

# Improving the performance of District Heating Systems in Central and Eastern Europe

## Pilot projects

## Report on local working groups

## Republic of Serbia

Horizon 2020 (H2020-EE-2017-PPI)  
Project N°784966



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## PROJECT INFORMATION

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## List of Abbreviations

<b>AT</b>	Austria
<b>CEE</b>	Central and Eastern Europe
<b>CoM</b>	Covenant of Mayors for Climate and Energy
<b>CZ</b>	Czech Republic
<b>DisComEx</b>	Dissemination, Communication and Exploitation
<b>DG</b>	Directorate-General of the European Commission
<b>DHS</b>	District Heating System
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EU</b>	European Union
<b>GHG</b>	Greenhouse Gas
<b>HR</b>	Croatia
<b>KPI</b>	Key Performance Indicator
<b>LV</b>	Latvia
<b>LWG</b>	Local Working Groups
<b>NGO</b>	Non-Governmental Organisation
<b>RES</b>	Renewable Energy Source(s)
<b>SI</b>	Slovenia
<b>SRB</b>	Serbia
<b>UKR</b>	Ukraine
<b>WP</b>	Work Package

## Summary of the project

The project “KeepWarm - Improving the performance of district heating systems in Eastern Europe” is funded under the EU Horizon 2020 programme. Its objective is to accelerate cost-effective investments in the modernisation of District Heating Systems (DHS) in Central and Eastern Europe (CEE). KeepWarm is most active in seven countries: Austria (AT), Croatia (HR), Czech Republic (CZ), Latvia (LV), Serbia (SRB), Slovenia (SI) and Ukraine (UKR). The project focuses on this region, and these particular countries, because in most cases DHSs are frequently still inefficient and for the most part overly reliant on fossil fuels (especially gas, coal or oil).

The aim of this initiative, launched in April 2018, is to modernise DHSs around the whole region in a more sustainable manner. By improving system operations and promoting a switch to less-polluting sources, like renewable energy sources (RES), KeepWarm will contribute to reducing greenhouse gas (GHG) emissions. The eleven project partners strive to ensure that best practices for environmentally-friendlier heating and cooling will be taken up across Europe, replicating KeepWarm’s approach in other countries and regions, even beyond the end of the project in September 2020.

## Project objectives

KeepWarm’s specific objectives are:

- At least 450 relevant stakeholders with increased capacities on technical, organisational, financial and managerial aspects – includes 150 DHS operators;
- At least 95 **DHS operators** are able to **develop business plans** and to identify the most suitable **financial model** for modernisation of their own DHS;
- At least 23 **business plans for the modernisation** of DHSs have been developed and **sources for investment** have been identified;
- DHS network **retrofitting** is addressed in at least 10 local **energy plans** and 7 regional or **national strategies** or plans;
- At least 23,300 **relevant stakeholders** (directly) and 125,000 (indirectly) **reached** across Europe in order to **replicate the project outputs** in primary and secondary target regions and ensure the project’s impact;
- **Support EU policies and initiatives**, such as the Covenant of Mayors for Climate and Energy (CoM) and DecarbHeat, by exploiting key lessons from KeepWarm activities and pilots to disseminate best practices across Europe.

## KeepWarm consortium partners

LOGO	PARTNER NAME	SHORT	COUNTRY
 <b>giz</b> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH	GIZ	Germany
	University of Zagreb Faculty of Mechanical Engineering and Naval Architecture	UNIZAG FSB	Croatia
	Landeskammer für Land- und Fortwirtschaft in Steiermark	LWK	Austria
	Regionalna Energetska Agencija Sjeverozapadne Hrvatske	REGEA	Croatia
	Jožef Stefan Institute Energy Efficiency Centre	JSI	Slovenia
	ICLEI European Secretariat GmbH	ICLEI Europe	Germany
	Teplarenske Sdruzeni Česke Republiky	TSCR	Czech Republic
	Biedriba Zemgales Regionala Energetikas Agentura	ZREA	Latvia
	Zavod Energetska Agencija za Savinjsko Salesko in Korosko	KSENA	Slovenia
	LLC KT-Energy Consulting	KT-Energy	Ukraine
	Institut za Nuklearne Nauke Vinca	VINCA	Serbia

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## Executive summary

The switch from a fossil fuel and inefficient DH system to clean and renewable alternatives with low level of losses is a challenging task. Moreover, other competitive heating solutions in heating sector make it difficult for other heating alternatives, such as DH to compete. Besides DH systems often were not able to provide appropriate value of their services from technical, environmental, societal as well as economic perspective. In other words, DH systems are often in a difficult position due to many reasons. As a result, they often lack of ambitious plans and performing relevant activities such as development of feasibility studies, complicated public procurement procedures, evaluation of RES potential, successfully negotiation with both existing and future end-consumers, identification and application to both local/regional/national and EU funds (lack of investment strategy). On the other hand, they often lack work force and capacity to achieve ambitious plans due to lack of financial funds or know-how. To foster modernization of above-mentioned DHSs, the KeepWarm project focuses on modernization of pilot DH systems in 7 partner countries (Austria, Croatia, Czech Republic, Latvia, Slovenia, Serbia and Ukraine).

Project partners committed to provide support to DHSs representatives throughout an interdisciplinary approach with the aim of achieving investments developed in previous activities of projects such as feasibility studies, business plans and selection of pilot DHSs. After identification of current state and barriers which hinder successful investments, the KeepWarm consortium organized local working groups in each country with the aim of providing tailor-made assistance to remove barriers. The goal of the local working groups was to include all relevant stakeholders, which can be identified through the stakeholder analysis, to provide input for business plan development and feedback on future retrofitting plans as well as on barrier removal for DHS. This report is created as country-by-country overview of organized local working group meetings with the aim of presenting systematic and continuous activities of KeepWarm partners toward DHSs representatives and other stakeholders with the aim of achieving investments. In addition to this, each project partner used a tailor-made KeepWarm approach which is a result of previously taken activities such as feasibility studies, business plans and selection of DHSs to be retrofitted.

In case of Serbia, project partner VINČA organized eight meetings on different topics with respective DHSs representatives, on local (hereinafter meetings 3, 4, 6 & 7), regional (hereinafter meeting 8) and national level (hereinafter meetings 1, 2 & 5). which were attended by 90 participants. In each initial meeting with DHSs (meetings 3, 4, 6 & 7), feasibility studies created through the project have been presented, as well as discussed in terms of modifications and further steps. Meetings taken afterwards have been a result of a continuous collaboration between Serbian partner and DHSs representatives towards achieving investments. Main goals of the meetings 1, 2 & 5 of the established national working group was to lobby for biomass and the application of bioenergy in general.

**DHS Nova Varoš:** On January 29, 2020, the councillors of the Novi Varoš Parliament voted on the Decision to give up the loan for the construction of the central city biomass heating plant, considering that the loan is currently too expensive for "Energija Zlatar NV" and the

municipality. Instead, they apply to the Public Investment Management Office (PIMO) for a grant to build a biomass plant for heating public buildings - 3 schools and municipal administration building (of smaller capacity than that provided by the business plan for district heating of the whole city developed within the KeepWarm). Funds from PIMO have been withdrawn for now due to the current epidemiological situation. Therefore, for now, all investments have been stopped. No change is expected before the end of October.

**DHS Šabac:** Due to large investments and financial situation, the Šabac heating plant has refocused its efforts to obtain the investment for a 10 MW biomass boiler with investments in improving the energy efficiency of DHS and buildings (on DHS grid), as well as focusing on smaller biomass boilers ( $\leq 0,5$  MW) in suburban areas. The investment for the construction of a 500kW wood-fired boiler with the construction of a 700 m network and 5 heat substations is financed from EU funds through the cross-border cooperation project - Interreg BIOSOL, is expected to be realized by March 2021.

**DHS Priboj:** Investment has started, the project for the construction permit is in progress, soon, the beginning of construction works is expected in the autumn.

**DHS Bajina Bašta:** PIMO approved funds for the construction of a biomass heating plant on March 6, when the municipality of Bajina Bašta announced a tender for the design, procurement, delivery and installation of equipment for the reconstruction of the existing coal boiler room for work on wood chips and construction of a new heating pipeline and heating substations. Unfortunately, due to the epidemiological situation, those funds were withdrawn, and the tender was suspended. The staff of the heating plant and the municipality expects that in October (6 months after the previous approval of funds, according to the law, it cannot be earlier), PIMO will approve the funds again, when the tender will be announced again. So, the start of investments will certainly not start before the end of October.

It should be mentioned that, due to the pandemic situation (COVID-19), most of planned and already organized meeting have been cancelled and adjusted to virtual platforms which definitively hindered implementation of scenarios and reduced a number of total meetings taken. Following table presents basic information:

LOCAL WORKING GROUP MEETING 1
Pilot: Nova Varoš, Priboj, Šabac, Bajina Bašta Number of stakeholders: 15 Main topics: Intro to LWG, bioenergy, organization of capacity building programme, future activities
LOCAL WORKING GROUP MEETING 2
Pilot: Nova Varoš, Priboj, Šabac, Bajina Bašta Number of stakeholders: 11 Main topics: Bioenergy, organization of workshop, organization of next meeting
LOCAL WORKING GROUP MEETING 3

Pilot: Priboj

Number of stakeholders: 5

Main topics: Feasibility studies, intro to LWG, twinning programme and inspire events

#### **LOCAL WORKING GROUP MEETING 4**

Pilot: Nova Varoš

Number of stakeholders: 5

Main topics: Feasibility studies, intro to LWG, twinning programme and inspire events

#### **LOCAL WORKING GROUP MEETING 5**

Pilot: Nova Varoš, Priboj, Šabac, Bajina Bašta

Number of stakeholders: 17

Main topics: Bioenergy – technical and legislative aspects, Official document release, future activities

#### **LOCAL WORKING GROUP MEETING 6**

Pilot: Šabac

Number of stakeholders: 6

Main topics: Feasibility studies, intro to LWG, twinning programme and inspire events

#### **LOCAL WORKING GROUP MEETING 7**

Pilot: Bajina Bašta

Number of stakeholders: 9

Main topics: Feasibility studies, intro to LWG, twinning programme and inspire events

#### **LOCAL WORKING GROUP MEETING 8**

Pilot: Nova Varoš, Priboj, Šabac, Bajina Bašta

Number of stakeholders: 22

Main topics: Introduction of Zlatibor region, Bioenergy – public authorities' activities, future activities, status of investments



## Introduction

As defined in the Grant Agreement, this deliverable N°4.2 Report on local working groups is closely tight with the work package 4's objective – achieve at least 15 DHS investments in at least 5 countries, using suitable technical and financial approaches (developed in Work Package 3), which will lead to increased efficiency and RES use. Throughout the task 4.2 Support to DH operators/owners to remove barriers and achieve investments, it is stated in the Grant Agreement that the main objectives are to provide a tailor-made support, remove barriers and achieve above mentioned investments.

The specific topics and focus of the conducted meetings were defined based on the needs of each DHS operator/owner and related stakeholder which is defined throughout the Task 4.1 Selection of DHS for retrofitting, investments and working groups. Working groups are established for each DHS to be retrofitted and include at least representatives of DHS operators/owners, local government and end consumers (and possible other key stakeholders if needed). The local working groups are responsible for the implementation and monitoring of the DHS retrofits. KeepWarm partner were mainly facilitator, discussion leader and triggering reflections and provide support in planned actions

In addition, the working groups will consider results of the Work Package 3 in order to provide an adequate support to secure investments:

- Supporting choices in the optimal financial approach and business model (combination of public and private capital, financing schemes like on-bill financing and similar)
- Support and guidance in preparation and application for potential grants (for example, EU structural funds through the Integrated Territorial Investment mechanism, and others)
- Supporting negotiations with customers (joint meetings with project partners as facilitators)
- Support on specific technical issues (in addition to the ones analyzed in WP3)
- Support with legal issues (e.g. unclear ownership/responsibilities of heating substations)
- Exchange with twins – and including lessons learnt
- Conclusions for future scenarios – long-term orientation

The outcome of Task 4.2 is the realization of 15 actual investments in DHS retrofits. Therefore, this document presents steps taken towards the above-mentioned goal through the activity of local working groups in terms of identification of problems, discussions, exchange of knowledge, remove of barriers and proposing relevant solutions.

# Local working group – meeting 1

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Belgrade
Pilot city name	Priboj, Nova Varoš, Šabac, Bajina Bašta
Date	April 12, 2019
Location	Hotel Zepter Belgrade, Terazije 10
Number of participants / Stakeholders groups	1 participant from Business association of Serbia heating plants (TOPS) 2 participants from SERBIO 2 participants from VINČA Institute of Nuclear Sciences 1 participant from Permanent Conference of Cities and Municipalities (SKGO) 1 participant from Biogas association 2 participants from Regional Development Agency Zlatibor (RRAZ) 1 participant- Deputy Mayor of Priboj and president of Regional Biomass Working Group of the Zlatibor district 3 participants from Ambero/VPC 2 participants from GIZ DKTi project "Development of a Sustainable Bioenergy Market in Serbia"
Topic(s)	Intro to LWG Bioenergy Organization of capacity building programme Future activities
Minutes by	Milica Mladenović

# Agenda

## Kick-off meeting of the Bioenergy Taskforce (Biomass and biogas working group)

12/04/2019, Location: Zepter Hotel, Terazije 10, Beograd, Duration: 10.00-14.30

### Agenda/ Dnevni red

Time	Topic
10:00 - 10:30	<i>Gathering and registration of participants, welcome coffee/ Dolazak i registracija učesnika, kafa dobrodošlice</i>
10:30 - 10:45	Introductory address /clarifying of the initiative/ Uvodno obraćanje /pojašnjenje inicijative/
10:45 - 11:15	Getting to know each other/personal and oral presentation up to 4', including the guests at the meeting/ Međusobno upoznavanje /lično i usmeno predstavljanje od 4', uključujući i goste na sastanku/
11:15 - 11:35	Personal expectations of the members from the initiative and personal contribution to the initiative /oral presentation 4' each, without presentations from the guests/ Lična očekivanja članstva od inicijative i lični doprinos inicijativi /usmena izlaganja po 4' bez izlaganja gostiju/
11:35 - 11:50	Expectations and contribution to the initiative by the initiators Očekivanja i doprinos inicijativi samih inicijatora
11:50 - 12:10	Consideration of the areas of joint action /digital platform, suggestions of the participants arising from the previous session/ Razmatranje oblasti zajedničkog delovanja /digitalna platforma, predlozi prisutnih proistekli iz prethodne sesije/
12:10 - 12:30	<i>Coffee break/ Pauza za kafu</i>
12:30 - 12:50	Presentation of the education plan/ Predstavljanje Plana edukacije
12:50 - 13:20	Consideration of the proposed plan and adopting the final version /proposed trainings and conferences, proposed study tours/ Razmatranje predloženog Plana i usvajanje konačne verzije /predložene obuke i konferencije, predložena studijska putovanja/
13:20 - 14:00	Consideration of the way the taskforce (working group) would function /organizational and administrative aspects, logistics-technical issues/ Razmatranje načina funkcionisanja RG /organizaciono-administrativni aspekti, logističko-tehnička pitanja/
14:00 - 14:30	Conclusions /Decision on eventual expansion of the taskforce-working group, next meeting, future moderation.../ Zaključci /odluka o eventualnom proširenju RG, naredno zasedanje, buduća moderacija.../
14:30 - 15:30	<i>Lunch/ Ručak</i>

## Minutes and main Conclusions

One of the main goals of the listed meetings of the established national working group was to lobby for biomass and the application of bioenergy in general. A national lobbying group for biomass does not exist (only for biogas), hence lobbying on national level for bioenergy should be improved.

The Bioenergy Task Force is comprised of five partner organizations, in addition to the VINČA Institute, these are the National Association for Biomass SERBIO, the Standing Conference of Towns and Municipalities, the Association of Biogas Serbia, the Business Association of Serbian Heat Plants, with the support of the Zlatibor Area Working Group on Biomass and Energy Efficiency for Forests, the Regional Development Agencies Zlatibor and the Regional Development Agency of Eastern Serbia - RARIS.

In this way, VINČA wants to influence at national level that the modernization of DHS and the use of RES will be included in strategic energy plans, which was presented to the LWG participants.

At the **first initial meeting** the discussions were conducted in accordance with the agenda, with an emphasis on:

- Ideas for capacity development activities: mostly everyone agreed on important topics for capacity building that are: characterization of fuel quality, project management, training of trainers, certification of wood chips and wood chips producers, financial management on local level.
- Giving recommendations as well as education to people to use the biomass in an optimal way is important.
- Study tour topic: good practice examples in Serbia - Experiences of Priboj could be beneficial to municipalities which are deciding on whether to use biomass. In these regards, meetings could be organized with representatives of municipalities where biomass projects are being implemented. Priboj can share its experiences (like 1.8 MW boiler plant financed by PIMO) and help in quicker implementation of projects in some municipalities, or these experiences can help the municipalities to decide on using biomass.
- Strategic positioning is of utmost importance.
- Problem with the legislation: 99% of the Energy Law refers to electricity, 0.7% to natural gas, while heat is very rarely considered.
- Review realistic biomass availability taking into account wood that is already used in rural household heating environments and is not available for DHS.
- Different approaches: municipality by municipality (referring to potential), wider approach (lobbying is important).
- Functioning of the Taskforce/Working Group - less formal taskforce is preferred.
- Discussion on logistics for the following meetings of the taskforce/working group - meetings on quarterly basis (all participants agreed).
- Next meeting in June can be hosted by SKGO.

## **Twinning activities**

This meeting did not include any activities focused on twinning.

## **Monitor of retrofit implementation steps**

This meeting did not include any activities on retrofit implementation steps.

## Local working group – meeting 2

### General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Priboj, Nova Varoš, Šabac, Bajina Bašta
Date	October 3, 2019
Location	premises of the Standing Conference of Municipalities and Cities, SCTM (in Serbian SKGO), Makedonska 22/VIII, Belgrade
Number of participants	1 participant- Deputy Mayor of Priboj and president of Working Group on Biomass and Energy Efficiency of Zlatibor Region 1 participant- Working Group on Biomass and Energy Efficiency of Zlatibor Region, City of Uzice 1 participant from Permanent Conference of Cities and Municipalities (SKGO) 1 participant from Association Biogas Serbia 2 participants from Zlatibor Regional Development Agency 1 participant from SERBIO 2 participants from VINČA Institute of Nuclear Sciences 1 participant from Ambero/VPC 1 participant from GIZ DKTi project "Development of a Sustainable Bioenergy Market in Serbia"
Topic(s)	Bioenergy, Organization of workshop, Organization of next meeting
Minutes by	Milica Mladenović

### Agenda

There is no official document which can serve as an agenda.

### Minutes and main Conclusions

At the **second meeting** of the established national working group (see meeting 1) work continued on defining the model of joint action of partner organizations, active in the topic of biomass and biogas, at the national and regional level, in Serbia. The discussion was conducted as a continuation of the discussion from the previous meeting, where one of the main tasks were the formalization of the group itself and overview of future activities.

It was concluded that it would be effective to organize a multi-day workshop for partner organizations, in order to better define and shape the mentioned aspects of joint action:

- location: somewhere outside the country, but in a closer environment (for convenience)
- term: mid-November
- logistics: Ambero (assisted by RDA Zlatibor)
- Leadership: external engagement of facilitators for workshop work (with the assistance of RBA Zlatibor)

## Twinning activities

This meeting did not include any activities focused on twinning.

## Monitor of retrofit implementation steps

This meeting did not include any activities on retrofit implementation steps.

# Local working group – meeting 3

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Priboj
Date	November 19, 2019
Location	Public company “Toplana Priboj”, 12 januar br.5, Priboj
Number of participants / Stakeholders groups	2 participants from municipality Priboj (deputy mayor and energy manager) 1 participant from DHS Priboj 2 participants from VINČA Institute of Nuclear Sciences
Topic(s)	Feasibility studies Intro to LWG Twinning programme and inspire events
Minutes by	Milica Mladenović

# Agenda



JAVNO PREDUZEĆE  
TOPLANA PRIBOJ



## AGENDA OF THE MEETING /DNEVNI RED SASTANKA

Topic/Teme	Activities /Aktivnosti	Done by?/Ko ih sprovodi	Purpose /Svrha
Feasibility studies Studije izvodljivosti	Send documents	VINČA	To provide DHS Priboj with final version of feasibility studies for their DHS
	Poslata dokumentacija		Obezbediti Toplani Priboj poslednju verziju studije izvodljivosti za modernizaciju svoje toplane
	Revision of documents and feedback	DHS/Toplana Priboj	To provide feedback on feasibility studies which will be used to improve future scenarios
	Revizija dokumentacije i odgovor		Davanje povratnih informacija o studijama izvodljivosti koje će se koristiti za poboljšanje budućih scenarija
Local working group (LWG)	Explanatory session	VINČA	Formulating the main goals
Lokalna radna grupa (LRG)	Pojašnjenja		Formulisanje glavnih ciljeva
Twinning programme/	Introduction of twinning	VINČA	Present Twin partners Ptuj to Serbian pilot DHS
Uparivanje toplasna I concept twinninga	Upoznavanje sa konceptom twinninga (uparivanja)		predstavljanje twin partnera –Toplane Ptuj
Inspiring event	Introduction of event	VINČA	Notification of the date of the event, the main topics and guests and the purpose of the event in general
	Uvod u događaj		Obaveštenje o datumu događaja, glavnim temama i gostima i cilju događaja uopšte
Bioenergy Task Force (BTF)	Introduction with the activities of the Vinča Institute in BTF	VINČA	Improving support for the bioenergy sector in Serbia
Radna grupa za biomasu	Upoznavanje sa aktivnostima Instituta Vinča u ovoj radnoj grupi		Poboljšanje podrške sektoru bioenergije u Srbiji



## Minutes and main Conclusions

One of the main goals of this meeting of the established local working group was to **present the feasibility studies**, done by VINČA, and to align the data with the current status of the pilot DHS discussed. Representatives of the pilot plant and their municipality provided appropriate suggestions on how to improve the scenarios presented. These adjustments are mainly related to the investment costs of certain technical elements as well as to the implementation timeframe for realization on DHS modernization. In this way, the best scenario was selected (for the Priboj heating plant it is Scenario 3: Construction of a new 8.0 MW boiler, extended operation including night shift and integration of grid) and all the parameters needed to create a business plan were precisely defined.

Furthermore, the local working group representatives were briefed on the **main objectives** of the working group - to support achievement of investments, coordination of “Twinning” programme, production of additional studies and negotiations with future customers.

**The local working group consist** of representatives from VINČA Institute (Goran Živković and Borislav Grubor), DHS management staff (Dalibor Šljivić) and public authorities/ municipal administration (Saša Vasilić, deputy mayor, and Marko Janjušević, energy manager), which will be contacted about necessary bureaucracy regarding necessary urban planning permits (public buildings – schools, health centres, kindergartens etc.).

In this meeting, participants were also briefed on the **twin activities** that will take place in the coming year/ next project period.

VINČA presented the twin partner (Ptuj, Slovenai) which will be contacted soon through project partners from Slovenia. Furthermore, LWG representatives have been discussed about documents which will be shared with twin partners. This was done to prepare both sides on data collection and document creation.

### Twinning activities

At the last Steering Committee Meeting in Ljubljana 09.2019, twin cities have been identified, the twin for Priboj is:

#### Ptuj (SLO)

Information about the twin DHS

Grid: 5,990 m

- Customers: In total, the DHS Ptuj has 42 customers. The main customers are 21 residential buildings with total 2,126 individual customers connected to the system. The remaining customers are schools and office buildings. They have heat supply contracts without time limit obligations.
- Connected load: 24.8 MW, whereby 15.4 MW come from residential buildings.



- Boiler output: 26,930 kW
- Type of DHS: hot-water
- Current fuel: Natural gas, heat oil as fossil backup
- Potential renewables nearby: biomass- wood chips

In accordance to the project and agreements between project partners, dates of visits to twin cities will be announced.

In the meeting, participants were also informed about the **Inspiring Event** that will take place in the coming year- April 1st and 2<sup>nd</sup>, in Belgrade (see meeting 3).

The Inspire Event objective is to reach out to relevant stakeholders through European and national events, attract interest for the project's results and stimulate motivation for the uptake of KeepWarm services.

## Monitor of retrofit implementation steps

The following activity has been successfully implemented in this local working group meeting:

- The most favourable scenario from the feasibility studies was selected, and that is already above stated scenario 3: Construction of a new 8.0 MW boiler, extended operation including night shift and integration of grid,
- and the parameters for developing business plans were specified, which primarily refers to the cost of individual technical elements of the heating plant and network and defining the time frame and steps for the realization of the investment.

Moreover, in this introductory meeting, it was agreed to hold a one-day meeting of local working groups composed of representatives of all four DHS pilots and representatives of their municipalities, in Belgrade at the beginning of next year, by February 2020 at the latest, in order to define more precisely the next steps in finding potential investors. This meeting was held with the representatives of Priboj and Bajina Basta as a meeting under number 8 in this document.

# Local working group – meeting 4

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Nova Varoš
Date	November 20, 2019
Location	Public company “ENERGIJA ZLATAR NV”, Karađorđeva 114 , 31320 Nova Varoš
Number of participants	1 participant from municipality Nova Varoš 2 participants from DHS Priboj 2 participants from VINČA Institute of Nuclear Sciences
Topic(s)	Feasibility studies Intro to LWG Twinning programme and inspire events
Minutes by	Milica Mladenović

# Agenda

D.O.O. ENERGIJA ZLATAR NV  
NOVA VAROS



## AGENDA OF THE MEETING /DNEVNI RED SASTANKA

Topic/Teme	Activities /Aktivnosti	Done by?/Ko ih sprovodi	Purpose /Svrha
Feasibility studies Studije izvodljivosti	Send documents	VINČA	To provide DHS Energija Zlatar NV with final version of feasibility studies for their DHS
	Poslata dokumentacija		Obezbediti Toplani Nova Varoš poslednju verziju studije izvodljivosti za modernizaciju svoje toplane
	Revision of documents and feedback	DHS/Toplana Nova Varoš (Energija Zlatar NV)	To provide feedback on feasibility studies which will be used to improve future scenarios
	Revizija dokumentacije i odgovor		Davanje povratnih informacija o studijama izvodljivosti koje će se koristiti za poboljšanje budućih scenarija
Local working group (LWG)	Explanatory session	VINČA	Formulating the main goals
Lokalna radna grupa (LRG)	Pojašnjenja		Formulisanje glavnih ciljeva
Twinning programme/	Introduction of twinning	VINČA	Present Twin partners Zaprešić to Serbian pilot DHS
Uparivanje toplana i concept twinninga	Upoznavanje sa konceptom twinninga (uparivanja)		predstavljanje twin partnera –Toplane Zaprešić
Inspiring event	Introduction of event	VINČA	Notification of the date of the event, the main topics and guests and the purpose of the event in general
	Uvod u događaj		Obaveštenje o datumu događaja, glavnim temama i gostima i cilju događaja uopšte
Bioenergy Task Force (BTF)	Introduction with the activities of the Vinča Institute in BTF	VINČA	Improving support for the bioenergy sector in Serbia
Radna grupa za biomasu	Upoznavanje sa aktivnostima Instituta Vinča u ovoj radnoj grupi		Poboljšanje podrške sektoru bioenergije u Srbiji

## Minutes and main Conclusions

One of the main goals of this meeting of the established local working group was to **present the feasibility studies**, done by VINČA, and to align the data with the current status of the pilot DHS discussed. Representatives of the pilot plant and their municipality provided appropriate suggestions on how to improve the scenarios presented. These adjustments mainly related to the investment costs of certain technical elements as well as the implementation timeframe for realization on DHS modernization. In this way, the best scenario was selected (for pilot DHS Nova Varoš it is Scenario 3: Construction of a new 3.0 MW boiler on wood chips with, extended operation including night shift and integration of grid) and all the parameters needed to create a business plan were precisely defined.

The local working group representatives were briefed on the **main objectives** of the working groups - to support achievement of investments, coordination of “Twinning” programme, production of additional studies and negotiations with future customers.

**LWG consist** of representatives from VINČA Institute, DHS management staff and public authorities/ municipal administration, which will be contacted about necessary bureaucracy regarding necessary urban planning permits (public buildings – schools, health centres, kindergartens...).

In this series of meetings, participants were briefed on the **twin activities** that will take place in the coming year/ next project period.

VINČA presented twin partners (Zaprešić) which will be contacted soon through project partners from Croatia. Furthermore, LWG representatives have been discussed about documents which will be shared with twin partners. This was done to prepare both sides on data collection and document creation.

## Twinning activities

At the last Steering Committee Meeting in Ljubljana 09.2019, twin cities have been identified, the twin for Nova Varoš is:

### Zaprešić (HR)

Information about the twin DHS

- Grid: 2 368 m
- Customers: 2 372
- Connected load: 15 172 kW
- Boiler output: 20 360 kW (19 boilers)
- Type of DHS: hot-water

- Current fuel: Natural gas and extra light fuel oil
- Potential renewables nearby: solar thermal energy

In accordance to the project and agreements between project partners, dates of visits to twin cities will be announced.

In the meeting, participants were informed about the **Inspiring Event** that will take place in the coming year, on April 1st and 2<sup>nd</sup>, in Belgrade (see meeting 3).

The Inspire Event objective is to reach out to relevant stakeholders through European and national events, attract interest for the project's results and stimulate motivation for the uptake of KeepWarm services.

## Monitor of retrofit implementation steps

The following activity has been successfully implemented in this local working group meeting:

- the most favourable scenario from the feasibility studies was selected and that is scenario 3: Construction of a new 3.0 MW boiler on wood chips with, extended operation including night shift and integration of grid
- and the parameters for developing business plans were specified which refers to the supplementing the documentation regarding specifying the price of individual technical elements, as well as the time frame for the implementation of activities defined by the business model.

In this introductory meeting, it was also agreed among the participants to hold a one-day meeting of local working groups in Belgrade at the beginning of next year, by February 2020 at the latest, in order to define more precisely the next steps in finding potential investors. Representatives of Nova Varoš are expected to be present at the meeting number 8 (in this document) held in Požega, but unfortunately they were not present due to busy schedule.

# Local working group – meeting 5

## General Info

SHORT INFORMATION ABOUT THE NATIONAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Priboj, Nova Varoš, Šabac, Bajina Bašta
Date	November 21-23, 2019
Location	Stanišići, Republic of Bosnia and Herzegovina
Number of participants / Stakeholder groups	2 participants from Working Group on Biomass and Energy Efficiency of Zlatibor Region 1 participant from National Biomass Association of Serbia 2 participants from Regional Development Agency of Eastern Serbia "RARIS" 2 participants from Vinca Institute of Nuclear Sciences 2 participants from Zlatibor Regional Development Agency 2 participants from Biogas 1 participant from GIZ DKTI project "Development of a sustainable bioenergy market in Serbia" 5 participants from Ambero Consulting
Topic(s)	Bioenergy – technical and legislative aspects Official document release Future activities
Minutes by	Milica Mladenović

# Agenda



## ZAPISNIK SA RADIONICE

<b>Tema sastanka</b>	Treći sastanak partnerskih organizacija na definisanju modela zajedničkog delovanja - Radionica "Javno zagovaranje"		
<b>Mesto održavanja</b>	Etno-selo "Stanišići" Bijeljina,		
<b>Datum</b>	21-23.11.2019.	<b>Vreme trajanja</b>	11:00 - 13:30
<b>Program rada</b>	<ul style="list-style-type: none"> <li>• Prvi dan <ul style="list-style-type: none"> <li>○ Javno zastupanje - osnovni pojmovi</li> <li>○ Ciklus uticanja na javne politike</li> <li>○ Rad u grupama i predstavljanje nalaza grupe- definisanje teme</li> <li>○ Selekcija tema - glasanje</li> </ul> </li> <li>• Drugi dan <ul style="list-style-type: none"> <li>○ Rekapitulacija prethodnog dana</li> <li>○ Kontekstualna analiza</li> <li>○ Rad u grupama i predstavljanje nalaza grupe - analiza zainteresovanih strana</li> <li>○ Strateško planiranje - osnovni pojmovi</li> <li>○ Rad u grupama i predstavljanje nalaza grupe - stablo ciljeva</li> <li>○ Formulisanje akcionog plana</li> <li>○ Rad u grupama - akcioni plan</li> </ul> </li> <li>• Treći dan <ul style="list-style-type: none"> <li>○ Rekapitulacija prethodnog dana</li> <li>○ Predstavljanje rada u grupama - akcioni plan</li> <li>○ Prenosjenje poruke</li> <li>○ Finalno usaglašavanje akcionog plana</li> <li>○ Dogovor o narednim koracima - definicija ključnih nosilaca aktivnosti</li> </ul> </li> </ul>		

## Minutes and main Conclusions

As a result of the conclusion from the previous meeting of the established national working group (see meetings 1 & 2), the third gathering of five partner organizations (in addition to the VINČA Institute, these are the National Association for Biomass SERBIO, the Standing Conference of Towns and Municipalities, the Association of Biogas Serbia, the Business Association of Serbian Heating Plants, with the support of the Working Group on Biomass and Energy Efficiency from Zlatibor Region, the Regional Development Agencies Zlatibor and the Regional Development Agency of Eastern Serbia - RARIS.) was realized, which was attended by their representatives from VINČA Institute, Working Group on Biomass and Energy Efficiency of Zlatibor Region, National Biomass Association of Serbia, Regional Development Agency of Eastern Serbia "RARIS", Zlatibor Regional Development Agency, Biogas, as well as representatives of the program that provides technical support to this process (Ambero/VPC & GIZ DKTi project "Development of a Sustainable Bioenergy Market in Serbia"). Pursuant to the agreement from previous meetings (see meetings 1 & 2), a multi-day workshop was held to discuss various aspects of joint action, including

topics, goals, key actors and dynamics of actions. Special emphasis in the three-day work was placed on public advocacy, which was recognized as the basic mandate of the newly formed group. This gathering of partner organizations was joined by representatives of the Regional Agency for Development of Eastern Serbia "RARIS", as well as consultants hired by GIZ/ Ambero, during various project activities throughout Serbia. The facilitation of the three-day education was conducted by external engagement of facilitators for workshop work (with the assistance of RBA Zlatibor) During the mentioned three of national working group meetings (1,2 & 5), through presentations and joint discussions, several conclusions crystallized:

1. The group of partner organizations participating in national working group meetings is called the "Bioenergy Task Force", in order to avoid different interpretations of the term Working Group, which is already "reserved" in the official terminology of the state apparatus.
2. The following was chosen as the main topic of the Task Force's activities: Increasing the share of renewable energy sources in thermal energy production in Serbia.

The activities of the Task Force can be structured into the following basic subgroups:

- Making an alliance and defining the model of joint action of partner organizations
- Identification of common topics and goals in the field of biomass and biogas
- Establishing dialogue with decision makers at national, regional and local levels on identified topics
- Improving support to the bioenergy sector (analysis of existing and development of new support schemes)
- Raising awareness of the importance of bioenergy and organization of promotional activities
- Improving the capacity of partner organizations

Cooperation between partner organizations, at the bilateral/trilateral level, depending on the topic or geographical area is a priority in achieving specific objectives.

GIZ/ Ambero supported this specific process, in the function of a "catalyst of ideas".

As follow-up on this meeting, in May 2020, the document PUBLIC ADVOCACY STRATEGY, Bioenergy Task Force, within the DKTi program "Development of a sustainable bioenergy market in Serbia" was prepared and will be published on a platform which will be developed in the near future.



# Local working group - meeting 6

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Šabac
Date	November 29, 2019
Location	Public company "Toplana Šabac", 12 januar br.5, Priboj
Number of participants / Stakeholder groups	4 participants from DHS Šabac 2 participants from VINČA Institute of Nuclear Sciences
Topic(s)	Intro to LWG Feasibility studies Twinning programme and Inspire events
Minutes by	Milica Mladenović

## Agenda

There is no written agenda of this meeting.

## Minutes and main Conclusions

One of the main goals of this meeting was to **present the feasibility studies** to Šabac, done by VINČA, and to align the data with the current status of the pilot DHS discussed. Representatives of the pilot plant and their municipality provided appropriate suggestions on how to improve the scenarios presented. These adjustments mainly related to the investment costs of certain technical elements as well as the implementation timeframe for realization on DHS modernization. In this way, the best scenarios were selected and that is Scenario 2 from a feasibility study: Construction of a new 10 MW boiler on wood chips, extended operation to include night shift and all the parameters needed to create a business plan were precisely defined.

The local working group representatives ( DHS management and technical staff) were briefed on the **main objectives** of the working group These are to support achievements of investments, coordination of "Twinning" programme, production of additional studies and negotiations with future customers.

Similar to the local working groups from Priboj, Nova Varoš and Bajina Bašta, **LWG consist** of representatives from VINČA Institute, DHS management and technical staff.

In this meeting, participants were briefed on the **twinn activities** that will take place in the coming year/ next project period.

VINČA presented the twin partners - Velika Gorica/ Croatia, Zaprešić/ Croatia and Ptuj/ Slovenia - of the Serbian DHSs which will be contacted soon. Furthermore, LWG representatives have been discussed about documents which will be shared with the twin partners. This was done to prepare both - data collection and document creation.

## Twinning activities

At the last Steering Committee Meeting in Ljubljana 09.2019, twin cities have been identified. The twin city of Šabac is:

### Velika Gorica (HR)

Information about the twin DHS

- Grid: 9 836 m
- Customers: 5 902
- Connected load: 46 275 kW
- Boiler output: 69 612 kW (33 boilers)
- Type of DHS: hot-water
- Current fuel: Natural gas and extra light fuel oil
- Potential renewables nearby: solar thermal energy

In accordance to the project and agreements between project partners, dates of visits to twin cities will be announced.

In the meeting, participants were also informed about the **Inspiring Event** that will take place in the coming year, on April 1st and 2<sup>nd</sup>, in Belgrade (see meeting 3)

## Monitor of retrofit implementation steps

The following activity has been successfully implemented in the local working group meeting:

- the most favourable scenario from the feasibility study was selected (construction of a new 10 MW boiler on wood chips with extended operation to include night shift) and
- the parameters for developing business plans were specified (investment costs of certain technical elements as well as the implementation timeframe for investment realization).

In this introductory meeting, it was also agreed to hold a one-day meeting of local working groups in Belgrade at the beginning of next year, by February at the latest, in order to define more precisely the next steps in finding potential investors.

# Local working group - meeting 7

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Bajina Bašta
Date	December 2, 2019
Location	Public company "BB TERM", Kneza Milana Obrenovića 44, Bajina Bašta
Number of participants / Stakeholder groups	7 participants from DHS Bajina Bašta 2 participants from VINČA Institute of Nuclear Sciences
Topic(s)	Intro to LWG Feasibility studies Twinning programme and inspire events
Minutes by	Milica Mladenović

# Agenda



AGENDA OF THE MEETING /DNEVNI RED SASTANKA			
Topic/Teme	Activities /Aktivnosti	Done by?/ Ko ih sprovodi	Purpose /Svrha
Feasibility studies Studije izvodljivosti	Send documents	VINČA	To provide DHS Bajina Bašta with final version of feasibility studies for their DHS
	Poslata dokumentacija		Obezbediti Toplani Bajina Bašta poslednju verziju studije izvodljivosti za modernizaciju svoje toplane
	Revision of documents and feedback	DHS/Toplana Bajina Bašta	To provide feedback on feasibility studies which will be used to improve future scenarios
	Revizija dokumentacije i odgovor		Davanje povratnih informacija o studijama izvodljivosti koje će se koristiti za poboljšanje budućih scenarija
Local working group (LWG)	Explanatory session	VINČA	Formulating the main goals
Lokalna radna grupa (LRG)	Pojašnjenja		Formulisanje glavnih ciljeva
Inspiring event	Introduction of event	VINČA	Notification of the date of the event, the main topics, guests and the purpose of the event in general
	Uvod u događaj		Obaveštenje o datumu događaja, glavnim temama, gostima i cilju događaja uopšte
Bioenergy Task Force (BTF)	Introduction with the activities of the Vinča Institute in BTF	VINČA	Improving support for the bioenergy sector in Serbia
Radna grupa za biomasu	Upoznavanje sa aktivnostima Instituta Vinča u ovoj radnoj grupi		Poboljšanje podrške sektoru bioenergije u Srbiji

## Minutes and main Conclusions

One of the main goals of the meeting of the established local working group was to **present the feasibility studies**, done by VINČA, and to align the data with the current status of the pilot DHS Bajina Bašta. Representatives of the pilot plant provided appropriate suggestions on how to improve the scenarios presented. These adjustments mainly related to the investment costs of certain technical elements as well as the implementation timeframe for realization on DHS modernization investment. In this way, the best scenario was selected (

scenario 2 from feasibility studies: construction of two new 3.0 MW boilers on wood chips) and all the parameters needed to create a business plan were precisely defined (individual prices of technical elements and time frame for the realization of individual investment phases).

The local working group representatives were briefed on the **main objectives** of the working groups - to support achievement of investments, coordination of “Twinning” programme, production of additional studies and negotiations with future customers.

Similar to meetings 3,4 and 6, **LWG consist** of representatives from VINČA Institute (Borislav Grubor and Milica Mladenović) and DHS management and technical staff (Velimir Radovanović, Predrag Anđić, Leontije Leontijević, Slađana Jpkić Stanić, Gordana Spasojević and Ljiljana Milošević).

### Twinning activities

In accordance to the project and agreements between project partners, dates of visits to twin cities will be announced.

In this series of meetings, participants were briefed on the **Inspiring event** that will take place in the coming year- April 1st and 2<sup>nd</sup>, in Belgrade (see meeting 3).

### Monitor of retrofit implementation steps

The following activity has been successfully implemented in the local working group meeting:

- the most favourable scenario from the feasibility study was selected and that is construction of two new 3.0 MW boilers on wood chips
- and the parameters for developing business plans were specified (prices of technical items and grantogram)

In this introductory meeting, it was agreed to hold a one-day meeting of local working groups in Belgrade at the beginning of next year, by February at the latest, in order to define more precisely the next steps in finding potential investors. This meeting was held with the representatives of Priboj and Bajina Basta as a meeting of regional working group (RWG) under number 8 in this document.

# Local working group - meeting 8

## General Info

SHORT INFORMATION ABOUT THE LOCAL WORKING GROUP MEETING	
Country	Serbia
Pilot city name	Priboj, Bajina Bašta, Nova Varoš
Date	February 28, 2020
Location	small hall of the Municipal Assembly of Požega
Number of participants / Stakeholder groups	12 participants from Working group for biomass and energy efficiency of Zlatibor area 3 participants from Zlatibor Regional Development Agency 4 participants from municipalities 3 representatives of KeepWarm project partner Vinča Institute of Nuclear Sciences
Topic(s)	Introduction of Zlatibor region, Bioenergy – public authorities' activities, Future activities. Status of investments
Minutes by	Milica Mladenović

## Agenda



### A G E N D A

#### 1. Aktuelne informacije iz regiona

Presek aktivnosti po opštinama (u sektorima bioenergije i energetske efikasnosti)

#### 2. Osvrt na realizovane aktivnosti septembar 2019 - januar 2020.

#### 3. Informacije u vezi sa predajom koncepta projekta na konkurs EUKI 2020.

#### 4. Diskusija

Predlozi za nove članove RG

Učešće članova RG na tematski srodnim događajima u zemlji

Naredni koraci

#### 5. Presentacije projekta KeepWarm

Dosadašnje aktivnosti, realizacija i planovi

Prezentacija biznis planova modernizacija pilot toplana u okviru projekta - Priboj, Nova Varoš i Bajina Bašta

The VINČA Institute attended the meeting as a guest in order to present the KeepWarm project, and realized project activities so far, as well as to acquaint those present with current plans and future activities. Furthermore, the business plans for modernization of pilot heating plants within the project - Priboj, Nova Varos and Bajina Basta - were presented.

- Current information from the Zlatibor region

Cross-section of activities by municipalities (in the sectors of bioenergy and energy efficiency)

- Review of implemented activities September 2019 - January 2020.
- Information related to the submission of the project concept to the EUKI 2020 competition.

Discussion

- Proposals for new WG members

Participation of WG members in thematically related events in the country

Next steps

- Presentations of the KeepWarm project

Activities so far, realization and plans

Presentation of business plans for modernization of pilot heating plants within the project - Priboj, Nova Varos and Bajina Basta

Possibility of implementation in action plans at local and regional level, as well as learning about twin activities and upcoming Inspire event

## Minutes and main Conclusions

Energy efficiency, biomass as the main energy potential of the region, sustainable management and networking of all elements of the production cycle of good energy - were the topics of the regional working group, RWG, meeting.

Within the **first session (of the agenda)**, members were given the opportunity to present the activities of their municipalities within the topics of biomass and energy efficiency. Only activities concerning municipalities that are also participants in the KeepWarm project, are listed in subchapter Monitor of retrofit implementation steps.

Representative of RRAZ and moderator of the meeting introduced the participants to the activities in which the members of the regional working group, RWG took part, to a greater or lesser extent, in the period after the last formal gathering.

Some of the next steps were presented:

ACTIVITY	DESCRIPTION	DATE
EUKI application	Elaboration of the concept in the form of a full application	March 2020
	Eventual submission of the full application to the competition	Jun 2020
Elaboration and definition of institutional models	Presentation of business models of association of private forest owners at the regional level	March 2020
	Return visit of REAS Koprivnica	March 2020
	Presentation of the business model for formalizing the work of the WG	April 2020
Membership capacity building	Visit to the city of Sabac and the first energy cooperative in Serbia	March 2020
	Development of a website to promote the region's energy transition	March 2020
	International conference in Belgrade, within the KeepWarm project	April 2020

Representative of RRAZ and moderator of the meeting briefly presented the epilogue of the work of the secretariat of the RWG and GIZ/ Ambero, on the preparation and submission of the concept of the project proposal, to the competition "European Climate Initiative / EUKI" 2020. Within the regular programme of the Assembly, where the most important points were briefly presented (in the bioenergy and energy efficiency sectors), the KeepWarm project was presented with three presentations related to:

previous activities, implementation and plans

presentation of business plans for the modernisation of pilot plants within the project - Priboj, Nova Varoš and Bajina Bašta

possibility of implementation in Keep Warm action plans at local and regional level, as well as learning about twin activities and upcoming Inspire event.

## **Twinning activities**

This meeting did not include any activities focused on twinning.



## Monitor of retrofit implementation steps

### Priboj

This municipality received 15 million dinars (127.590 €) from the Republic Fund for EE, for the project of energy rehabilitation of the building of the House of Culture in Old Priboj, including interventions on the equipment for heating regulation. Currently, a tender has been announced for a contractor for the construction of an 8 MW boiler room for heating residential buildings. It is expected that the works will start in the summer 2020. The municipality is also planning to replace the 1.5 MW plant that is currently heating the General Hospital and the Health Center, with a plant that will consume wood chips for heating and cooling these facilities, but also for electricity production. The municipality also plans to allocate significant funds from the municipal budget to subsidize individual users who would put fossil fuels out of use. Currently, the municipality is financing with 10 million dinars (85060 €), the reconstruction of several buildings of collective housing, which includes certain energy efficiency measures. The possibility of making these measures more serious and binding is considered, in order to achieve the greatest possible effects in the context of savings and reduction of air pollution.

The municipality of Priboj, known for the successful implementation of the transition to the use of thermal energy from biomass in public buildings, has become a member of the network "Mayor's Charter", which brings together over seven and a half thousand local governments from around the world. Joining this movement, Priboj expressed readiness to reduce greenhouse gas emissions by over 40 percent by 2030 in the municipality, using renewable energy sources, primarily biomass, and other energy efficiency measures, and to adopt an Action Plan for climate and sustainable energy covering the period up to 2030.

A tender has been announced for the contractor to develop a municipal SECAP document (in accordance with the obligations arising from the membership of this municipality in the Covenant of Mayors), while the development of a 3-year Energy Efficiency Program is entrusted to UNDP consultants (with the necessary input from the municipal energy manager).

### Bajina Bašta

The location permit for the wood chip boiler room, with a capacity of 2 x 3 MW, whose estimated value is 436 million dinars (3.713.535 €), is currently being completed. Public procurement for the construction of this plant is expected to be announced in March 2020. At the competition of the Budget Fund for EE, the school in Rastište received 8 million dinars (68.138 €) for a complete reconstruction, while maintaining the existing wood heating. During 2019, the municipality managed to replace 65% of public lighting lamps with LED bulbs (on its entire territory) and is currently monitoring the results, which are primarily related to reducing electricity consumption.

## Future activities of local working groups

As the project period comes to its end, there will be additional meetings of local working groups organized in order to continue above-mentioned activities in terms of achieving investments. Most of those meetings will take place virtually due to new working environment influenced by the COVID-19.

The Vinča Institute is in constant virtual contact with the representatives of the heating plants Bajina Bašta, Priboj, Nova Varoš and Šabac in order to monitor the current situation regarding to investments realization. The mentioned representatives of the heating plants were forwarded the document Action plans for retrofitting of District Heating Systems - Serbia, in order to facilitate the preparation of such documents at the local and regional level.

Within the Bioenergy Task Force, Vinča will work with other partners to raise awareness of the need to increase the share of renewable energy sources in heat production in Serbia. Through comments and suggestions, Vinča helped in the realization of the drafting of two documents of this working group, which are Public Advocacy Strategy and Analysis of the Bioenergy Sector in Serbia (with support measures). The development of a web platform, on which these documents will be posted, is in progress.

On September 10, VIRTUAL KEEPWARM STUDY VISITS to pilot heating plants participating in twinning activities were realized. This event was realized in coordination with the holders of the KeepWarm project from Croatia, Slovenia and Serbia. VIRTUAL KEEPWARM STUDIES were visited by more than 30 participants. District heating systems in all three countries were presented, followed by paired heating plants:

Velika Gorica (HR) & Sabac (SRB),

Zaprešić (HR) & Nova Varos (SRB),

Ptuj (SLO) & Priboj (SRB) and

Samobor (HR) & Velenje (SLO).

The presentations were followed by fruitful discussions and exchange of experiences, which lasted almost four hours. The heating plants that participated were given the opportunity to express their opinion on the need for organization more such meetings, in order to further and deeper exchange of views.

As part of the Inspire Event planned in October (physical event), the participation of investors and government representatives is planned, in addition to the heating plants and local and regional WGs.

In addition to the above, Vinča plans to provide services in the characterization of fuels used in heating plants through the work of its own accredited Testing Laboratory. It will also be offered to heating plants to participate in the implementation of projects of the relevant Ministry of Science, in terms of monitoring combustion products, primarily in plants that use biomass.