning of the meeting, REGEA representative explained the objectives of the ENTRAIN project and how the Regional Action Plan contributes to the achievement of the objectives. It was emphasized that the measures of the Regional Action Plan are based on the activities and measures identified by the Energy Efficiency Action Plan for the period 2020 - 2022 of the individual counties in the ENTRAIN project target region.

Following the introductory part, REGEA representative clarified the measures contained in the action plan and asked the members of the working group for comments and possible amendments to the measures. In addition to the description of the measures, the members of the working group were also presented with the target groups, the source of funding as well as future activities planned to be implemented within each measure.

The Karlovac County representative suggested the possibility of hosting webinar workshops under Measure 2, to potentially attract more users, but also for the smooth implementation of the project should the COVID-19 emergency continue. RSAG members agreed to the proposal.

All participants of the meeting will be provided with a presentation from the meeting so they can provide feedback of the measures in the Regional Action Plan.



2.3. Third regional meeting

The third RSAG meeting was held 30th of November 2020 as a web meeting due to the COVID-19 virus outbreak and protection measures issued on the national level. It gathered participants from Karlovac, and Zagreb counties and participant from Hrvatske Šume.

The representative of REGEA, welcomed all participants, presented the meeting program the purpose of the meeting. The meeting objective was to discuss and to take decisions for initialization of pilot project of small integrated renewable DH network and QM Holzheizwerke.

The representative of the Zagreb County pointed out that in the region there are three cities that are supplied with heat from individual heating systems (independent, closed and central) which are only partially connected by a common distribution heat network. The length of the heating system network in the area of Velika Gorica is 9.8 km, in the area of Samobor 3.1 km, and in the area of Zaprešić 2.4 km. No investments in district heating on RES are currently planned in the county, but HEP Toplinarstvo, as the leading company for distribution and supply of thermal energy in this area, is analyzing the possibilities of using RES in the central heating system in Velika Gorica, Samobor and Zaprešić within the EU project KeepWarm .

The representative of Karlovac County stated that in the area of the city of Karlovac, the activities of production, distribution and supply of thermal energy and the activities of the buyer of thermal energy are performed by the city heating plant Karlovac, using the distribution network of central heating system 22.1 km long. In addition to the hot water pipeline, a gas distribution system is widespread in the county, covering all cities in Karlovac County and five municipalities. He also pointed out that the energy reconstruction project of the Karlovac General Hospital was recently completed, within which solar collectors for domestic hot water and heat pumps were installed, and in addition to the hospital, other public institutions such as kindergartens and schools participate in energy renovation. In 2013, a multi-year program for the introduction of biomass in boiler rooms in schools and other public buildings and the renovation of boilers began, making Karlovac County the leading county in the use of biomass in the Republic of Croatia. The representative of Karlovac County stated that the area of the county is rich in geothermal sources, and that he sees the potential for the integration of geothermal energy into the existing heating system.

All participants agreed on the future development of a pilot project on RES, a general measure for the introduction of renewables was confirmed with the option of highlighting primarily geothermal energy and secondarily biomass in the text.

Also, future steps were discussed in more detail in order to clarify the final output of adaptation and adoption of the quality system for renewable DH at regional or local level and initialization of its implementation by regional governments. All members of the meeting were introduced to the QM system as they received it by e-mail. It was pointed out the adoption of such a document takes years, because ministries should adjust it at the state level also taking into account local and regional needs, it requires a lot of administration and work. The representative from Hrvatske šume suggested the possibility of QM implementation on step-by-step basis -from raising awareness at local level about system with the local stakeholders and to provide summary about this system. RSAG members agreed to the proposal. Continuing to encourage the installation of such systems and providing the financial means to future users will reduce the risk of investment for users,



making them more willing to participate in such projects. With additional training on the RES DH system usage, it is possible to make consumers more aware of all the possibilities that such systems provide and to answer the concerns regarding the construction of such systems. Regulated prices for thermal energy in major cities are the main competition to RES DH, as well as natural gas heating due to the expansion of the gas network in Croatia and the competitive prices.

The next meeting is scheduled to take place in the first quarter of next year.

2.4. Fourth regional meeting

On 2nd March 2021 meeting was organized with local decision makers, the Deputy Prefect of Krapina-Zagorje County, Mr. Anđelko Ferek Jambrek and with RSAG member Ms. Sanja Mihovilić. The aim of the meeting was to discuss the details of implementation of QM Holzheizwerke on a step-by-step basis from raising awareness at local level to preparing the local ground for adaptation of this quality management system on local and regional level. At the meeting, the current state of the developments in Entrain project was presented. It was followed by a debate on the future prospects, mainly on the five key issues:

- Introduce to QM Holzheizwerke to the local authorities in target regions (what does QM offer);
- Preparing local authorities for understanding of advanced process of development of QM Holzheizwerke as well as for fast and quality implementation of measures from these action document;
- Highlight advantages/benefits of the QM system for stakeholders to create acceptance and confidence;
- Guide the authorities towards interdisciplinary approach in QM development and towards a planning of smart energy systems through understanding technology, economic and institutional problems, barriers and questions as well as presenting the methods for solving these barriers.
- How can be implemented - by funding, by law (e.g. combined with building/operation permits), only for large plants, by authorities, energy agencies or on the voluntary level (required by investors, plant owner/operator wants it).

All stakeholders from target regions in Croatia so far agreed, that the activities of the Entrain project can be seen as a good example for an appropriate planning and promotion of sustainable energy and heating systems on local level. Especially if the national authorities recognized, that the implementation of a QM Holzheizwerke concept, like nationwide quality management program for biomass district heating plants, is a challenging and ambitious action, but very useful to create best practice examples for the implementation of the national plans and strategies for the use of renewable energy source on national level.

Biomass is of special interest for the Krapina-Zagorje region due to the high potential for cooperation with local industry. Given the high share of private forests in the total area of forests and forest land, the fragmentation of agricultural and forest land, and high initial investments in machinery for wood fuels and modern boilers as one of the barriers to greater commercial use of



forest biomass, this is one of the limitations for further development and investment in biomass district heating. Incentives, more favorable credit lines or some other types of financial instruments that would enable faster investments would significantly contribute to solving this challenge, said Ms. Sanja Mihovilić, representative of Krapina-Zagorje County. Adopting a regulatory and legal framework that will address the difficulty of investing in such systems would allow investors a simpler and faster start-up process, which would result in reduced administrative difficulties and potentially more investment projects. Despite the currently competitive prices of fossil fuels and natural gas, a modern DHS that is also more environmentally friendly can, in the long run, have lower heating costs for the end-user.

Adapting QM Holzheizwerke at the regional level is crucial and one of the outcome of the project. However, we suggest that the transnationalization of adaptation governance contributes to the advancement of adaptation measures on the ground and at the same time improves the visibility, aggregation and monitoring of such action globally. Public authorities are often faced with a lack of resources and capacities to prepare the necessary documentation, leading to the failure to meet possible big district heating projects on renewable energy. Launching this quality management at local or regional level is a time-consuming task, which besides time involves money-wise investments by public authorities, which are often limited. This system will not be adopted at regional level by the end of the project, the Croatian target counties in cooperation with REGEA will continue to meet with local, regional and national authorities, in order to provide them information on successful experiences and jointly identify innovative solutions for the implementation QM Holzheizwerke at local and regional level in Croatia.

REGEA proposed the local authorities shall continue with such activities even after the termination of the Entrain project. The key stakeholders shared enthusiasm for the project implementation in target regions and promised support for all activities to be further implemented through the project. This can be seen as a result of the very good communication, which was maintained throughout the Entrain project so far.

2.5. Fifth regional meeting

The fifth meeting was held with the aim of getting to know the QM system and transferring the experience from the pilot project of Karlovac to the municipality of Krapinske Toplice, which wants to be a supporting settlement of the Entrain project. Fifth RSAG meeting was held on 12th of November 2021, at the Energy Center Bračak. The meeting was attended by 6 representatives from the municipality of Krapinske Toplice, company AP Consulting a company engaged in engineering and related services and representatives from REGEA.

Today, Krapinske Toplice are developed into an important health-tourism centre. The water is now used in: - the Special hospital for medical rehabilitation Krapinske Toplice which uses geothermal water for the heat pump but also uses water in therapeutic treatments, - Clinic Magdalena next to Special hospital also uses geothermal water for space heating, - New aquapark Aquae vivae which extends to 18,000 m² of closed space is heated exclusively to geothermal water heating, - Thermal water is used in water supply distribution system connecting 271 households. Company Samek Ltd. uses geothermal water for heating of greenhouses for vegetable production (~33°C) in a well in Jurjevac, 5 km from the centre of Krapinske Toplice. The capacity of the well is 8 kg/s. Development strategy of Krapinske



Toplice municipality anticipates increase of efficiency use of geothermal potential in Krapinske Toplice in use of geothermal water for heating of public buildings which are in a few hundred-meter radius from the main well. There is a project of rehabilitation of heating system in hotel Toplice due to outdated equipment. Project exist for building a new tourist resort with 100 beds with anticipated use of geothermal water. The holders of exploitation licence are Special hospital for medical rehabilitation Krapinske Toplice and company Samek Ltd. Part of the licence is transferred to company Aquae vivae Ltd. which is the owner of the Aqaupark. Project database of Zagorje development agency includes a project proposal about use of geothermal water in Krapinske Toplice as an energy source.

The purpose of the meeting was to involve more stakeholders in project activities and to promote project results and outputs, giving them a short overview about ENTRAIN approach in general. These interested groups can become the bright examples of possible follower municipality. Participants were convinced about the positive effects of the project on the overall development of their community, especially in times of high environmental pollution and permanent economic migration. Solutions to tackle these issues and provide adequate heating conditions for their public buildings and houses are expected and welcome by the citizens. The market is still in a nascent stage. And there is plenty of room for further improvement and uptake of new heating technologies that will bring those solutions to the citizens.

The municipality of Krapinske Toplice has a great interest in improving their energy situation, to make it more efficient. This could be achieved by improving public city lights or the heating system for public buildings or private homes. In the last few years there have been a few initiatives for geothermal district heating systems that would be used to heat public buildings, private homes and a part of the industrial zone. Unfortunately, until now these initiatives have not yet been followed through. In that context, the Entrain project gives an additional mechanism to optimize the ideal fuel and technology mix for the future district heating options in municipality.

Follower municipality of Krapinske Toplice can learn from the ENTRAIN process of initiating new projects. Information sharing with representatives of these municipality and dedicated joint events multiplies the ENTRAIN outcome.



Participant's list



ENTRAIN

*"Enhancing renewable heat planning
for improving the air quality of communities"*

**Meeting with local authorities and stakeholders presenting the QM
Holzheizwerke**

Energy center Bračak (Zabok), 12th of November 2021

FIRST NAME	LAST NAME	INSTITUTION	E-mail	SIGNATURE <i>for data use consent</i>
1 ALEN	POŽGATAJ	AP CONSULTING	info@ap-consulting.hr	<i>Alexa Požgaj</i>
2 MILJENKO	JAGARČEČ	REGEDA	m.jagarcic@rpeda.org	<i>Miljenko</i>
3 GORDANA	JURČIĆ	OPENA ADMINISTRATIVE	naodluke@krajinski-hodici.hr	<i>Gordana</i>
4 ZVONKO	ROŠTARČIĆ	AP CONSULTING	zvonko.rostarcic@ap-consulting.hr	<i>Zvonko</i>
5 MARIJANA	PERKANIĆ REŠKIĆ	REGENA	mperkovic@regena.org	<i>Marijana</i>
6 KARLO	MARIĆ	AP CONSULTING	karlo.marijic@gmail.com	<i>Karlo Marić</i>

By signing you give your consent to the use of your personal data by ENTRAIN Project Partners to pursue the project's objectives in compliance with Regulation (EU) of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).



3. REGIONAL STAKEHOLDER ADVISORY GROUPS IN GERMANY

3.1. First regional meeting

The Neckar-Alb region is one of the 5 target regions where RSAG will be set up to implement and achieve the objectives of ENTRAIN. The RSAG Neckar-Alb is therefore intended to cover the entire spectrum of the topic of local heating networks, which are to be supplied with renewable energies. The search and personal approach of interested stakeholders of RSAG took some time so that the first meeting of RSAG in the Neckar-Alb region can take place on 5 November.

Project partners HEF, Solites and RVNA have succeeded in attracting experts and multipliers from the following areas to work:

- "Science and Research" (Prof. Dr. Bernd Thomas (Reutlingen Research Institute, Reutlingen University of Applied Sciences), Prof. Dr. Claus Kahlert (ebök Institute, Tübingen),
- Municipal utilities as municipal heat suppliers (Reinhold Dieringer, Stadtwerke Hechingen)
- Climate protection and Energy agencies (Helmut Böhnisch (KEA - Climate Protection and Energy Agency Baden-Württemberg); Daniel Bearzatto (Tübingen district); Abraham Dold (Reutlingen district), Jochen Schäfenacker (Zollernalbkreis district),
- "Citizens' Energy and Energy Cooperatives" (Wilfried Kannenberg (Tübingen), Peter Reiff (Metzingen), Günther Gamerdinger (Ammerbuch),
- "High-tech" in local heating supply (Heinz Hagenlocher (AVAT, Tübingen), Moritz Ritter (ritter-energie, Dettenhausen), Markus Laiblin (BayWa, Freiberg).

The RSAG Neckar-Alb is open to other members and is to be expanded at a later date to include the target group "Urban Planners" and "Specialist Planning Offices", which play a key role in the implementation ("Making the change") of local heating planning.

It is planned to organize a meeting of RSAG in the Neckar-Alb region in each period and to inform the members of RSAG with info e-mails about the current development.

The first RSAG meeting in the Neckar-Alb region was organized by RVNA, exchanging experiences related to renewable district heating and formulating expectations of the ENTRAIN project. German partners RVNA, Solites and HEF managed to assemble experts and multipliers with strong roots in the target region and various fields such as Science and Research, Municipal utilities, Climate protection and Energy agencies, Citizens'.

3.2. Second regional meeting

The **second RSAG-meeting** was organized as a web-meeting due to Covid 19. The German team was focussed on communication and cooperation with the climate and energy agencies. It was important to find out, where knowledge-transfer is needed, at which points the agencies can support the project and how to build up a network most efficiently.

Besides the final draft of the action plan and to discuss its aims was one of the main subjects of the meeting:



- Information campaign for villages without gas and an oil-based heat supply as well as new development areas;
- Heat planning for communities in Germany;
- Information package about new heat grids and how to publish it;
- Training sequences for the climate agencies;
- Public relations especially during the corona-crisis and possible activities.

Solites gave a market update on thermal heat grids in Germany. In 2019 there were 35.000 m² of thermal solar collector fields installed, being used for heat-grids. The market is growing continuously.

Following we discussed possible pilot projects and their position of implementation. The major of Mehrstetten, Franziska Kenntner, joined us in this RSAG-meeting since she had specific questions on how to implement a heat-grid and how to organize public relations.



3.3. Third regional meeting

The **third RSAG meeting** in the Neckar-Alb region was organized by RVNA and HEF. Due to Covid-19 the event was organized as a hybrid-meeting, taking place for two and a half hours on the afternoon of 21st of September at the university of Rottenburg as well as online. Most important for the ENTRAIN-team was to present the pilot-projects together with the climate agencies and to get feedback from the RSAG-members on the projects. There are two projects in each district, three in the district of Tübingen. They are at different levels of planning to have the full range of planning situations. A sheet of characteristics was worked out to describe the projects and gather all the relevant information for finally producing a SWOT-analysis. The projects were discussed and different options as well as new aspects to consider were talked through. Solites informed about the planned training in November, which aims at the local energy agencies as well as other interest groups in the target region. The training will enhance the knowledge transfer in the region and support the build-up a network of regional actors. Helmut Böhnisch, member of the climate and energy-agency of Baden-Württemberg (KEA), explained the aims of the heat planning for communities, which will be mandatory for communities with more than 20.000 inhabitants. He informed about the new laws and guidelines which should be legally binding in the beginning of 2021. HEF gave a fact check on wood-energy to support the argumentation in the discussion about which RE sources to use in the future. In Germany there is a discussion going on about the CO₂-neutrality of wood which could have negative effects on the funding conditions and market development. Again, German partners RVNA, Solites and HEF managed to assemble experts and multipliers with strong roots in the target region and various fields such as Science and Research, Climate protection and Energy agencies, Citizens' Energy and Energy Cooperatives.

3.4. Fourth regional meeting

The **fourth RSAG Meeting in the Neckar-Alb Region** was organized on the afternoon of 10. February 2021 for 2.5 hours by RVNA with support by Solites and HEF. Due to Covid-19 related restrictions, the meeting could not be held in person. However, the web-meeting went quite successfully, and we could attract a record number of participants (14 RSAG-members + 3 external speakers and 1 writer from local press). Among RSAG-members, agents from the three climate and energy agencies of the region's municipal districts play a key role as multipliers. Next to local businesses and research institutions, the RSAG could again also gather actors from civil society (citizen's energy groups). For the first time, representatives of the pilot projects that are accompanied by ENTRAIN joined the group. The ENTRAIN-team came to the point to see the RSAG as the beginning of a network in and for the region. For the long term effect it seemed a good point to add the representatives of the pilot projects to the RSAG. It was a great pleasure to have Mayor Reinhold Teufel, representing the *Pfronstetten* pilot project, on board as well as Marcus Hölz from the pilot project Kastanienhof. Günter Gamerdinger (Bürgerenergie Tübingen eG) was member of the RSAG right from the start, is at the same time representative of the pilot project Breitenholz. As usual, ENTRAIN partners updated the RSAG about current activities such as the local trainings. Next to bilateral communications, these "formal" updates happen twice per period, alternating between an info-email and RSAG meetings. RSAG members thanked ENTRAIN partners for their information and communication activities. Especially the visual guidelines provided by RVNA (e.g., on spatial planning for RES) found great approval. The introduction to the



meeting closed with an update-round on the current state of the seven pilot RES DH initiatives in the region. The second part of the meeting was used to collect suggestions by RSAG members on how to improve and expand project activities. Five areas were identified:

- 1) Municipal heat planning: Support practical start-up and exchange among smaller municipalities
- 2) Waste heat from industry and municipal sewage
- 3) Effects of RES DHC on regional value creation
- 4) Upcoming financing scheme: *Bundesförderung effiziente Wärmenetze (BEW)*
- 5) Sector coupling / CHP

The project partners will try to integrate these in the development and continuation of their work and report on progress at the next meeting. In the last part of the meeting, two external speakers (Dr. Max Peters, KEA-BW and Stephan Gutzwiller, Kaskad-E) highlighted two vastly different but both highly interesting topics: Municipal heat planning in the state of Baden-Wuerttemberg and how to use bioenergy in a CO₂-negative way using pyrolysis technology in combination with district heating.

3.5. Fifth regional meeting

The fifth and final RSAG meeting was held on Saturday, 18. September 2021 in combination with a public event in the frame of the “Energiewendetage Baden-Württemberg”, an annual awareness raising event for energy transition topics organized by the State Department for Environment UM BW and State Department for Nutrition and Rural Space MLR BW. The event offered an appropriate frame for an extensive exchange between PPs, RSAG members, pilot project stakeholders and decision makers from the region. A public exhibition opened by high-level speakers from local government, science and business ensured visibility and press coverage. The meeting took place at the so-called Kastanienhof on the premises of the AiS gGmbH, an inclusive horticultural farm with direct marketing and café. The transition of Kastanienhof’s heat supply from fossil to renewable sources is one of ENTRAIN’s pilot projects (D.T3.3.1). The RSAG meeting was attended by 18 participants (11 external participants and 7 from ENTRAIN partner organizations). Some of those participants were RSAG members from the very beginning, others joined the RSAG along the second, third or fourth meeting. For the final meeting, this circle was expanded to include also representatives of the pilot projects in the region. The agenda comprised three main points. As the first item on the agenda, Dr. Dirk Seidemann (RVNA) summed up the progress within the ENTRAIN project and its impact on the Neckar-Alb region. He guided through the ppt.-presentation which is attached to this document and was prepared jointly by PPs StT Solites, HEF and RVNA. As the first item on the agenda, Dr. Dirk Seidemann (RVNA) summed up the progress within the ENTRAIN project and its impact on the Neckar-Alb region. He guided through the ppt.-presentation which is attached to this document and was prepared jointly by PPs StT Solites, HEF and RVNA. Secondly, Prof. Dr. Claus Kahlert, ebök Institut, one of the RSAG members and expert on sector coupling gave a detailed presentation on technical possibilities for interlinking the electricity, mobility and heat sector. Based on current state of the art and existing legal frameworks, he assigned the different technologies (e.g., heat pumps, cogeneration or battery storages) to suitable areas of application in the context of the Neckar-Alb region and ENTRAIN pilot projects. This presentation was organized following the feedback from RSAG members during the fourth meeting, wishing for a broader perspective not only on the heat sector, but on the energy system



as a whole. During the third and last part of the meeting, participants had the chance to attend the premiere of the three project videos (one for each municipal district) that were professionally produced to complement ENTRAIN's virtual study tour collection and will be provided to the local climate and energy agencies to support their day-to-day work. The meeting was closed with a poster presentation showcasing the pilot projects and key facts about ENTRAIN and the Neckar-Alb consortium.

4. REGIONAL STAKEHOLDER ADVISORY GROUPS IN ITALY

4.1. First regional meeting

The kick-off meeting of the RSAG in Friuli Venezia Giulia was held on October 24th 2019 in Udine. The details and main outcomes of the meeting are highlighted here below.

- When & where

24 October 2019 from 10.30 am to 12.30 am

Sala Sarpi - Best Western Hotel Continental

Via Tricesimo, 71 - 33100 Udine (UD)

- Participants

Institution	Representative	Category
Agriculture and Food Resources, Forestry and Fishery Central Directorate Friuli Venezia Giulia Autonomous Region	Rinaldo Comino	Regional authority
Municipality of Sappada	Manuel Piller Hoffer	Local authority
Municipality of Arta Terme	Luigi Gonano	Local authority
Environment and Energy Central Directorate Friuli Venezia Giulia Autonomous Region	Daniela Pietropoli	Regional authority
Italian Agroforestry Energy Association - AIEL	Stefano Campeotto	Association of companies in the wood/energy chain
ESCOMONTAGNA	Sergio Buzzi	ESCO
LA FORESTA Soc. Coop.	Giorgio Talachini	Wood industry
CIGLIANI PRIMO S.n.c.	Cigliani Mirco	Wood industry
SECAB	Alberto Orsaria	Energy provider
ROBERTO TIMEUS	Roberto Timeus	Expert
VERIO SOLARI	Verio Solari	Expert
Regola di Dosoledo	Francesco Tremonti	Expert
Regola di Dosoledo	Daniela Zambelli	Forest owner
AMBIENTE ITALIA	Chiara Lazzari	LP



E-LASER S.r.l.	Andrea Barilotti	SME / remote sensing territory surveying and data processing
APE FVG	Manuela Ortis	PP
APE FVG	Matteo Mazzolini	PP
APE FVG	Samuele Giacometti	PP

■ **Agenda**

- Presentation of participants
- Presentation of ENTRAIN - Matteo Mazzolini, APE FVG
- Presentation of the QM Holzheizwerke system - Samuele Giacometti, APE FVG
- Best practice - Giorgio Talachini, La Foresta Soc. Coop
- Insights and discussion on the renewable heat potential assessment for Friuli Venezia Giulia

4.2. Second regional meeting

The second RSAG meeting was held online on May 26th 2020. The meeting was organized back-to-back with the first local training (WP T2) and in collaboration with the LP. During the meeting, it was provided an overview of the activities carried out within the project until then, focusing especially on the heat potential assessment and on the action plan for Friuli Venezia Giulia which was developed thanks to the contributions provided by the members of the RSAG during previous plenary and bilateral meetings.

■ **When & where**

May 26th, 2020 *online*

■ **Participants**

INSTITUTION	REPRESENTATIVE	CATEGORY
Agriculture and Food Resources, Forestry and Fishery Central Directorate Friuli Venezia Giulia Autonomous Region	Rinaldo Comino	Regional authority
QUADRA FVG-FROLING	Fabrizio Passone	Technology provider
Municipality of Arta Terme	Vanessa Gressani	Local authority
Environment and Energy Central Directorate Friuli Venezia Giulia Autonomous Region	Sebastiano Cacciaguerra	Regional authority
Italian Agroforestry Energy Association - AIEL	Andrea Argnani	Association of companies in the wood/energy chain
ESCOMONTAGNA	Sergio Buzzi	ESCO
LA FORESTA Soc. Coop.	Giorgio Talachini	Wood industry



CIGLIANI PRIMO S.n.c.	Cigliani Mirco	Wood industry
Regional Agency for the Protection of the Environment - ARPA FVG	Francesca Bonemazzi	Regional authority - air quality
Regional Agency for the Protection of the Environment - ARPA FVG	Stefania Del Frate	Regional authority - air quality
VERIO SOLARI	Verio Solari	Expert
RELEN	Franco Petrigh	Plant operator + wood chip dumping system
AMBIENTE ITALIA	Riccardo Battisti	LP / Speaker
AMBIENTE ITALIA	Chiara Lazzari	LP
E-LASER S.r.l.	Andrea Barilotti	SME / remote sensing territory surveying and data processing
APE FVG	Manuela Ortis	PP
APE FVG	Matteo Mazzolini	PP
APE FVG	Samuele Giacometti	PP / Speaker
SCHMID	Matteo Pippa	Technology provider
SECAB	Alberto Orsaria	Energy producer
Polytechnic Department of Engineering and Architecture	Patrizia Simeoni	University and research

■ Agenda

- Greetings & Opening remarks - Matteo Mazzolini (APE FVG)
- Updates on project progress and achievements: "RES potential assessment in Friuli Venezia Giulia" and presentation of the draft "Action Plan for Friuli Venezia Giulia" - Samuele Giacometti (APE FVG)
- Insights on how to run a pre-feasibility assessment for the set-up of a RES-based DH network - Samuele Giacometti (APE FVG)
- Opportunities for integration of solar thermal and woody biomass - Riccardo Battisti (Ambiente Italia)
- Q&A session

4.3. Third regional meeting

The second local training in Friuli Venezia Giulia took place on December 23rd from 2:30 to 5 pm 2020 and was provided online through Cisco Webex - webmeeting platform.

The session was combined with the third meeting of the RSAG members.

The training session focused on two presentations: the first one by Samuele Giacometti (APE FVG) who began the presentation with an update on the activities carried out after the second RSAG



meeting held in May 2020 and then continued with the presentation of the QM Holzheizwerke Italia Guidelines. Stefano Pagani (APE FVG) focused on the Financial-Economic Analysis of a QM certified biomass district heating network. Both presentations had as undisputed protagonist the quality management system of wood heating systems QM Holzheizwerke translated into Italian thanks to the ENTRAIN project. In particular, the peculiarities of this quality standard were highlighted, focusing on the economic aspects as key elements for the realization of new wood heating systems with distribution network.

- When & where
- December 23rd 2020 (2:30 to 5 pm), *Cisco Webex - webmeeting platform*
- Participants

INSTITUTION	REPRESENTATIVE	CATEGORY
Direzione Foreste Regione Autonoma Friuli Venezia Giulia	Rinaldo Comino	ADMINISTRATION
Direzione Energia Regione Friuli Venezia Giulia	Sebastiano Cacciaguerra	ADMINISTRATION
AIEL - Associazione Italiana Energie Agroforestali	Andrea Argnani	ASSOCIATION
LA FORESTA Soc. Coop.	Giorgio Talachini	FORESTRY ENTERPRISE
ARPA FVG	Stefania Del Frate	AIR QUALITY DEP.
Verio Solari	Verio Solari	EXPERT
RELEN	Franco Petrigh	Plant + Wood chip logistic platform
AMBIENTE ITALIA	Riccardo Battisti	LP
AMBIENTE ITALIA	Chiara Lazzari	LP
APE FVG	Samuele Giacometti	PP / Relatore
APE FVG	Stefano Pagani	PP / Relatore
APE FVG	Manuela Ortis	PP
APE FVG	Martina Arteni	PP
APE FVG	Francesco Locatelli	PP
APE FVG	Vito Tisci	PP
Alessandro bortali	Alessandro Bortali	EXPERT
AGRISYSTEM	Claudio Nadalin	Wood chipping
Sindaco Comune di Stregna	Luca Postregna	ADMINISTRATION
Assessore Comune di Prata	Yuri Marchelo	ADMINISTRATION
Direttore ATER Pordenone	Mario Liut	ADMINISTRATION
Vicesindaco Lusevera	Mauro Pinosa	ADMINISTRATION



GAL Torre Natisone	Stefano Carta	ADMINISTRATION
Sindaco Comune di Dogna	Simone Peruzzi	ADMINISTRATION
Progettista	Luca Tommasoni	EXPERT
Tecnico Comune Pordenone	Maurizio Gobbato	ADMINISTRATION

■ **Agenda**

- QM Holzheizwerke Guidelines *Italian version* - Samuele Giacometti (APE FVG)
- Financial-Economic Analysis of a QM certified biomass district heating network - Stefano Pagani (APE FVG)
- Q&A session

4.4. Fourth regional meeting

The fourth event combined the third local training and the fourth RSAG in Friuli Venezia Giulia took place on July 9th from 10:00 to 12:00 2021 and was held in Arta Terme. The event consisted of three main presentation and a roundtable where several stakeholders shared their experiences and opinions for the future development of the sector. First presentation by Matteo Mazzolini (APE FVG) depicted the role of biomass in the energy system and in the future scenarios with respect to the expected goals. After that Francesco Locatelli (APE FVG) introduced the QM principles and explained what work was done in the previous month within the ENTRAIN project and with local administrations. A more technical presentation about monitoring and optimization of DH plants was then presented, showing multiple possible interventions of optimization and supported by real examples from Austria.

▪ **When & where**

9 luglio 2021 dalle 9.45 alle 12.30

Hotel Savoia in Via Roma, 4 - 33022 Arta Terme (UD)

▪ **Participants**

SOGGETTO	REFERENTE	CATEGORIA
Presidente CM Carnia	Ermes Antonio de Crignis	Amministrazione
Direzione Energia Regione Friuli Venezia Giulia	Sebastiano Cacciaguerra	Amministrazione
Sindaco Comune Arta Terme	Luigi Gonano	Amministrazione
Sindaco Comune Dogna	Simone Peruzzi	Amministrazione
Sindaco Comune Socchieve	Coriglio Zanier	Amministrazione
Sindaco Comune Lusevera	Fabrizio Nigris	Amministrazione



Vicesindaco Comune Amaro	Edi Mainardis	Amministrazione
Funzionario CM Carnia	Patrizia Gridel	Amministrazione
Funzionario Comune Arta Terme	Vanessa Gressani	Amministrazione
Chiurlo	Marco Mosco	ESCO
Direttore ESCOMontagna	Michele Pertoldi	ESCO
Presidente ESCOMontagna	Sergio Buzzi	ESCO
Presidente AIBO	Agostino Michelin	Impresa Boschiva/ Fornitore cippato
Drywood biomassa di qualità	Carlo Bevilacqua	Impresa Boschiva/ Fornitore cippato
Agri. Val. Impresa Boschiva	Walter Bevilacqua	Impresa Boschiva/ Fornitore cippato
CIGLIANI PRIMO S.n.c.	Mirco Cigliani	Impresa Boschiva/ Fornitore cippato
E-LASER S.r.l.	Andrea Barilotti	Pianificazione Foresta
Verio Solari	Verio Solari	Pianificazione Foresta
Herz Energie	Davide Capraro	Produttore Tecnologia
Quadra FVG	Fabrizio Passone	Produttore Tecnologia
Herz Energie	Mary Helem Balbinot	Produttore Tecnologia
Pinosa	Mauro Pinosa	Produttore Tecnologia
Pinosa	Stefania Traunero	Produttore Tecnologia
Enrico Gatti	Enrico Gatti	Progettista
Fabrizio Corte	Fabrizio Corte	Progettista
Marchiori Energie	Fabiano di Lazzaro	Progettista
Presidente Ordine Periti Industriali di Trieste	Luca Tommasoni	Progettista
De Blasio Associati	Silvio De Blasio	Progettista
De Blasio Associati	Vanni Bortoluzzi	Progettista
La Vita Cattolica	Veronica Rossi	Comunicazione
APE FVG	Matteo Mazzolini	PP/Relatore
APE FVG	Samuele Giacometti	PP
APE FVG	Francesco Locatelli	PP/Relatore
APE FVG	Manuela Ortis	PP
APE FVG	Martina Arteni	PP
Fratelli Leita	Alessandro Leita	Strumentista
Gianmaria Paschini	Gianmaria Paschini	Musicista



▪ Agenda

- Wood biomass: a key resource, if properly exploited - Matteo Mazzolini (APEFVG)
- QM: video trailer of stakeholder's interviews
- QM: Why adopt it in Friuli Venezia Giulia? - Francesco Locatelli (APE FVG)
- QM: monitoring and optimization - Francesco Locatelli (APE FVG)
- Round table - moderator Samuele Giacometti (APE FVG)



5. REGIONAL STAKEHOLDER ADVISORY GROUPS IN POLAND

5.1. First regional meeting

On the 27th of February 2020 the first meeting of the Polish Regional Stakeholder Advisory Group took place in Płońsk, in the City Hall. The Group was established to help boosting RES application within district heating networks in the region, with the specific focus on the area of operation of the Płońsk Energy Cluster. It gathers representatives of local authorities, local utilities, energy suppliers, NGOs, research institutions (incl. University of Ecology and Management in Warsaw) and private companies working in the energy sector.

Participants' category	Number of attendees	Name of institution(s)
Local public authorities	14	<ul style="list-style-type: none"> • Municipality of Płońsk • City of Płońsk • Municipality of Sochocin • Municipality of Nowe Miasto
Regional public authorities		
Sectoral agencies	1	<ul style="list-style-type: none"> • Płoński Energy Cluster
Infrastructure and (public) service providers	8	<ul style="list-style-type: none"> • TBS Sp. z o.o. • PGK Sp. z o.o. • PEC Sp. z o.o. • Biogazownia Skarżyn • Lerta Sp. z o.o.
Interest groups including NGOs		
Higher education and research	1	<ul style="list-style-type: none"> • University of Ecology and Management in Warsaw
Business support organizations	1	<ul style="list-style-type: none"> • PMG Sp. z o.o.
Media / press		
General public		
Other		
TOT	25	

During the meeting current state-of-the-art concerning RES use in Poland and in the EU were discussed, including current and foreseen application of RES for heating purposes. The participants analyzed regional RES potential and the possibility of making use of it within the current legal, economic and social framework. Some important questions were raised, including the economic justification of building new DH systems in the context of raising operation costs and warm winters, possibility to secure enough sustainable biomass resources and human perception of renewable. Also some important opportunities were highlighted, including combining RES development with air quality improvement and the possible role of energy clusters established by several Polish municipalities. Throughout the conversation the topic of energy education appeared



and it was agreed that raising awareness of the citizens should be an important part of further project activities. At the end of the meetings tasks for the next weeks were discussed.

The next meeting of the Regional Stakeholder Advisory Group is planned for December 2020. During this meeting the Regional Action Plan for the area of Płońsk will be discussed. Together with the members of RSAG we will verify the content of the document, focusing on all necessary and possible actions in the development of district heating based on renewable energy sources. The suggested actions will be difficult to implement taking into account the current situation and whether it may still be valuable to add/take something to the presented plan.

We also plan to define more precisely the roles of the individual members of the Regional Stakeholder Advisory Group, so that everyone can contribute to its implementation in the Płońsk District. The tasks to be implemented in the nearest future include:

- Preparing recommendations for financial institutions;
- Increasing overall energy awareness, as well as acceptance for RES-based heat (general awareness raising campaign);
- Research among the potential consumer of the new/expanded RES-based DH and the targeted campaign;
- Testing Austrian QM system in the biomass co-generation plant in Płońsk (or other selected facility);
- Facilitating transfer of know-how, good practices and experiences from other project regions to initiate new projects in Płońsk District;
- Feasibility analysis for the possible pilot investment.

The RSAG members will actively participate in the implementation and monitoring of the Regional Action Plan. The results of future discussions during the meetings (physical and online) will help to prepare and prioritize activities that are both needed and feasible for RSAG within the project.

5.2. Second regional meeting

On the 19th of April 2021, using the online meeting tool, the second meeting of the Polish Regional Stakeholder Advisory Group, established in the framework of the project ENTRAIN: Enhancing renewable heat planning for improving the air quality of communities took place.

During the meeting the goals and activities as well as the already implemented actions, available project materials and expected final results of the project were reminded. Then the scope of the Guidelines for planning small district heating systems based on RES and the Guidelines for quality management, as well as their attachments useful for the implementation of investments in the field of district heating in the target region of the project were presented in detail. The participants of the meeting had the opportunity to become familiar with the results of the analysis of the local potential for using RES in district heating in Płońsk district, which took into account the demand for heat and the potential of regional renewable energy resources (biomass, solar and geothermal energy). The Advisory Group has also familiarized itself with the proposal of the Regional Action Plan - objectives, target groups, ways of implementation, sources of financing, stakeholders, implementation periods and result indicators of the planned actions.



After the introduction to the above mentioned topics, the participants of the meeting had the opportunity to comment on them and express their own opinions about the planned actions, as well as propose other possibilities to increase the interest of the inhabitants in district heating and renewable energy sources. The ELENA programme, implemented by KAPE, was also presented. It can support the implementation of actions related to energy efficiency by thermal energy companies. At the end of the meeting the discussed contents were summarised and the next steps to be taken within the ENTRAIN project were indicated.

Participants' category	Number of attendees	Name of institution(s)
Local public authorities	5	<ul style="list-style-type: none"> • Municipality of Płóńsk • City of Płóńsk
Regional public authorities		
Sectoral agencies		
Infrastructure and (public) service providers	5	<ul style="list-style-type: none"> • TBS Sp. z o.o. • PGK Sp. z o.o. • PEC Sp. z o.o. • Biogazownia Skarżyn
Interest groups including NGOs	1	<ul style="list-style-type: none"> • Płóńsk Energy Foundation
Higher education and research	2	<ul style="list-style-type: none"> • University of Ecology and Management in Warsaw
Business support organizations	1	<ul style="list-style-type: none"> • PMG Sp. z o.o.
Media / press		
General public		
Other		
TOT	14	

After the second meeting the participants received the materials created in the framework of the project and the documents discussed during the event, so that they could carefully analyze the content and give their comments and opinions. The participants were also asked to think about examples of good practice places in their country and abroad that they would like to visit during the study tours and other proposals of activities that can be carried out within the ENTRAIN project.

The next meeting of the Polish Regional Stakeholder Advisory Group is scheduled for Autumn 2021, and every effort will be made to meet with members of the Regional Stakeholder Advisory Group in person, but this may not be possible due to the epidemic.

5.3. Third regional meeting

On 9 September 2021 in the City Hall of Płóńsk, the third personal meeting of the Regional Stakeholder Advisory Group. At the beginning of the event there were reminded the objectives and realized activities and their results so far, as well as other activities planned for the near future. The representative of University of Ecology and Management in Warsaw reminded the participants of the most important principles of the prepared Regional Action Plan for



development of heating networks based on RES in the target region of the project, which is Płoński County and the area of the Płoński Energy Cluster. The current political, legal and financial framework for the development of heating based on RES was also presented.

During the discussion the issue of the nearest planned actions, which are i.a. education campaign for the inhabitants of the Płoński Municipality and workshops for children and teenagers in schools, has been raised. Both actions are to increase the awareness of Płoński citizens concerning the benefits from district heating and to make the younger generation aware how important it is to take care of the natural environment and what positive influence the use of energy from renewable sources has. Representatives of the municipal companies and local government have agreed to get involved in these activities.

The participants also tried to prepare a set of recommendations for national and regional authorities and financing institutions concerning the creation of favorable frameworks, conditions and support instruments for the development of district heating based on local renewable energy sources. A frequent topic was also giving technical support to potential beneficiaries, or more support for the energy poor people.

Participants' category	Number of attendees	Name of institution(s)
Local public authorities	13	<ul style="list-style-type: none"> • Municipality of Płoński • City of Płoński
Regional public authorities		
Sectoral agencies		
Infrastructure and (public) service providers	3	<ul style="list-style-type: none"> • TBS Sp. z o.o. • PGK Sp. z o.o. • PEC Sp. z o.o.
Interest groups including NGOs		
Higher education and research	2	<ul style="list-style-type: none"> • University of Ecology and Management in Warsaw
Business support organizations	1	<ul style="list-style-type: none"> • PMG Sp. z o.o.
Media / press		
General public		
Other	4	<ul style="list-style-type: none"> • PNEC
	TOT	23

After the third meeting the participants expressed great interest in the suggested activities within the Regional Action Plan. During the discussion many ideas were proposed to implement an educational campaign and how to teach the youngest residents of Płoński about renewable energy sources and energy efficiency.

The next discussion was aimed at working out recommendations for public authorities and financing institutions related to the development of district heating, improvement of air quality and energy efficiency. We hope to have the opportunity to present them during the workshops with representatives of ministries and voivodships planned in the further part of the project.



5.4. Fourth regional meeting

On 23 March 2022 the fourth and last meeting of the Regional Stakeholder Advisory Group, established under the ENTRAIN project, took place in the Płońsk City Hall. The attendees were the representatives of the city of Płońsk, PEC in Płońsk, Social Housing Association, Płońsk Energy Foundation and universities.

The mayor of Płońsk Andrzej Pietrasik has officially opened the meeting and welcomed the guests. Then he spoke about the numerous activities of PEC in Płońsk, which is a good example of a cogeneration plant utilizing local renewable energy sources.

Then, as a summary, the activities and results of the ENTRAIN project were presented, emphasizing the availability of multiple materials, i.e. presentations and recordings of trainings, regional documents that were developed and a film database on the project website.

Patrycja Płonka from the Association of Municipalities Polish Network "Energie Cités" raised the issue of appropriate planning for the future development and management of district heating systems using RES, taking into account the Austrian quality management system "QM Holzheizwerke" for biomass heating plants.

The representative of the University of Ecology and Management in Warsaw, Jarosław Osiak presented the members of RSAG with the recommendations worked out for the development of district heating sector in Poland. The key aspect discussed is that Polish district heating sector requires a deep modernization, including significant increase of RES share in heat production. It is also necessary to expand the existing and build new heating systems, which will replace high-emission individual heat sources.

One of the important parts of the last RSAG meeting was the presentation of the elements of the educational information campaign addressed to the citizens of Płońsk, namely website, posters and city game prepared within the framework of the ENTRAIN project. Prepared materials are intended for younger, but also older citizens and are to contribute to the increase of general knowledge on RES and district heating. They also aim to encourage residents to connect to the local district heating network. An additional element of this campaign is a film promoting the activities of the city and municipal companies in the field of RES and improving local air quality, which we watched together.

During the discussion, the issue of further actions that can be introduced to support the development of the use of RES in district heating systems and to encourage residents to use more ecological energy sources was raised.

Participants category	Number of attendees	Name of institution(s)
Local public authorities	16	• City of Płońsk
Regional public authorities		
Sectoral agencies		
Infrastructure and (public) service providers	3	• TBS Sp. z o.o. • PEC Sp. z o.o.



Interest groups including NGOs	1	Płońsk Energy Cluster
Higher education and research	1	<ul style="list-style-type: none"> University of Ecology and Management in Warsaw
Business support organizations	1	<ul style="list-style-type: none"> PMG Sp. z o.o.
Media / press		
General public		
Other	3	<ul style="list-style-type: none"> PNEC
TOT	25	

The last meeting within the framework of the ENTRAIN project was a summary of our three-year actions, and of the opportunities and benefits of district heating and renewable energy sources.

The participants also attempted to develop topics that the city is interested in and would like to address in future planned projects, e.g., energy cooperatives, circular economy or comprehensive energy management in public buildings.



6. REGIONAL STAKEHOLDER ADVISORY GROUPS IN SLOVENIA

6.1. First regional meeting

JSP Ptuj and KSENA jointly prepared and executed two RSAG meeting, both taking place at the City of Ptuj. First one was taking place on October second, 2019 where we discussed the potential of renewable energy sources in the Lower Podravje Region and presented the first draft of the Renewable heat potential in the region. All members of the RSAG group agreed that we should continue with the activities and prepare a Regional action plan for inclusion of RES in local district heating networks. Moreover, we concluded we should focus on biomass and their huge potential in the region. At this meeting, we briefly discuss other potential renewable sources and ranked them as most probable for exploit. The main conclusion has been that JSP and KSENA will continue with the activities, finalization of Renewable heat potential document and preparation of Regional actions plan. The RSAG group members agree that they would like to participate in training under Entrain project and attract other potential training participants.

6.2. Second regional meeting

The second meeting had taken place in June 2020, where the main topic was the introduction of the Regional action plan. We discussed the content of the document and concretized the proposed measures members suggested a few other municipalities who can get involved in activities of Entrain project. All members agreed that KSENA implements the proposed measures and finish the Action plan, the main agenda for next meeting will be a discussion on implementing the action plan and inclusion of other municipalities in Lower Podravje Region.

6.3. Third regional meeting

The third Local Stakeholder Meeting held on January 20th, 2021, through the Microsoft Teams online platform. The meeting began at 9 a.m., by the agenda, which circulated to all those invited. The participants who were at the meeting are listed below

- Nejc Jurko - Kssena
- Sašo Mozgan - Kssena
- Henrik Glatz - LEA Spodnje Podravje
- Dalibor Šoštarič - LEA Spodnje Podravje
- Davorin Korpar - OPSEN, d. o. o.
- Danilo Čeh - ZRS BISTRA PTUJ
- Franci Voglar - JSP



- Emina Bečić - Kssena
- Robert Polanec - JSP

A total of 9 participants took part in the event, of which 2 were participants in the Entrain project events for the first time.

■ Short report of the meeting

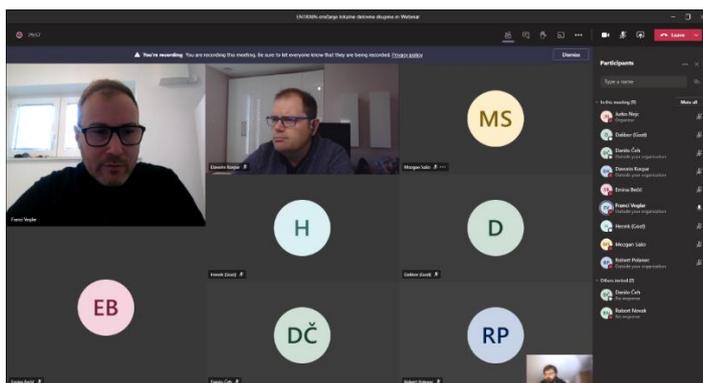
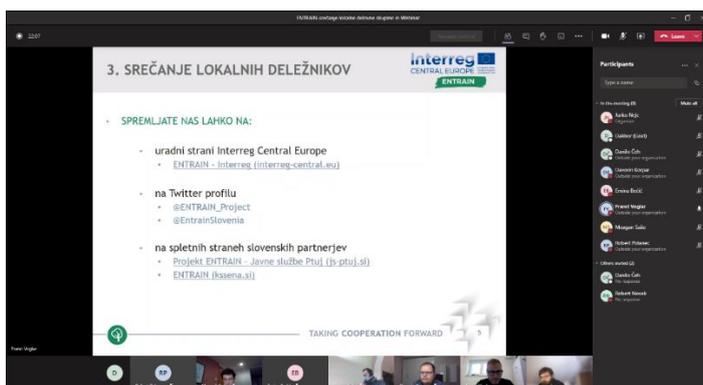
By the agenda, the 3rd Meeting of Local Stakeholders started at 9 am, via the online platform MS Teams, organized by the project partner Zavod Kssena from Velenje. To facilitate the organization and efficiency of the meeting, we combined the 3rd meeting of local stakeholders with the 2nd Local Training (Webinar on the topic of district heating).

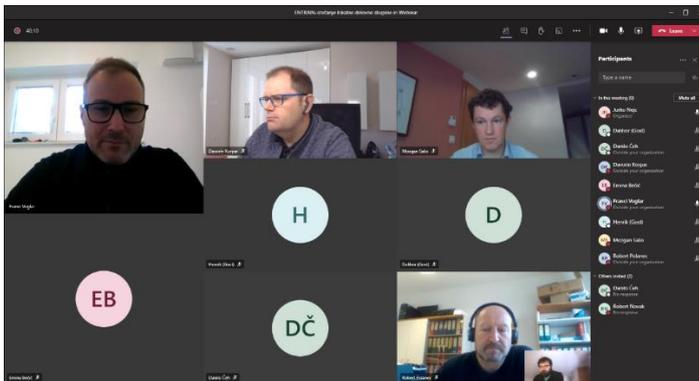
After an introductory greeting, we informed everyone present about the progress of the project and current activities, such as:

- Activities from the action plan,
- Presentation of the pilot project in the selected region
- Presentation of future activities and work of the RSAG group
- Presentation of activities at the level of the entire ENTRAIN project
- Implementation of QM Holtzwerke in design implementation

This is followed by a discussion after the presentations. The Chief Mechanical Design Engineer presented to us that the use of QM Holtzwerke is already carried out in the design of such projects.

■ Slike:





■ Satisfaction Survey of the event:

As for every event within the ENTRAIN project, this time too, an online survey on the satisfaction of the event was prepared for all participants. The survey was completed by all 9 participants, who rated the event with a score of 4.4, which represents an excellent rating for us and an additional impetus in organizing events in the future. Above all, it is important to prepare interesting topics for the event. Last but not least, the time frame of individual events and workshops is also very important, as it affects the registration of participants. Below is a summary of the online survey on participant satisfaction at the event (3rd RSAG meeting).

Summary of the online survey:

On a scale of 1 to 5, generally, rate the event.	4,4		
On a scale of 1 to 5, trust us, how did the meeting meet your expectations?	4,4		
On a scale of 1 to 5, assess how the meeting affected the acquisition of new skills?	4,1		
Tell us what you liked about the meeting and the webinar. What could be improved?	Everything was OK.	Excellent organization and moderation of the event	The webinar lasted long enough, suitable, interesting and useful topics were presented
How did you find out about this event?	Based on the invitation		Based on a friend's invitation

6.4. Fourth regional meeting

The fourth meeting of local stakeholders (4th RSAG meeting) took place on September 20, 2021. Due to the measures and the larger number of invited participants, we decided to organize the meeting "online" through the online platform Microsoft Teams. The meeting began at 9 a.m., in



accordance with the agenda, which was circulated to all those invited. We combined the meeting with the 3rd and 4th Local training, so we spent the day marked by the ENTRAIN project. The list of participants is given below.

Name and surname	Organization	Role
Robert Polanec	Javne službe Ptuj, d. o. o.	District heating network operators
Dalibor Šoštarič	Lokalna energetska agencija Spodnje Podravje	Experts, consultants, designers
Henrik Glatz	Lokalna energetska agencija Spodnje Podravje	Designer
Sašo Mozgan	Zavod Kssena Velenje	ENTRAIN project partner
Nejc Jurko	Zavod Kssena Velenje	ENTRAIN project manager - Kssena Institute
Tadej Zorec	Mestna občina Ptuj	Decision makers
Danilo Čeh	ZRS Bistra	Researchers, consultants
Franci Voglar	Javne službe Ptuj, d. o. o.	Project manager ENTRAIN - JSP
Damijan Korpar	Opsen, d. o. o.	An interested individual entrepreneur working in the field of energy
Julija Potisk	ZRS Bistra	Researchers, consultants
Gregor Uhan	Javne službe Ptuj, d. o. o.	District heating network operators
Davorin Korpar	Balbed, d. o. o.	An interested individual entrepreneur working in the field of energy
Franc Jerenko	Top energija, d. o. o.	Heat producer for district heating system
Irena Ostroško	LEA Spodnje Podravje	Experts, consultants, designers
Janez Petek	LEA Spodnje Podravje	Consultant, designer
Tea Potočnik	Lokalna energetska agencija Spodnje Podravje	Consultant, professional associate
Roman Kekec	LEA Spodnje Podravje	Consultant, professional associate
Brigita Godec	LEA Spodnje Podravje	Expert collaborator
Emina Bečić	Zavod Kssena Velenje	Expert in the field of energy
Irena Marčič	Javne službe Ptuj, d. o. o.	Collaborator on the ENTRAIN project
Alenka Rižner	Javne službe Ptuj, d. o. o.	Assistance in managing the ENTRAIN project

This time, the 4th Local Stakeholder Meeting was attended by the largest number of participants so far, a total of 21. Of these, five were those who attended the ENTRAIN project events for the first time.

■ [Short report of the meeting](#)

In accordance with the submitted agenda, the fourth meeting of local stakeholders began at 9 am. Due to measures related to the prevention of infections with the new corona virus, the meeting

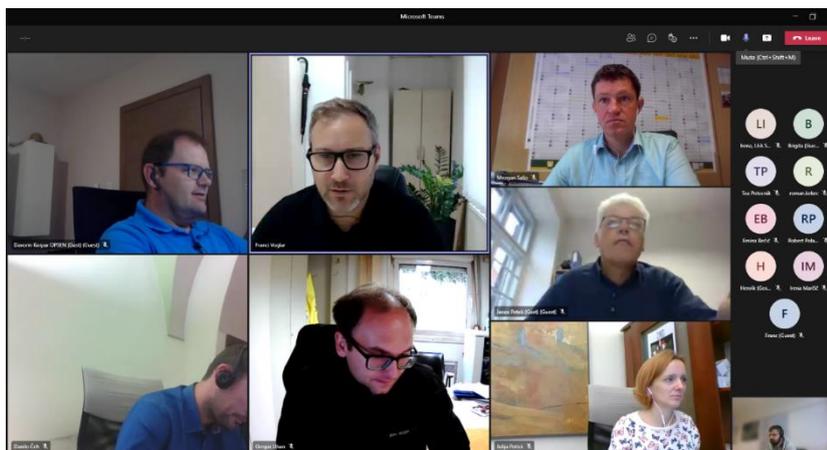
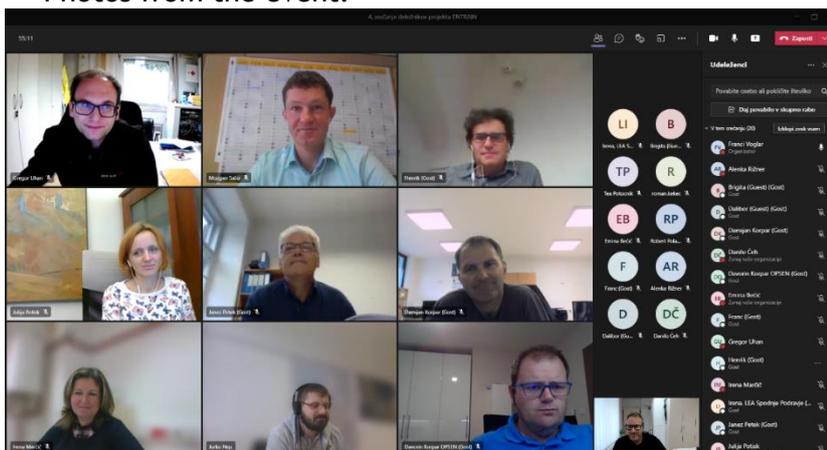


was organized "online", through the online platform MS Teams, organized by the project partner of the Public Service Ptuj, d. o. o. As we had planned, as the time before the start of the heating season 21/22 seemed the most suitable, we combined the 4th Meeting with the 3rd and 4th Local Training. Once again, we briefly presented to all participants which goals or the tasks within the project were achieved and what benefits the region gained from the project. A discussion followed the presentations.

We presented the pilot project in detail and described all phases of project planning and planning. We informed the participants about the status of the project and the beginning of the planned construction - implementation of the project in the proctor. All members of the RSAG group unanimously approved the project and did not have any comments on the implementation, so that the activities within the ENTRAIN project were successful.

The project is in the final phase, so some major activities will no longer be needed by the members of the RSAG Group. From now on, all activities will take place individually with each member individually as needed.

■ Photos from the event:



■ Satisfaction Survey of the event:

As with any previous meeting, this time we conducted a short online survey among all participants about the satisfaction of the event. The survey was completed by 14 participants. The average overall score is 4.6, which is more than excellent for us and lets us know that we put a lot of effort



into running the event as well as the content. From previous meetings, we learned that it is necessary to choose a very interesting topic for the event and choose a suitable time frame for the event. Below is a summary of the Web Acne 4. Local Stakeholder Meetings as part of the ENTRAIN project.

Summary of the online survey:

On a scale of 1 to 5, generally rate the event.	4,6		
On a scale of 1 to 5, trust us, how did the meeting meet your expectations?	4,8		
On a scale of 1 to 5, assess how the meeting affected the acquisition of new skills?	4,3		
How did you find out about this event?	Based on the invitation	Based on a friend's invitation	Through social networks