



GRASPINNO

Transnational model, strategies and decision support for innovative clusters and business networks towards green growth, focusing on green e-procurement in EE/RES for energy refurbishment of public buildings.

Deliverable: 4.4.1 Report on GRASPINNO Living Lab

eGPP Living Lab, Bosnia and Herzegovina

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1 EXECUTIVE SUMMARY

GRASPINNO project aims to support and strengthen innovative clusters and network for increasing their capacity and competence in green growth and eco-innovation, especially in innovative energy refurbishment and green public procurement. It addresses the challenge of developing effective energy management solutions by improving the capacity of both public and private sector on eco-innovation solutions by adopting Living Lab methodology. Indeed, the Living Lab (LL) presents a specific trend in open innovation approaches that enables co-creation of novel user-oriented solutions. Its role is likewise deployed within GRASPINNO project to change the stance of actors and civil society toward green sustainable growth. The GRASPINNO Living Labs integrate R&I processes and create a user-oriented open innovation ecosystem that will strengthen transnational cooperation and networking among existing clusters and networks of green energy market eco-innovation. The main goal of GRASPINNO LLs is to transfer the knowledge obtained within the project's pilot actions and to exchange experiences or concerns for green growth, especially including end-users, and so setting the base for further actions.

With setting up eGPP Living Lab in Bosnia and Herzegovina, first of all, we aim to present the green public procurement and to develop awareness of the advantages of implementing green criteria while doing public procurement. The other aim was to educate stakeholders about energy efficiency to improve capacity of public building owners in managing energy efficiency towards achieving almost-zero-energy buildings, introducing and educating stakeholders about the eGPP platform and at the end to provide counselling to the stakeholders about modern energy efficient materials, building furniture, energy efficient lighting and machines, building energy efficiency renovation. Living Lab in Bosnia and Herzegovina consist of different actors such as SME companies, Public Authorities (PAs), decision and policy makers and they:

- actively involve them in the process of green public procurement, public building refurbishment, public lightning, eco-innovation
- establish an interaction among them
- transfer to actors and other interest's stakeholders GRASPINNO knowledge and pilot results in field of green energy



There are various benefits for stakeholders participating the eGPP Living Labs. For example, SMEs have promotional opportunities for their innovative products, while introducing and better understanding the importance and advantages of buildings that are energy efficient for private sector. They also have opportunity to hear from public authorities what they actually need and that way develop new products and services.

The PAs enhanced their knowledge on green refurbishment and electronic public procurements system, and also their innovative capacities. That way they will be able to develop more effective energy management moving towards almost zero-energy buildings. The PAs will also be able to upgrade, validate and adopt green public procurement through knowledge base, decision support tools and e-procurement systems (eGPP).

Regional, national and European decision-makers and policymakers will benefit from effective policy recommendations for Green Energy Innovation, Green Public Procurement and Energy Renewal, and will be able to improve their policies and action plans for energy recovery, and also impact key stakeholders in eGPP and renovation of green buildings.





2 INTRODUCTION

The Deliverable 4.4.1 Report on GRASPINNO Living lab (eGPP Living Lab, Bosnia and Herzegovina) consist on two main parts, part I and II. The first part of document presents a short introduction to concept of Living labs and the GRASPINNO methodology to be used in setting up the Living lab, while the second part presents an overview of actual setting up a eGPP Living Lab in Bosnia and Herzegovina.

In the part I, the general understanding of Living Lab concept is established by providing general description and definition of Living Lab. Following general understanding on LL, the detailed approach on setting up GRASPINNO Living Lab is presented. The set-up of GRASPINNO Living Lab includes six phases each following several steps, whereas the sequence of this steps within the phases can differ based on the demand or environment of the Living Lab. The deliverable concludes with short but valuable experience of setting up the Living Lab and some valuable conclusion to encourage other interested stakeholders to use and adopt this innovative approach in the field of green energy processes.

In the part II, the setup of eGPP Living Lab in Bosnia and Herzegovina following the GRASPINNO Living lab methodology is presented. This report will be a standalone report and will be feed together with other GRASPINNO Living Labs into a report D4.4.2 Findings from Living labs, whereas the main conclusions and recommendations deriving from all living labs will provide valuable insights for suitability of living labs.



3 PART I: INTRODUCTION TO LIVING LABS

3.1 GENERAL DESCRIPTION AND DEFINITIONS

Living Labs present a specific trend in open innovation approaches. In Living Lab approach, external ideas are resources in innovation process. The aim of the Living Lab approach is to support innovation process with a usable product or service as a result of the innovation process. Different stakeholders are involved in the Living Lab, from researchers, developers and end-users with the goal is to co-create innovative products and services in a real-world environment. The Living Lab concept is based on a systematic user co-creation approach integrating research and innovation processes (bringing together users, R&D institutions, producers, service providers and all relevant stakeholders in focused and integrated development process). These are integrated through the co-creation, exploration, experimentation and evaluation of innovative ideas, scenarios, concepts and related technological artefacts in real life use cases. Such use cases involve user communities, not only as observed subjects but also as a source of creation. This approach allows all involved stakeholders to concurrently consider both the global performance of a product or service and its potential adoption by users. This consideration may be made at the earlier stage of research and development and through all elements of the product life-cycle, from design up to recycling.

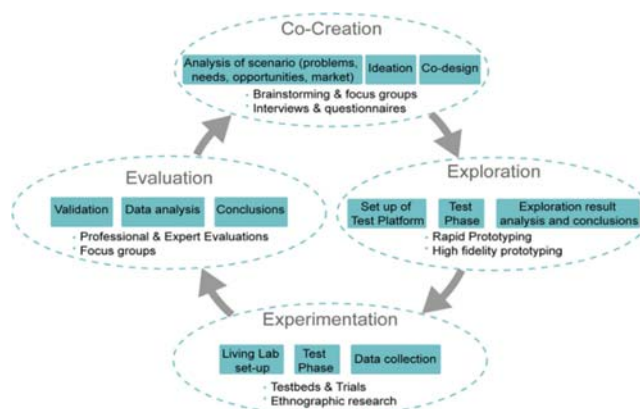


Figure 1: A visual representation of the Living Lab process (Vicini, Bellini, Sanna, SMART 2012)

Living Labs usually exploit opportunities of modern ICT and can be seen as “a large, broadly conceptualized laboratory”. Cooperation of all stakeholders (from users, to companies, ICT providers, developers, government organizations, universities and other involved institutions) is sought.

3.2 GRASPINNO LIVING LABS METHODOLOGY

The GRASPINNO Living Lab methodology will apply in each participating country and will consist on 6 phases i.e. Connect, Educate and train, Implement, Improve, Evaluate and Disseminate, as seen from Figure 2.

Through Living Lab approach stakeholders (public sector, SMEs as well as other interested participants) need to be involved not only as observed subjects but active contributors and as a source of creation. Namely, innovations (including new approaches and tools) generally face resistances from the users especially if users are not sure about benefits to be gained - this might be especially true for the public sector. Experiential learning is one of the most powerful teaching and learning tools to overcome this reluctance and to facilitate change of people behaviours. Experiential learning involves: (i) a “reflective learning phase”; (ii) a learning phase coming from the experimentation; and (iii) a learning phase coming from feedback. These phases well aligned with the phase Educate and train, Implement and Improve of the iterative GRASPINNO Living Lab approach.

Two main types of stakeholders in particular are to be targeted – namely public sector and product providers (especially SMEs). Beside mentioned, also mentoring/financing experts will be involved to share their expertise in funding/mentoring opportunities to invent/produce/use eco-innovative solutions in eGPP/building refurbishment. Additionally, the LL will also involve policy stakeholders with power to design public policies for eco-innovation, action plans for energy refurbishment of public buildings, framework of models, strategies, methods, database and tools to support the green energy MED policies.

In order to implement the Living Lab approach in GRASPINNO an informal “Living lab forum” or “cluster” of stakeholders (mainly organisations from public sector however SMEs, R&Ds, policy makers and other interested stakeholders) are to be organized. This “Living Lab forum” will take over the role of Living Lab implementing activities



without formalisation in terms of legal commitments, formalisation of procedures and management. The informal establishment of Living Lab, not requiring establishment of new legal entity but only formal commitment to participation (Declaration of Participation or similar) should ease the involvement of stakeholders. Nevertheless, the work in “Living Lab forum” is structured and led by project partners following joint methodological approach. One “Living Lab forum” per partner country is mobilized bringing together organisations actively involved in GRASPINNO implementation as well as other organisations who interested to observe but not to actively participate. The activities of “Living Labs forum(s)” follow the phases of Living Lab as shown below. Some activities above are open to all participants while other activities (individual consultations and individual support with implementation) are given only to organisations actively participating in GRASPINNO activities.

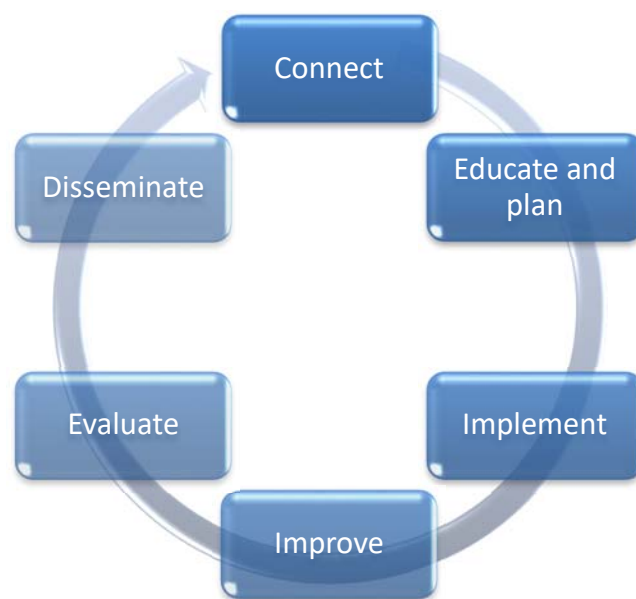


Figure 2: GRASPINNO Living Lab approach

The national “Living Lab forums” will work together following the same methodology and exchanging experiences. Still the final methodology for Living Lab implementation will remain open in order to adapt to national/regional specifics.



4 PART II: SETTING UP eGPP LIVING LAB IN BOSNIA AND HERZEGOVINA

4.1 Connect

4.1.1 The leader of eGPP Living lab in Bosnia and Herzegovina

The initiator of the living lab in Bosnia and Herzegovina (eGPP Living Lab) is Department for Development and International Projects of Zenica-Doboj Canton. Department for Development and International Projects (DDIP) is Expert Department of Government of Zenica-Doboj Canton (ZDC) for implementation of interregional projects and strategic planning process aimed to use modern approach to benefit development of ZDC in general. It supports communication and cooperation between private and public sector. DDIP performs set of activities related to interregional cooperation and provides expertise and technical support to local institutions regarding international cooperation, realization of projects and issues of general partnership with institutions from abroad. DDIP has 12 years of experience in implementation of governmental funded, interregional and EU funded projects. It has already implemented several projects under INTERREG Adriatic CBC, SEE, MED and Adriatic IPA CBC programs in order to improve sustainable development and institutional cooperation of partners in Europe. It possesses human and financial resources for implementation of different types of projects and very well-developed network of experts from Ministries, Chamber of Economy, NGOs, Local Development Agencies and University of Zenica.

Table 1: List of contact persons

Contact Person	Contact Details
	Organization: Department for Development and International Projects of Zenica-Doboj Canton
Mr. Salih Alispahić	Tel: 00387 32 460 630 Email: salih.alispahic@zdk.ba
Mrs. Đenana Čolaković	Tel: 00387 32 460 630 Email: djenana.colakovic@zdk.ba



4.1.2 Potential Bosnian-Herzegovinian LL stakeholders

Several potential stakeholders have been contacted over e-mails and telephone. Altogether, 13 stakeholders have been addressed, 6 small and medium enterprises and 7 public authorities. Of the contacted SMEs, all of them are enterprises that are engaged in construction and building, production of windows and doors, or engaged in industry of construction materials, petroleum products, civil engineering and construction. Public authorities are 1 Municipality, 1 Hospital, 2 Health Centres, 1 spa and recreation centre and Ministry of Education, Science, Culture and Sports of ZDC (and DDIP ZDC as leader of LL).

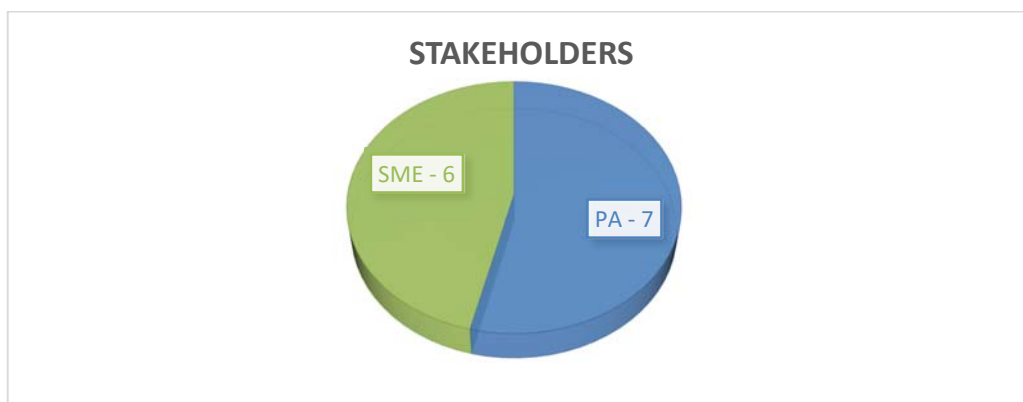


Figure 3: Potential LL stakeholders in Bosnia and Herzegovina

It is important to mention that two of the potential stakeholders were involved in the previous activities of the GRASPINNO project, i.e. pilot activities of renovation of public buildings. Those potential stakeholders were *Health Centre of Tešanj* and *Maglaj Municipality on behalf of Cultural Centre of Maglaj*. They participated in previous pilot activities while renovating their buildings and both institutions had the same goal; to improve the energy efficiency of the building by changing the external doors and windows.

Potential LL participants in Bosnia and Herzegovina have been chosen according to their field of business and the potential benefits they can get if they join the Living Lab in the country. The list of potential stakeholders is in Appendix 7.1 - List of potential stakeholders.

4.1.3 The Bosnian-Herzegovinian Living lab scope

In Bosnia and Herzegovina, the Public Procurement Agency is responsible for the public procurement system, primarily through the preparation of the regulatory framework of the public procurement system, as well as providing support to users of the public procurement system. The Agency is an independent administrative organization working for the Council of Ministers of Bosnia and Herzegovina. The Agency is managed by the Director and the Board. The Agency has its headquarters in Sarajevo and two branches in Banja Luka and Mostar. The Agency is responsible for the adequate implementation of the Public Procurement Law of Bosnia and Herzegovina.

Electronic public procurements are provided by the Agency through the official Portal of public procurement of Bosnia and Herzegovina. The Agency is greatly strengthening the electronic public procurement system, including development and management of a system.

In Bosnia and Herzegovina, green public procurements are not regulated by law and are a voluntary instrument for environmental protection, therefore, the most important goal to achieve would be increasing environmental awareness of the local community in Bosnia and Herzegovina. The identified theme for establishing an eGPP Living Lab was the intent to improve Bosnian-Herzegovinian public procurement system by including green criteria when publishing the tenders and increasing knowledge and usage of energy efficient materials and procedures, and also to increase the participation in/of foreign tenders.

The purpose of eGPP Living Lab is to present stakeholders the green public procurement process and enhance awareness of its advantages. To educate them about energy efficiency, energy management and electronic green public procurement tool (eGPP) and to provide them counselling about modern energy efficient materials, building furniture, energy efficient lighting and machines, energy efficiency renovation of buildings.



4.1.4 eGPP Living Lab plan

4.1.4.1 LL objective

The overall goal of eGPP Living Lab in Bosnia and Herzegovina is to transfer knowledge gained within the project's pilot's actions and to exchange experience or concerns for green growth, especially including end-users. Different stakeholders are to be involved by the eGPP Living Lab in the field of green public procurement, public building refurbishment, public lightning, eco-innovation, funding and mentoring, recommendations on policies and are to establish interaction between them to enable transfer of knowledge, experiences and results. At the end, stakeholders can benefit with not only understanding the energy efficiency and green procurement but also being able to establish more effective energy management and greater participation on green market.

4.1.4.2 LL activities

The activities of eGPP Living Lab in Bosnia and Herzegovina are:

- Awareness raising of the advantages of the Green Public Procurement (GPP) in Bosnia and Herzegovina thorough out seminars, training and education courses.
- Gathering and sum up of good practices on green procurement, public buildings green refurbishment and public policies for eco-innovation.
- Organization of individual meetings in order to interchange experiences and good practices in the field of green public procurement and eco-innovation among interested stakeholders.
- Promotion of eGPP's benefits and representing it as a touch point where private and public sector can cooperate in the field of green public procurement, public buildings green refurbishment and eco-innovation.
- Implementation and improvement of tools for green public procurement, such as eGPP tool and LCC tool.



4.1.4.3 Stakeholders role and responsibilities

The role of stakeholders is to cooperate in the LL activities, such as meeting attendance, eGPP tool testing, problem suggestions, questions, etc. Leader of the LL is the Department for Development and International Projects of Zenica-Doboj Canton who is organizing the meetings and providing solutions to other stakeholders. The stakeholders of Bosnian-Herzegovinian LL are presented in Table 2 below.

Table 2: Living Lab Stakeholders in Bosnia and Herzegovina

Nr.	Stakeholder	Government/SMEs / Organisation	Role/Capacity
1	Department for Development and International Projects of Zenica-Doboj Canton	Government	Leader of the LL in Bosnia and Herzegovina
2	Ministry of Education, Science, Culture and Sports ZDC	Government	Authority for GPP development
3	Maglaj Municipality on behalf of Cultural Centre of Maglaj	Government	Authority for GPP development
4	Cantonal Hospital of Zenica	Organisation	GPP user
5	Health Centre of Olovo	Organization	GPP user
6	Public Institution Aquaterm Olovo	Organization	GPP user
7	IGM d.o.o. Visoko	SME	Development and promotion of innovative products
8	ALMY transport d.o.o. Zenica	SME	Development and promotion of innovative products
9	Nahonal-gas d.o.o. Breza	SME	Development and promotion of innovative products
10	Prograd d.o.o. Žepče	SME	Development and promotion of innovative products





4.1.4.4 Cost issues

The costs for LL activities (such as cost of organization for meetings, printing materials and engaging external experts to support implementation of green criteria and tools) is provided within the anticipated project budget. The tools for green public procurement is available free of charge for interested stakeholders. The maintenance of the platform and tools is ensured through the project funding and after project end throughout appropriate sponsorship scheme and/or minimum necessary registration fees, which will support and stimulate potential future operations of the LL.

4.1.4.5 Profit issues

No profits are expected from the activities of the Bosnian-Herzegovinian eGPP Living Lab.

4.1.4.6 Risk issues

We have determined few potential risks that could jeopardise implementation and performance of LL. First of them is unavailability of interested stakeholders in participation in LL activities, because few of them are employed in institutions where their attendance at work place is needed every day. The mentioned risk is related to the fact that especially SMEs, but also PAs, are lacking experienced and trained personnel for the field of green public procurement. On the other side, the lack of financial resources in this stage does not represent a major concern, as activities that are planned can be executed within the project framework. Even though, the risk of lacking the appropriate funding mechanisms can seriously jeopardize the sustainability of the LL after the project ends. Considering all risks mentioned above, an extensive effort has been made to identify stakeholders which are already engaged in green public procurement and are willing to invest their time to develop better solutions in the field of green public procurement. To motivate stakeholders,





face to face meetings have been provided according to their time and availability. Several good practices are transferred in form of training and education sessions in the most adequate and interesting way as possible. We have invested all the strength in order to make participation in this project attractive for every potential stakeholder. After the project ends, the funding of LL activities will be organized with appropriate schemes.

4.1.4.7 Time plan

Table 3: Time frame of the eGPP Living Lab set up

CONNECT	Start: 12/03/2018
	End: 31/03/2018
EDUCATE AND TRAIN	Start: 1/4/2018
	End: 30/4/2018
IMPLEMENT	Start: 1/5/2018
	End: 15/5/2018
IMPROVE	Start: 16/5/2018
	End: 31/5/2018
EVALUATE	Start: 1/6/2018
	End: 30/6/2018
DISSEMINATE	Start: 1/8/2018
	End: 31/10/2018

4.1.5 Declaration of participation

The declaration of participation (DoP) in eGPP Living Lab was signed by 10 stakeholders. eGPP LL aimed to improve capacity of public building owners to manage energy efficacy moving towards almost-zero-energy buildings and strengthen the capacity of SMEs and other eco-innovation actors in the green energy market by ensuring wider uptake of green electronic public procurement. Stakeholders who signed the declaration of participation are described below:



➤ **Department for Development and International Projects of Zenica-Doboj Canton**

Department for Development and International Projects ZDC (DDIP) is Expert Department of Government of Zenica-Doboj Canton (ZDC) for implementation of interregional projects and strategic planning process aimed to use modern approach to benefit development of ZDC in general.

➤ **Ministry of Education, Science, Culture and Sports ZDC**

In the area of Education, Science, Culture and Sports, objectives of the Ministry are focused on introducing and empowering innovations, and implementation of them in schools (public buildings).

➤ **Maglaj Municipality on behalf of Cultural Centre of Maglaj**

The Cultural Centre of Maglaj is the central place of culture, art and a gathering place for young people (pilot activity participant). Maglaj municipality also owns and manages several other public buildings.

➤ **Cantonal Hospital of Zenica**

Public institution Cantonal Hospital Zenica is the leading medical institution in the Zenica-Doboj canton that continuously provides health services for treatment, care and hospitalization of patients by applying modern diagnostic and therapeutic procedures and methods of treatment, with quality and educated personnel. It is in a phase of significant investments related to facility refurbishments.

➤ **Health Centre of Olovo**

The activity of the Health Center is providing health care to residents, insured persons in the area of the Municipality of Olovo as part of primary health care activities and specialist consultative health care.

➤ **Public Institution Aquaterm Olovo**

Aquaterm is a modern well-equipped institution for recreation, rest and rehabilitation. Thanks to its healing properties it is suitable for the treatment of all rheumatic, neurological, orthopaedic diseases, conditions after stroke.





➤ **IGM d.o.o. Visoko**

Industry of construction materials IGM Visoko has 100 years of tradition in the production of brick products, gained experience and recognizable quality we applied to our other main activities: production of EPS insulation, production of AL-PVC joinery, processing and processing plant, sales centers for construction materials and residential construction.

➤ **ALMY transport d.o.o. Zenica**

Basic business activities of the enterprise are transport, civil engineering, road maintenance and construction of all types of buildings.

➤ **Nahonal-gas d.o.o. Breza**

Nahonal-gas is a company engaged in the sale of fuels, parts of motor vehicles and other goods. Also, one of the company's activities is the execution of construction works.

➤ **Prograd d.o.o. Žepče**

The company is engaged in the production of windows and doors, sliding doors, shutters, interiors and entrance doors, and furniture made of wood.

The signed Declaration of Participation are in the Appendix.

4.1.6 Key Performance Indicators

In order to measure overall performance and effectiveness of LL and proposed solutions/opportunities assorted Key Performance indicators (KPIs) have been specified (presented in table below). These KPIs have been measured on the level of Living Lab coordinator while different set of indicators have been used on level of LL participants.



Table 4: Living Lab Key Performance Indicators (KPIs)

Area	No.	Performance indicator name	Metric	Description of performance indicator
Potential stakeholders (identification phase)	1	Number of potential PAs	No.	The indicator measures the number of potential PAs contacted by LL initiator to be involved in LL activities.
	2	Number of potential SMEs	No.	The indicator measures the number of potential SMEs contacted by LL initiator to be involved in LL activities.
	3	Number of potential higher education and research organizations	No.	The indicator measures the number of potential higher education and research organizations contacted by LL initiator to be involved in LL activities.
	4	Number of potential business support organisations	No.	The indicator measures the number of potential business support organizations contacted by LL initiator to be involved in LL activities.
	5	Number of potential other organizations	No	The indicator measures the number of potential other organizations contacted by LL initiator to be involved in LL activities.
Participating stakeholders (connect phase)	6	Number of PAs	No.	The indicator measures the number of PAs involved in Living lab activities by signing the DoP.
	7	Number of SMEs	No.	The indicator measures the number of SMEs involved in Living lab activities by signing the DoP.
	8	Number of higher education and research organizations	No.	The indicator measures the number of higher education and research organizations involved in Living lab activities by signing the DoP.
	9	Number of business support organisations	No.	The indicator measures the number of business support organizations involved in Living lab activities by signing the DoP.
	10	Number of other organizations	No.	The indicator measures the number of other organizations involved in Living lab activities by signing the DoP.

Area	No.	Performance indicator name	Metric	Description of performance indicator
LL meetings	11	Number of individual meetings	No.	The indicator measures the number of individual/one-on-one meetings (for example between LL coordinator and other stakeholders, or between two stakeholders).
	12	Number of joint LL meetings	No.	The indicator measures the number of joint LL meetings (meetings held among all or almost all stakeholders).
	13	Number of participants on joint LL meetings	No.	The indicator measures the average number of participants per joint meetings.
	14	Number of meetings between LL coordinators	No.	The indicator measures the number of meetings organized between LL coordinators in case where more LL coordinators have been identified.
	15	Number of unique participants	No.	The indicator measures the number of unique (distinct, individual) participant (individual participant participating in two meetings is only counted once).
	16	Average duration of joint meetings	min	The indicator measures the average duration of joint meetings (in minutes).
Themes presented	17	Number of best practices	No.	The indicator measures the number of best practices (funding, procurement, energy savings, energy efficiency, building refurbishment etc....) presented within LL activities by LL coordinator or participants.
	18	Number of tools	No.	The indicator measures the number of tools (funding, procurement, energy savings, energy efficiency, building refurbishment etc....) presented within LL activities by LL coordinator or participants.
	19	Number of funding possibilities for green investments	No.	The indicator measures the number of funding possibilities for green investments presented within LL activities.

Area	No.	Performance indicator name	Metric	Description of performance indicator
Benefits gained	20	Co-creation of novel user-oriented solutions	Likert scale	The indicator measures if LL enables co-creation of novel user-oriented solutions.
	21	Strengthen the cooperation and trust between public and economic operators	Likert scale	The indicator measures if LL strengthen the cooperation and trust between public and economic operators.
	22	Strengthen cooperation among LL stakeholders	Likert scale	The indicator measures if LL support and strengthen cooperation among LL stakeholders.
	23	Strengthen stakeholders transnational cooperation and networking	Likert scale	The indicator measures if LL strengthen stakeholder's transnational cooperation and networking with other organizations (PA's, SME's, clusters etc....).
	24	Exchange experiences or concerns for green growth	Likert scale	The indicator measures if LL enables to exchange experiences or concerns for green growth among LL stakeholders.
	25	More positive attitude towards green sustainable growth	Likert scale	The indicator measures if LL enables more positive attitude towards green sustainable growth among LL stakeholders.
	26	Development and promotion of innovative products	Likert scale	The indicator measures if participation in GRASPINNO LL has enabled SMEs to better develop and promote innovative products.
	27	Improving knowledge and implementation of effective measures for energy management	Likert scale	The indicator measures if PA's, with participation in GRASPINNO LL, can improve their knowledge/understanding of energy management and can develop/implement effective measures.
	28	Partnerships in the field of green refurbishment of buildings and green public procurement	Likert scale	The indicator measures if PA's can benefit from different types of partnerships in the field of green refurbishment of their buildings and green public procurement.
	29	Effective policy recommendations for green energy innovation, green public procurement and energy refurbishment	Likert scale	The indicator measures if Policy makers, with participating in GRASPINNO LL, feel more competent in field of effective policy recommendations for green energy innovation, green public procurement and energy refurbishment.

Area	No.	Performance indicator name	Metric	Description of performance indicator
Knowledge	30	Knowledge on green policies (EU, national, local)	Likert scale	The indicator measures level of knowledge of LL stakeholder on EU, national and local green policies for eco-innovations and energy refurbishment of buildings before and after participating in GRASPINNO living lab activities.
	31	Knowledge on available mentoring mechanisms	Likert scale	The indicator measures level of knowledge of LL stakeholder on mentoring mechanisms for eco-innovations and energy refurbishment of buildings before and after participating in GRASPINNO living lab activities.
	32	Knowledge on funding possibilities for green investments	Likert scale	The indicator measures level of knowledge of LL stakeholder on funding possibilities for green investments, eco innovations and energy refurbishment of buildings before and after participating in GRASPINNO living lab activities.
	33	Knowledge on green public procurement (competence, skills)	Likert scale	The indicator measures level of knowledge of LL stakeholder on green public procurement before and after participating in GRASPINNO living lab activities.
	34	Knowledge on best practices	Likert scale	The indicator measures level of knowledge of LL stakeholder on best practices on funding, procurement, energy savings, energy efficiency, building refurbishment before and after participating in GRASPINNO living lab activities.
	35	Knowledge on GRASPINNO Living Lab concept	Likert scale	The indicator measures level of knowledge of LL stakeholder on GRASPINNO Living lab concept before and after participating in GRASPINNO living lab activities.
	36	Knowledge on GRASPINNO pilots actions in field of green energy	Likert scale	The indicator measures level of knowledge of LL stakeholder on pilot's actions in field of green energy before and after participating in GRASPINNO living lab activities.
	37	Knowledge on GRASPINNO eGPP tool (public procurement)	Likert scale	The indicator measures level of knowledge of LL stakeholder on GRASPINNO eGPP tool (public procurement) before and after participating in GRASPINNO living lab activities.

Area	No.	Performance indicator name	Metric	Description of performance indicator
eGPP	38	Number of public tenders processed	No.	The indicator measures the total number of public tenders which were carried out while fully or partially using the eGPP platform.
	39	Number of products processed	No.	The indicator measures the total number of products which were inserted in eGPP platform.
	40	Number of services processed	No.	The indicator measures the total number of services which were inserted in eGPP platform.
	41	Number of PA registered in eGPP platform	No.	The indicator measures the total number of PA registered in eGPP platform.
	42	Number of SME registered in eGPP platform	No.	The indicator measures the number of SME registered in eGPP platform.
	43	Average time to enter 1 product	min	The indicator measures the average time spent by end user to enter the product into eGPP platform (in minutes).
	44	Average time to enter 1 service	min	The indicator measures the average time spent by end user to enter the service into eGPP platform (in minutes).
	45	Average time to publish 1 tender	min	The indicator measures the average time spent by end user to enter the tender specification and publish it on eGPP (in minutes).
	46	Number of operational errors per tender/product service entry	No.	The indicator measures the number of errors detected while using the eGPP (problems with login, malfunctioning links, problems with entering data etc....).
	47	Number of necessary corrections	No.	The indicator measures the number of necessary corrections reported by end users of eGPP (not functioning links, mistakes in language etc....).



4.2 Educate and train

4.2.1 eGPP Living Lab stakeholder education

The education session was organized in Multimedia Hall of the Hotel “Zenica” in Zenica on April 19th 2018. It was addressed to LL stakeholders, mainly to signatories of LL Declaration on Participation, but also to other interested groups and individuals. The main goal of the education was transfer of knowledge and experience on available tools and methodologies for energy management, green refurbishment and green procurement. Additionally, the event was supposed to provide a valuable opportunity to exchange innovative ideas and to initiate open discussion and mutual cooperation. The event was attended by 14 participants from 12 organizations (5 SMEs and 7 PAs).

In Bosnia and Herzegovina, green public procurement is not regulated by law and is a voluntary instrument for environmental protection. Our main goal was to provide to our stakeholders, that included PAs and SMEs who signed DoPs, but also additional stakeholders that were interested, possibility to learn more about green procurements, energy efficiency, importance of including green criteria while doing public procurements and planning refurbishment of their buildings or developing new, innovative products. Also, intention was to increase the knowledge on usage of energy efficient materials and procedures, and also to increase the participation in available tenders.

The first part of the education session was dedicated to Energy efficiency and environmental requirements in the context of public procurement in BiH emphasizing the opportunities for green public procurement within the applicable law in BiH and methods on how to use green tender criteria. The involved expert for public procurements, first of all introduced the energy efficiency, its definition and explained that energy saving and energy efficiency are two different concepts. Right after, he explained the “green” public procurements and what they represent by the definition of EU regulations. After that, he presented the public procurement system in BiH according to the valid legislative in BiH. That was the introduction to the speech about the “green” public procurements in BiH, because they are not yet regulated by law





in the country. Due to that, speaker presented the criteria for qualification under the Law on Public Procurement in BiH, and ecological and energy efficient criteria also. After that, he talked about the technical specification under the Law on Public Procurement and mentioned ecological and energy efficient criteria.

The most important in carrying out public procurements is the award of a contract that depends on the bidder's price. That is why speaker devoted a lot of attention in his presentation to this topic. He mentioned two basic criteria for awarding the contract, which were the lowest price and the most economically advantageous offer. This is the topic where the participants had many comments saying that it was the biggest problem while considering "green" procurements. They commented that those products were more expensive to be purchased and applied. Intention is mostly to have the products with lowest price possible and the lowest price for products that meet the "green" criteria are still more expensive than the other ones.

Speaker also addressed to the practice of the European Court of Justice in cases of "Concordia bus" and "Wienstrom", and also some other examples of good practice.

As a conclusion he mentioned that the BiH Law on Public Procurement allowed the use of environmental and EE criteria and it was essential to use the LCC (Life Cycle Costing) methodology. Taking into account all the advantages of such procurements, both for contracting authorities and society, he believes that they should become part of the daily practice of public procurement in BiH.





Figure 4: eGPP Living Lab stakeholder education in Zenica, April 19th 2018

The second part of the education session was dedicated to Energy Efficiency and Green Public Procurement, presentation of green criteria and comparison of standard and green public procurement (procedures, rules, benefits).

The involved speaker, a certificated expert in the field of energy efficiency, first of all talked about the energy efficiency in general and stressed that the energy efficiency is not just saving energy. He mentioned reasons why we should increase energy efficiency and they are: financial savings, environmental protection and mitigation of climate change.

According to a survey of sectorial energy consumption in BiH, the largest percentage goes to buildings. He pointed out our legislative documents about the energy efficiency, the Directive on Energy Performance of Buildings, the Directive on the Efficiency of End-Use and Energy Services, the Directive on the labelling of household appliances, the Eco-Labeling Directive and the Directive on the promotion of cogeneration.

Afterwards, he presented current section in public buildings and showed on concrete examples that are supported by scientific research and evidence that our public



buildings are in a very bad condition when it comes to energy efficiency. The biggest problems are seen in the poor glazing of buildings, bad facades and bad KGH systems that cannot achieve thermal comfort. The problems were more specifically presented through the case of the Cantonal Hospital Zenica with a cross-section of the current situation and presentation of a desirable condition.

After that, he introduced our participants with EE technologies and what we actually could get when we implement them, which advantages actually exist. The most interesting for the participants was the question of how to set up EE criteria, i.e. how to include those criteria in public procurement. He explained to them the criteria and on what basis the products are evaluated, and how to opt for the best product.

The speaker compared the classic with green public procurement and presented all the advantages that the green criteria could have. He also presented the procedure for implementing EE public procurement, and the importance of EE criteria in public procurement.

He concluded his presentation with pictures of natural disasters for which the men were guilty and pointed out that this was one of the ways to prevent this in the future.

Stakeholders responded very positive and were highly interested in the themes. Although the green procurements are not so popular and rarely used, stakeholders were interested in many issues. First of all, they wanted to know more about the ecological aspects are and how to evaluate products, due to their characteristics, while evaluating their quality in the frame of EU directives. Also, they proposed to make market research and get to know what products are really needed and how to make them more energy efficient.

4.2.2 eGPP Living Lab stakeholder training

Appropriate training of LL stakeholders, was held in Multimedia Hall of the Hotel "Zenica" in Zenica on April 19th 2018. It was addressed to LL stakeholders, mainly to signatories of LL Declaration on Participation, but also to other interested groups and individuals. The main goal of the training was provision of practical and detailed instructions on the eGPP Platform, its individual options, tools, entry of data on





products and public calls, using prepared guidelines, supervision, and instructions of trainer.

The training course was led by representative of LL initiator (Department for Development and International Projects of Zenica-Doboj Canton), who was also a representative of GRASPINNO PP for Bosnia and Herzegovina. At the beginning of the training, the hand-outs/manuals with instructions for the GRASPINNO Platform were delivered to the participants, so they were able to follow the practical part of the training and they got the detailed information about GRASPINNO on-line Platform and e-GPP tools. Use of eGPP tool was demonstrated for SMEs and PAs.



Figure 5: eGPP Living Lab stakeholder training in Zenica, April 19th 2018.

The main focus of demonstration of the tool for SMEs was its usage for entering products and searching the public tenders, while the demonstration for PAs was focused on how to carry out public procurement, find appropriate products and use integrated LCC and conversion tools.



The graphic user interface and main functionalities of the eGPP platform for SMEs were introduced to the stakeholders. They search for key elements, products and tenders. The meaning of some key elements and its criterion values were explained. Stakeholders tried to enter a product into the platform using common computer. They found a proper category of the product, add its features, description, key elements and services.

Participants commented that the tool was useful and quite clear. There were some suggestions on time consuming in product entering process, especially because they needed to use the English language. Generally, they accepted it and found useful for participation in public procurements and promotional purposes.

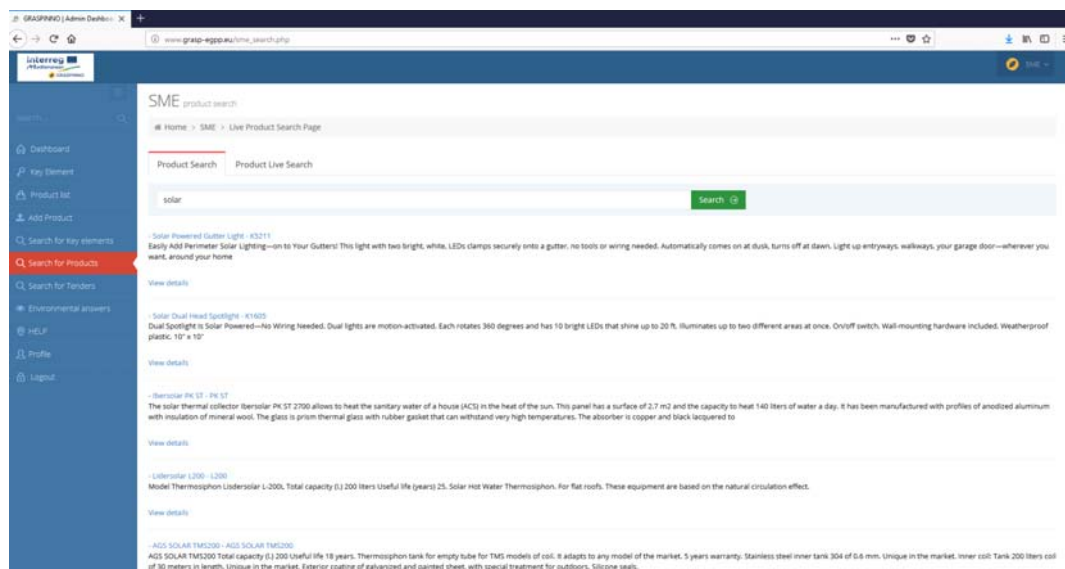


Figure 6: Search for products



Figure 7: Editing of products

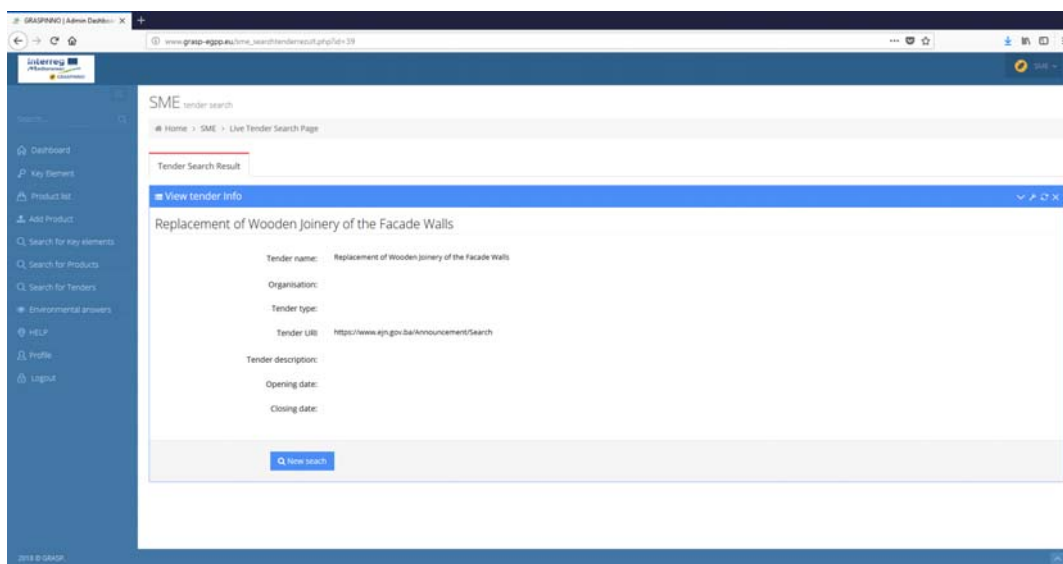


Figure 8: Search for tenders

In the second part of the training the eGPP interface and functionalities prepared for PAs were introduced to this group of the stakeholders. Stakeholders performed search for tenders, which were previously uploaded. They were shown how to publish





a tender and create a tender information package (TIP). They were also instructed how to generally use the LCC tool.



Figure 9: eGPP Living Lab stakeholder training in Zenica – LCC, April 19th 2018

Publish a tender

Use this form to publish a tender of your organization. The tender details will be available to all registered users of the platform. The tender will be visible during the time period between the two dates that will be specified.

* **Title:**

* **Categories:** Type something and hit enter
☒ Please select category from list

* **Opens at:**

* **Closes at:**

* **Type:** Please specify the tender type (for example national)

* **Tender text:**

URL:

* **Contact Details:**

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Figure 10: eGPP tool – tender publishing



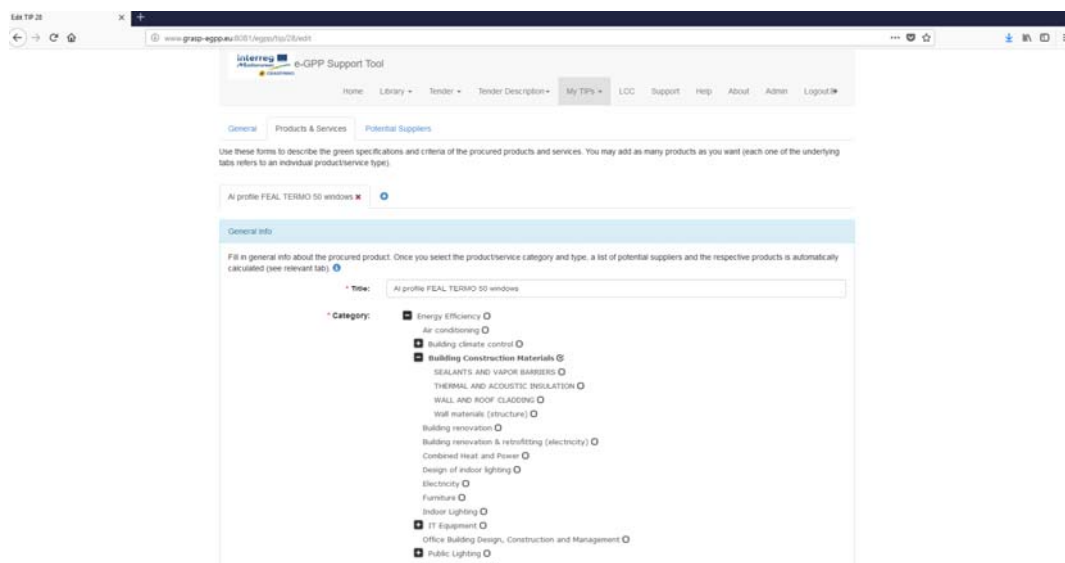


Figure 11: eGPP tool – TIPS

Participants concluded that the platform would help public administration in: market research; choosing the best energy solutions for the renovation of public buildings; planning green calls for procurement; publication and selection of procurement and all that in accordance with legal regulations. For the users of the group of SMEs, the Platform will provide the ability to publish information about their products, search for public calls published by users from the group of PAs and, according to interest, to participate in some of the public calls.



4.3 Implement

4.3.1 Process of implementing the new innovative methods and tools in eGPP

During the “*Educate and Train*” phase, stakeholders have acquired new knowledge about the green public procurements and energy efficiency, but at the same time noticed and gave appropriate requests and needs for additional instructions on involving green criteria in public procurements.

At the very beginning of the “*Implement*” phase, the first version of the Guide was prepared, (titled as “*APPROACH TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY*” – *in short Guide, specifically explaining the motives and possibilities to use “green” criteria, electronic and other innovative tools in green public procurements*), for the stakeholders where the green criteria and minimum criteria for products and materials to be energy efficient were described, but also introduced how to include them while doing public procurements for public buildings refurbishment.

The prepared Guide was presenting the first version of the tool of BiH living laboratory. It contained the following topics:

- Green public procurements – the concept and importance,
- Public procurements system in BiH – definitions, terminology, procedures and “green” criteria,
- Energy efficiency and the possibility of inclusion of EIT criteria and green public procurements,
- Available funds and discussions for “green” public procurements – EE and OIE – budgets, funds, ESCO models, IPA, CIP, TEMPUS, CULTURE and MEDIA programmes, HORIZON, USAID (EIA), GIZ etc.

After the topics were explained, a specific guidelines and useful recommendations were given about including the “green” criteria in public procurements, i.e. which are the minimal criteria that must be satisfied when labelling a product/material as energy efficient or renewable energy source.



After the Guide had been prepared, it was sent to the stakeholders on 3rd of May, 2018. The stakeholders were obliged to read the Guide and try to practically use the tools and methods on their own, but also to analyse it and prepare comment proposals for the further improvements and preparation of the final version of the document. Comments and suggestions about Guide in general as well as about its user-friendly approach and utility needed to be prepared before the next LL stakeholder meeting planned for May 15, 2018 in Zenica (within the “improve” phase).

During the rest of the “Implement” phase (from May 3rd to 15th) two prominent experts were in contact with the stakeholders in order to support and provide help in testing and usage of the new innovative methods and tools presented in the Guide. Some of the stakeholders were contacted and supported by telephone and Skype, while some of them were directly visited, as it can be seen in the following Figure 12.

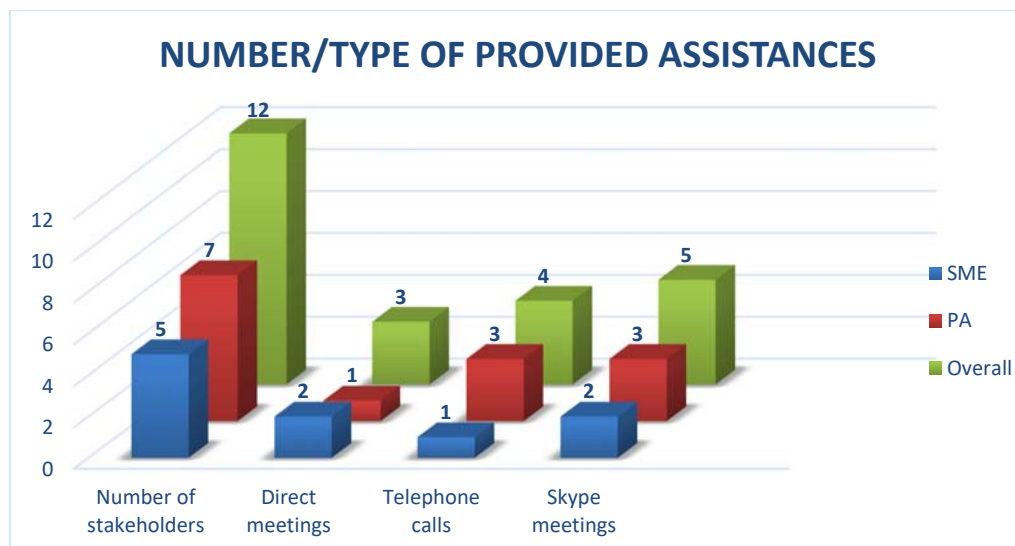


Figure 12: Number/type of assistances provided to the stakeholders

During the provision of assistance to the stakeholders, several needs for change and supplement of the Guide were noticed. There were some new proposals for instructions on how to use the new methods and tools, also specific needs for better and more detailed explanations and answers to emerging issues were expressed. New experiences, comments and suggestions were collected for the next phase,



"Improve", considering them as valuable inputs that would be used at the new common stakeholder meeting, dedicated to improvement of the Guide proposal and preparation of its final form.

4.3.2 Measurement of Key performance indicators

After the preparation of the first version of the Guide and the realization of the all individual assistances (direct, telephone, Skype meetings) and practical use and analyses of the tools and methods by the stakeholders, the LL coordinator performed the measurement of overall performance and effectiveness of LL and proposed solutions/opportunities, using the already defined set of Key Performance indicators (KPIs). The main findings are as follows:

eGPP Living Lab in Bosnia and Herzegovina has its scope on eGPP in Bosnia and Herzegovina, more precisely Zenica-Doboj Canton. It was initiated by Department for Development and International Projects of Zenica-Doboj Canton, PA (regional Public Authority). At the very beginning, during the "*Identification*" phase, 7 PAs and 6 SMEs were identified as potential stakeholders. Later, during the "*Connect*" phase, 6 PAs and 4 SMEs joined the Living Lab by signing the Declaration of Participation. Although some stakeholders did not sign the Declaration of participation they continue to participate on LL activities (meetings, educational or training sessions).

Many meetings were held with the stakeholders, more precisely 10 overall. There were 8 individual meetings held between LL coordinator and stakeholders and 2 joint LL meetings held among all/ almost all stakeholders. Average number of participants on joint LL meetings was 15 and the unique participants' number was 19. The average duration of joint LL meetings was 240 minutes. There were 17 presented/discussed themes. 7 of them were about best practices in the field of funding procurements, energy savings, energy efficiency, building refurbishment etc., 2 themes about tools in the field of funding procurements, energy savings, energy efficiency, building refurbishment etc. and 8 themes about funding possibilities for green investments.

Benefits gained by participating in Living Lab are shown in the Table 5.

Table 5: Benefits gained by participating in Living Lab

BENEFITS GAINED BY PARTICIPATING IN LIVING LAB	Agree	Strongly agree
LL enables co-creation of novel user-oriented solutions		<input checked="" type="checkbox"/>
LL strengthen the cooperation and trust between public and economic operators	<input checked="" type="checkbox"/>	
LL support and strengthen cooperation among LL stakeholders		<input checked="" type="checkbox"/>
LL strengthen stakeholder transnational cooperation and networking with other organizations (PAs, SMEs, clusters etc...)	<input checked="" type="checkbox"/>	
LL enables to exchange experiences or concerns for green growth		<input checked="" type="checkbox"/>
LL enables more positive attitude towards green sustainable growth		<input checked="" type="checkbox"/>
SME's with participating GRASPINNO LL can better develop and promote innovative products	<input checked="" type="checkbox"/>	
PA's can improve their knowledge/understanding of energy management and can develop/implement effective measures	<input checked="" type="checkbox"/>	
PA's can benefit from the different types of partnerships in the field of green refurbishment of their buildings and green public refurbishment	<input checked="" type="checkbox"/>	
Policy makers gain more effective policy recommendations for green energy innovation, green public procurement and energy refurbishment	<input checked="" type="checkbox"/>	

Before the Living Lab, most of the stakeholders had poor knowledge about the available mentoring mechanisms and GRASPINNO eGPP tool, and fair knowledge about the green policies, funding possibilities for green investments, green public procurement, Living Lab concept and GRASPINNO pilot actions in field of green energy. They had good knowledge about the best practices.

After participating in Living Lab, they improved their knowledge to fair knowledge about the available mentoring mechanisms, good knowledge about the green





policies, funding possibilities for green investments, green public procurement, Living Lab concept, GRASPINNO pilot actions in field of green energy and GRASPINNO eGPP tool. Knowledge about the best practices increased to very good knowledge.

While using eGPP tool 2 public tenders and 4 products were processed. 4 PAs got registered in eGPP platform, with only 1 necessary correction while entering the tender. 6 SMEs got registered and had 1 operational error. Average time to publish a tender was 30 minutes, and to enter a product was 20 minutes. Even though that none of service was not entered on the platform, estimated time for entering was 15 minutes.

Re-cooperation in Living Lab would be very interesting for Bosnia and Herzegovina's coordinator, in order to gain new knowledge and cooperation possibilities. Cooperation in LL would be strongly suggested to others, mainly to PAs and SMEs with innovative products. Living Lab activities continuation after the project ends would be ensured through continuation of organization of periodical common meetings in premises of LL stakeholders. It would be useful to identify and address one new and innovative topic for every of the next stakeholders' meeting.



4.4 Improve

4.4.1 Potential improvements of proposed eGPP Guide for Bosnia and Herzegovina

After implementing new innovative methods and tools, stakeholders were involved in improvement process by attending specially organized meeting. Department for Development and International Projects of Zenica-Doboj Canton (in cooperation with ZAMM media Consulting d.o.o. Sarajevo - external associate) organized a meeting on 15th May 2018 in Multimedia Hall of the Hotel Zenica in Zenica. The aim of the event was presentation of the Guide/Instruction containing expert advices in the field of public procurement and energy efficiency, which included issues that were of interest to the participants of the "living" laboratory. In addition, the objective of the event was to collect innovative ideas from participants, as well as suggestions and comments on the first version of the Guide/Instruction in order to realize appropriate improvements.

The meeting was attended by the stakeholders that were signatories of Declaration of participation, but also the other interested parties from public institutions and small and medium-sized enterprises.

The first version of the eGPP Guide in Bosnia and Herzegovina entitled *APPROACH TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY - the motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN PUBLIC PROCUREMENTS* and its content, i.e. topics that were processed in it, was presented to the participants. After presentation of the guidelines and instructions for the practical application of innovative methods and tools resulting from the work of the "living" laboratory, the participants gave their comments on the content of the Instruction and topics that were processed.

First of all, they suggested the change of the name of the Guide from the name *APPROACH TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY - the motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN*



PUBLIC PROCUREMENTS by adding certain terms, after which all participants agreed that the new title of the document would be *GUIDE TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY, USE RENEWABLE ENERGY SOURCES AND REDUCE ENVIRONMENTAL IMPACTS - motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN PUBLIC PROCUREMENTS*.

Participants wanted to find even more information about eGPP platform and LCC calculator. Some of the participants used the platform and LCC calculator and considered them very useful tools in preparing tenders and making bids for energy efficient products. Since "green" public procurement in BiH is a voluntary instrument and not regulated by law, we do not have many examples of good practices that future users of "green" public procurement can see. Although involved experts have already mentioned several examples of good practice, the participants agreed that they would like to have more such examples in the Guide to make their green procurement clearer, and to better use them in their institutions/companies. Also, the proposals for improvement included bigger promotion of the eGPP platform and LCC calculator to the other potential stakeholders, as well as the benefits of their usage.

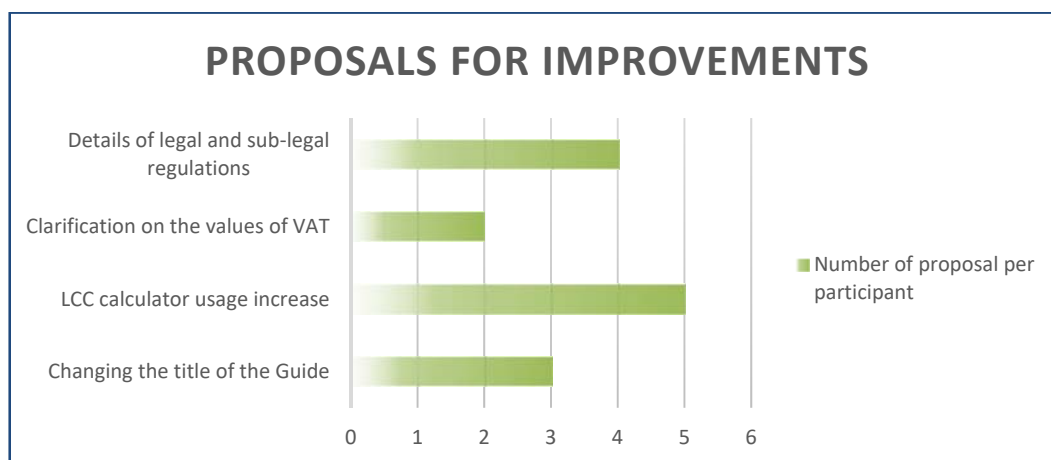


Figure 13: Stakeholders' proposals for improvements

Advice and instructions of the experts were following the discussion and suggestions of the improvements. Some of the suggested ideas were applicable within the domestic legislation and had potential to be realized, but the others were jointly discussed as inapplicable due to legislation that does not regulate "green" criteria in public procurements. Experts' advice and instructions were mainly focused on energy efficiency and renewable energy sources – their benefits and advantages for environment but also the financial ones. They focused on counselling participants on using EE products and eGPP tools in order to have precisely calculated long term environmental and financial benefits.

In order to get as many as possible improving suggestions, certificates of participation, best innovative idea and significant contribution to the establishment and work of eGPP "living" laboratory of GRASPINNO project were prepared for the participants. Certificates of participation in eGPP "living" laboratory were awarded to all the participants. Certificate for the best innovative idea within the eGPP "living" laboratory was given to Mr. Davor Sušić, a representative of Con-vita d.o.o. from Zenica, for promotion and incentive to use LCC calculators. The special certificate was given to the institution that gave the largest, significant contribution to the work of eGPP "living" laboratory and to the whole project by participating in pilot activity, and that institution was Municipality of Maglaj. Their first contribution was being part of pilot activity during the refurbishment of Centre of Culture Maglaj. Mr. Nermin Bešliagić, representative of Municipality of Maglaj, took the awarded certificate.



Figure 14: Participants of the Improvement phase event organized in Zenica



Figure 15: Certificate for significant contribution - to Municipality of Maglaj

4.4.2 Implementation of improvements of eGPP Guide for Bosnia and Herzegovina

After the support of the involved experts in the fields of public procurement and energy efficiency, the Guide for eGPP in Bosnia and Herzegovina has been prepared named as *APPROACH TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY - the motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN PUBLIC PROCUREMENTS*. It was distributed to "living" laboratory participants for comments, proposals and suggestions in order to be improved. Communication followed between involved experts and participants in order improve the Guide and make it applicable. Communication was conducted through direct contacts and meetings of all involved in this process.

Some suggestions have been made to improve the Guide by LL participants. Some of them had sense, while others were discussed, after what was decided jointly that they should not be taken into account because of the impossibility of implementation

under domestic legislation, misunderstanding of issues, etc. The improvements taken into account referred to the following:

➤ **The title of the Guide**

It was suggested that the designation itself be the title of the Instruction in order to provide guidance for the proper application of "green" public procurement in practice and to serve the LL participants themselves, and possibly others, when applying in practice. The suggestion was that the Guidance in the title also includes the word "guide" and the area on which it is based, which is the renovation of public facilities, as well as the concepts of energy efficiency, renewable energy sources and reduction of emissions to the environment, which is respected and applied. The new title of the Guide is *GUIDE TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY, USE RENEWABLE ENERGY SOURCES AND REDUCE ENVIRONMENTAL IMPACTS - motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN PUBLIC PROCUREMENTS.*

➤ **Details of legal and sub-legal regulations**

The first version of the Guide gave an overview of the regulations on public procurement and energy efficiency under the Bosnian-Herzegovinian legislation. Participants of the "living" laboratory thought it would be helpful to list details of the official sources of the above mentioned laws and regulations in order to simplify the regulation themselves, thus facilitating their application, or in order to find all the details themselves related to the criteria of public procurement, energy efficiency criteria, etc., so that they can include them in their tenders/public calls, and also to be able to devise and produce innovative products that they can offer on the market of green energy.

➤ **A brief summary of the LCC calculator**

It was suggested that a brief review and guidelines for the use of LCC calculator should be included in the Guide, as well as explaining the benefits of its usage, as it can serve the application of the "green" criteria in public procurement. Some



of the participants who had the opportunity to try out an LCC calculator consider it as a very useful tool. The proposal was respected, and the chapter was inserted.


➤ **Clarification on the values of VAT**

In the original version of the Instruction, all types of public procurement with corresponding monetary values were listed. It was not entirely clear to the participants of the "living" laboratory whether the stated values were expressed with VAT included or not, and it was suggested to explain it for the purpose of more precise definition of public procurement. This proposal was also acknowledged and included in the final version of the Instruction.

During the improvement of the Guide, no problems or uncertainties regarding its improvements were reported and all proposed improvements that were meaningful were taken into consideration and implemented in the final version of the Guide.



Figure 16: The title of the Guide was changed in order to be more effective (left image shows the first version and right image improved version of the Guide)

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Figure 17: Table of contents proofing addition of improvement suggestions (left image shows the first version and right image improved version of the Guide)



4.5 Evaluate

4.5.1 eGPP guide for Bosnia and Herzegovina evaluation

According to the evaluation methodology prepared by the University of Maribor, stakeholders evaluated the Bosnian-Herzegovinian eGPP living laboratory through online questionnaires. 10 stakeholders, 6 PAs and 4 SMEs, gave their opinion and shared their experiences about participating in LL.

The analysis of the fulfilled questionnaires gave the following results:

Electronic green public procurements were mostly fair known, as figure 18 shows, but after participating in living lab knowledge about the eGPP was increased to very good, as seen from figure 19. Analysis was made according to average answers given in the online questionnaires.

Environmental questions, green criteria and policies, as well as implementation of same, are much better known and now seem to be familiar to the stakeholders, when it is word about the energy refurbishment of public buildings.

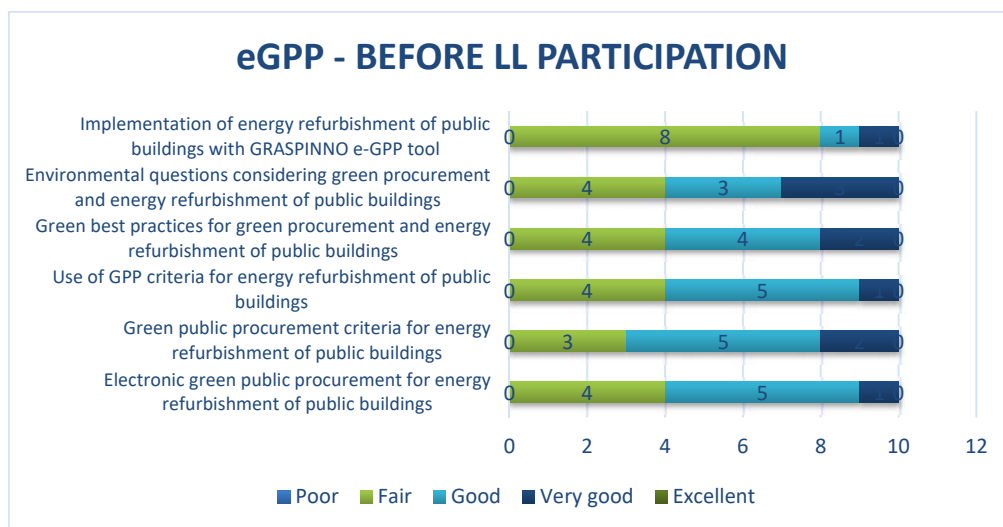


Figure 18: Chart representing eGPP before participating in LL

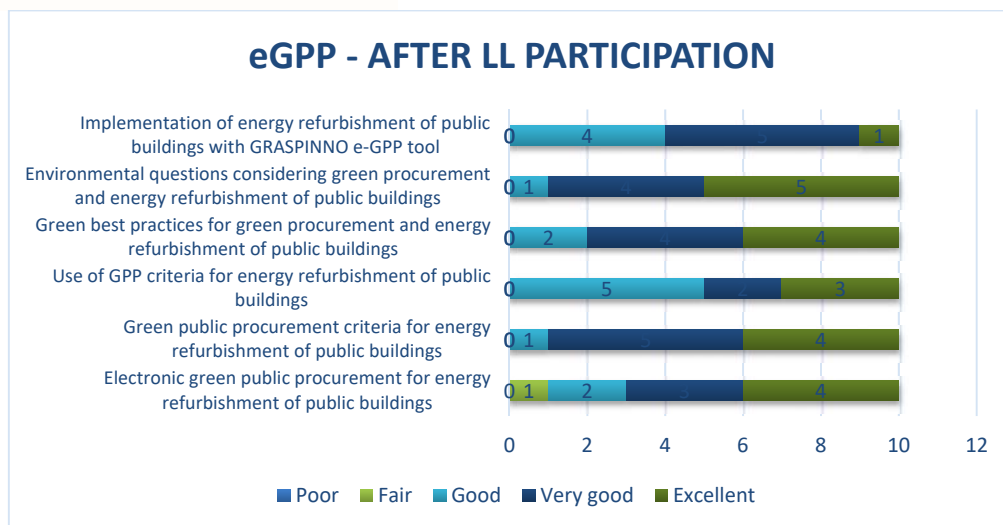


Figure 19: Chart representing eGPP after participating in LL

4.5.2 LL evaluation

According to the evaluation methodology prepared by the University of Maribor, stakeholders evaluated the overall concept of living laboratories through online questionnaires. 10 stakeholders, 6 PAs and 4 SMEs, gave their opinion and shared their experiences about LL concept and their satisfaction and gained benefits. Stakeholders gained new knowledge about the GPP, eGPP tools, funding possibilities etc. The analysis of the fulfilled questionnaires gave the following results:

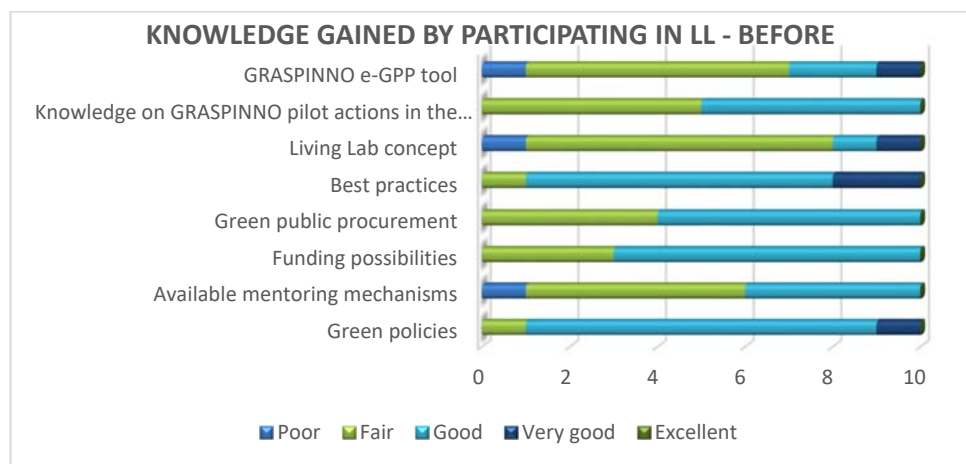


Figure 20: Chart representing knowledge of stakeholders before participating in LL



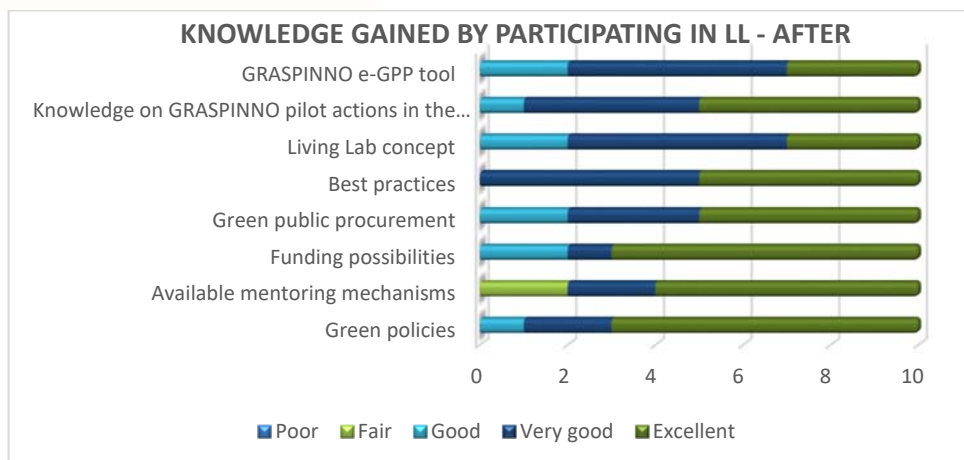


Figure 21: Chart representing knowledge of stakeholders after participating in LL

Stakeholders were extremely satisfied by the concept of LL, especially by the organization, duration, content and speaker's skills and competences.

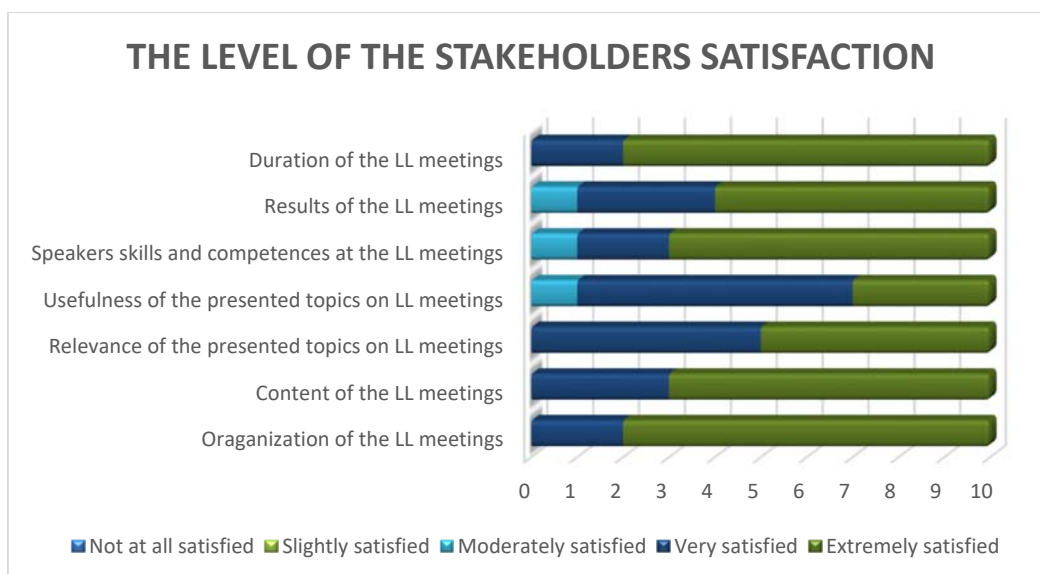


Figure 22: Chart representing the level of satisfaction of the stakeholders

Many benefits were gained by participating in living laboratory. Stakeholders gave their opinions about the benefits they gained and benefits that could be gained in future by other potential stakeholders.



Stakeholders agree that LL enables co-creation of novel user-oriented solutions and strengthens the cooperation and trust between public and economic operators, and that PA's can benefit from the different types of partnerships in the field of green refurbishment of their buildings and green public procurements. Also, participants strongly agree that LL enables to exchange experiences or concerns for green growth and that PA's can improve their knowledge/understanding of energy management and can develop/implement effective measures (figure 23).



Figure 23: Benefits gained by participating in LL



All LL participants and stakeholders expressed their interest to cooperate again in further LL activities and also all of them were determinate to suggest others to cooperate in LL.

4.5.3 Guidelines and recommendations

Based on the evaluation of Bosnian-Herzegovinian living lab and concept of living labs in general, stakeholders gave some recommendations and guidelines for future improvements and sustainability of established Living Lab.

Green public procurements are ensured to be attractive in the future first of all through the Guide that was made by the experts, with additional suggestions and improvement proposals from the stakeholders. The Guide will be disseminated to the other potential stakeholders or interested persons. Sustainability of the Guide will be provided by updating it according to the new laws or sub-laws, i.e. updating it to the valid legislation when needed.

Promotion and raising awareness about the importance, benefits and advantages of the green public procurements are one of the most important activities after the project ends. Stakeholders, together with the experts, consider it as the most powerful tool for increasing usage of green criteria in public procurements, because raising awareness about the current environmental state of country and all the benefits that PAs and SMEs can ensure to the society, in general, through using energy efficient materials and procedures, are the best way to introduce and sustain green energy consumption after the project ends.

Also, there are many events dedicated to the green energy, energy efficiency and renewable sources of energy in Bosnia and Herzegovina and region. One of the recommendations for LL sustainability is to visit that events as a group, i.e. together as LL stakeholders. Those events can be an excellent place to promote LL activities, eGPP, make business opportunities, new contacts and disseminate the outputs of the project.

The other suggestion is to organize periodical meetings of the Living Lab participants to exchange new experiences, knowledge and new ideas for green public





procurements in BiH, but also experiences, advices and business opportunities gained through using the eGPP platform. Also, it would be useful to identify and address new and innovative topic for each of the next stakeholder meetings. The meetings would be held in premises of the Living Lab stakeholders, which means no costs would be made.

4.6 Disseminate

For the dissemination phase of the eGPP Living Lab in Bosnia and Herzegovina, the following activities are suggested.

Many aspects were raised during the living lab, but there are two of them that seem to be the most interesting to the stakeholders, but also most important to disseminate in our country, due to their easy applicability and availability within the conditions and infrastructure in Bosnia and Herzegovina, and benefits that they can provide. Those two aspects are:

- Application of the LCC calculator as an instrument for market research and planning, product performance determination, and as an instrument for the realization and revision of projects.
- LL can be a good basis for the identification of EE products in BiH, but also a wider tool for planning in the adoption of legal legislation and a strategic decision of the state regarding the availability of EE products and a vendor in BiH.

To reach out to other potential stakeholders, but also to raise awareness of the importance of green public procurements, materials and guidelines for its usage, which also provide information about the benefits and advantages of the GPP, should be available to everyone interested. These are suggestions for dissemination of the materials/guidelines:

- Make contact with the Public Procurement Agency of BiH that could publish the Guide on its website and make recommendations for its use in order to apply as much as possible the green criteria in public procurement procedures and/or influence the adoption of a green procurement policy in accordance with the best EU practice.



- To get in touch with the bodies responsible for training civil servants who would classify Green Public Procurement and EE as mandatory content in the annual training plan.
- Contact the relevant line ministries regarding EE in order to implement the Guide in their activities, and to include EE criteria in public procurement.
- Use the Guide, presentations, and other promotional materials for awareness-raising and training of civil servants in public administration, especially in local self-government units.
- Use the official documents and presentations:
 - the LL *GUIDE TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY, USE RENEWABLE ENERGY SOURCES AND REDUCE ENVIRONMENTAL IMPACTS*
 - *Mentoring and funding training material*
 - *Smart SEAP training material*
 - *A proper use of electronic green public procurements training material*
 - *Methodology for development of eGPP criteria*
 - *Preliminary study for supporting clusters participate in Egpp.*

In order to promote the importance of green criteria, the suggestions are to make contact with ministries in the field of energy efficiency, renewable energy sources, environmental protection, with the private and non-governmental sector working in the areas of energy efficiency, renewable energy sources, environmental protection, get in touch with regional development agencies that implement projects in these areas, and promote EE green criteria in their projects.

The results of the LL should be disseminated in our country, and the best way to achieve it is to promote and include it to listed events:

- Games, International Construction Fair
- INTERIO 2018 JUBILAR EDITION 35th INTERNATIONAL SPECIALIZED FAIR OF FURNITURE, INTERIOR AND OUTDOOR DECORATION AND SUPPORTING INDUSTRY
- Energy Summit Neum
- International Economy Fair





- Grapos – Expo of entrepreneurship and crafts
- Sarajevo Business Forum
- Days of Architecture
- CIGRÉ, The International Council for Large Power Systems, STUDY COMMITTEE BH K CIGRÉ
- Trade Fair Modriča 2018
- 16th International Ecological Fair "EKOBIS"
- ZEPS
- 5th RENEXPO
- Regional Energy Conference
- FinConf
- Sfera
- ENEF 2018 III Scientific and Professional Symposium ENERGY EFFICIENCY
- Business Electricity Forum

It has been foreseen the group of potential stakeholders that should be familiar with the LL activities in order to promote and increase the usage of the green criteria and GRASPINNO project in general. The stakeholders that should be involved in the future: Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina, Federal Ministry of Energy, Mining and Industry, Ministry of Industry, Energy and Mining of Republic of Srpska, Federal Ministry of Agriculture, Water Management and Forestry, RS Ministry of Spatial Planning, Civil Engineering and Ecology, Federal Ministry of Physical Planning, Ministry Of Environment And Tourism FBiH, FBiH Environmental Protection Fund, Environmental Protection and Energy Efficiency Fund of the Republic of Srpska, Ministry of Health, Ministry of Education, Ministry of Public Utilities and Infrastructure, Public Affairs Services, the Brčko District Government/line ministries, local communities, non-governmental organizations, development agencies, universities/faculties, chambers of commerce of FBiH and RS, the Foreign Trade Chamber of BiH, Association of Thermoenergetics, Biomass Association in BiH, Embassies, Statistical Institutes, building enterprises and clusters.



5 CONCLUSIONS

In Bosnia and Herzegovina, green public procurements are not regulated by law and are a voluntary instrument for environmental protection, therefore, the most important goal to achieve would be increasing environmental awareness of the local community in Bosnia and Herzegovina. Therefore, the eGPP Living Lab intent is to **improve Bosnian-Herzegovinian public procurement system** by including green criteria when publishing the tenders and increasing knowledge and usage of energy efficient materials and procedures, and also to increase the participation in/of foreign tenders.

The overall goal of eGPP Living Lab in Bosnia and Herzegovina is to present **the green public procurement and enhance awareness of its advantages**. This was achieved through **educating** about energy efficiency, energy management and electronic green public procurement tool (eGPP), **providing counselling** on modern energy efficient materials, building furniture, energy efficient lighting and machines, energy efficiency renovation of buildings, developing “**Guide**” and **actively engaging the stakeholders** in its creation. The declaration of participation (DoP) in eGPP Living Lab was signed by 10 stakeholders, but there were many other participants involved during the entire Living lab activities.

The main result of eGPP Living Lab in Bosnia and Herzegovina is jointly developed *GUIDE TO PUBLIC PROCUREMENTS IN THE FIELD OF CONSTRUCTION AND FIT-OUT PROCESS WITH GOAL TO IMPROVE ENERGY EFFICIENCY, USE RENEWABLE ENERGY SOURCES AND REDUCE ENVIRONMENTAL IMPACTS - motives and possibilities of using "green" criteria, electronic and other innovative tools – GREEN PUBLIC PROCUREMENTS*. After implementing the guide, stakeholders have stated that **their knowledge about the eGPP was increased**. Additionally, **environmental questions, green criteria and policies**, as well as implementation of same, **become better known and familiar** to the stakeholders.

Stakeholders agree that LL enables co-creation of novel user-oriented solutions and strengthens the cooperation and trust between public and economic operators, and that PA's can benefit from the different types of partnerships in the field of green refurbishment of their buildings and green public procurements. Also, participants





strongly agree that LL enables to exchange experiences or concerns for green growth and that PA's can improve their knowledge/understanding of energy management and can develop/implement effective measures.

After successful setup of eGPP Living Lab in Bosnia and Herzegovina the main challenge remains achieving appropriate dissemination and sustainability of LL. Therefore, future dissemination of the project should be focused on two main aspects: application of the LCC calculator as an instrument for market research and planning, product performance determination, and as an instrument for the realization and revision of projects, and using LL as a good basis for the identification of EE products in BiH, but also a wider tool for planning in the adoption of legal legislation and a strategic decision of the state regarding the availability of EE products and a vendor in BiH. It should be done in cooperation with Public Procurements Agency in BiH and through trainings for civil servants, and for SME's through some portals and events such as Grames, International Construction Fair, Energy Summit Neum, Grapos – Expo of entrepreneurship and crafts, Sarajevo Business Forum, Days of Architecture, Trade Fair Modriča 2018, ZEPS, FinConf, Sfera, ENEF 2018 III Scientific and Professional Symposium ENERGY EFFICIENCY, Business Electricity Forum etc.

eGPP Living Lab sustainability could/should be ensured through promotion of green public procurements and green criteria to other potential stakeholders, raising awareness about the importance of the green procurements and their importance and advantages due to many environmental questions raised nowadays, organizing periodical common meetings and updating the Guide according to valid legislation.





6 APPENDIX – Stakeholders Declaration of Participation (10 DoP)



Izjava o učešću

U aktivnosti "žive" laboratorije GRASPINNO projekta

Projekat GRASPINNO ima za cilj da ojača inovacijske kapacitete javnog i privatnog sektora u regionu MED i da podrži pametan i održivi rast. Projekat će podržati mrežu/klastere zelene energije i eko-inovacije i promovirati transnacionalnu saradnju jačanjem i prilagođavanjem transnacionalne mreže aktera eko-inovacija. Kroz "žive" laboratorije, nastojat će se promijeniti ponašanje u korist eko-inovacija, zelene energije i zelenih aktera.

U skladu sa aktivnostima projekta GRASPINNO, potpisnici se slažu da učestvuju u:

eZJN "živa" laboratorija

čiji je cilj poboljšanje kapaciteta vlasnika javnih zgrada za upravljanje energetsom efikasnošću koja počinje od zgrada sa najmanjim nivoom zelene efikasnosti, te jačanje kapaciteta malih i srednjih preduzeća i drugih aktera u eko-inovacijama na tržištu zelenih energetika kroz osiguranje šireg usvajanja zelenih elektronskih javnih nabavki.

Potpisom Deklaracije o učešću, potpisnik je odlučio da se pridruži eZJN GRASPINNO "živoj" laboratoriji i imenuje predstavnika za komuniciranje sa regionalnom organizacijom "živih" laboratorija:

Stručna služba za razvoj i međunarodne projekte Zeničko-dobojskog kantona
Kučukovići 2, 72000 Zenica, BiH
(ime i adresa organizacije)

Đenana Čolaković

(ime i prezime ovlaštenog lica)



(potpis ovlaštenog lica)

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Stručna služba za razvoj i međunarodne projekte ZDK
(regionalna organizacija "živih" laboratorija)

Salih Alispahić
(regionalni predstavnik "živih" laboratorija)



(potpis)

Zenica, 28.03.2018.
(mjesto i datum)

NAPOMENA: Ovo je dobrovoljna izjava i ne podrazumijeva bilo kakvu finansijsku obavezu ili bilo koju drugu pravnu obavezu.

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Ministarstvo za obrazovanje, nauku, kulturu i sport Zeničko-dobojskog kantona

(ime i adresa organizacije)

Mensur Sinanović

(ime i prezime ovlaštenog lica)

(potpis ovlaštenog lica)

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Stručna služba za razvoj i međunarodne projekte ZDK

(regionalna organizacija "živih"

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Salih Alispahić

(regionalni predstavnik

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(potpis)

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OPĆINA MAGLAJ - MAGLAJ

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MIRSAD MAHMUTAGIĆ

(ime i prezime ovlaštenog lica)



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**Stručna služba za razvoj i
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laboratorija)

Salih Alispahić

(regionalni predstavnik

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JU KANTONALNA BOLNICA ZENICA, ORKVICE 67, ZENICA

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(potpis ovlaštenog lica)

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Stručna služba za razvoj i međunarodne projekte ZDK

(regionalna organizacija "živih" laboratorija)

Salih Alispahić

(regionalni predstavnik "živih" laboratorija)



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JAVNA USTANOVA DSH ZDRAVSTVENO, BERNIKOVA OLOV 66
(ime i adresa organizacije)

Mr. sc. med. dr. Zupin Krčavac
(ime i prezime ovlaštenog lica)

(potpis ovlaštenog lica)

EMIR MUMINOVIC, broj 06/299-533, emir.muminovic@gmail.com.
(ime i prezime predstavnika, broj telefona i e-mail)

Stručna služba za razvoj i
međunarodne projekte ZDK
(regionalna organizacija "živih"
laboratorija)

Salih Alispahić
(regionalni predstavnik
"živih" laboratorija)

(potpis)

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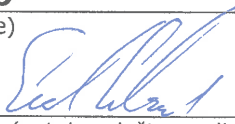
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JZU BRC "AQUATERM", BRANILACA BB, OLOVO

(ime i adresa organizacije)

SENAD SELIMOVIĆ

(ime i prezime ovlaštenog lica)



(potpis ovlaštenog lica)

EDIB DŽAKMIĆ, 061/382-114 aquaterm@aquaterm.olovo.ba

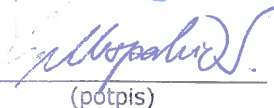
(ime i prezime predstavnika, broj telefona i e-mail)

Stručna služba za razvoj i međunarodne projekte ZDK

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Izjava o učešću

u aktivnosti "žive" laboratorije GRASPINNO projekta

Projekat GRASPINNO ima za cilj da ojača inovacijske kapacitete javnog i privatnog sektora u regionu MED i da podrži pametan i održivi rast. Projekat će podržati mrežu/klastere zelene energije i eko-inovacije i promovirati transnacionalnu saradnju jačanjem i prilagođavanjem transnacionalne mreže aktera eko-inovacija. Kroz "žive" laboratorije, nastojat će se promijeniti ponašanje u korist eko-inovacija, zelene energije i zelenih aktera.

U skladu sa aktivnostima projekta GRASPINNO, potpisnici se slažu da učestvuju u:

eZJN "živa" laboratorija

čiji je cilj poboljšanje kapaciteta vlasnika javnih zgrada za upravljanje energetsom efikasnošću koja počinje od zgrada sa najmanjim nivoom zelene efikasnosti, te jačanje kapaciteta malih i srednjih preduzeća i drugih aktera u eko-inovacijama na tržištu zelenih energetika kroz osiguranje šireg usvajanja zelenih elektronskih javnih nabavki.

Potpisom Deklaracije o učešću, potpisnik je odlučio da se pridruži eZJN GRASPINNO "živoj" laboratoriji i imenuje predstavnika za komuniciranje sa regionalnom organizacijom "živih" laboratorija:

Industrija građevinskog materijala "IGM"d.o.o. Visoko

Ul. Ciglanska b.b. 71305 Donje Mostre - Visoko

(ime i adresa organizacije)

Mustafa Uzunalić

(ime i prezime ovlaštenog lica)



(potpis ovlaštenog lica)

Željko Pencl, mob.:061 475 360, e-mail: zeljko.pencl@igm.ba

(ime i prezime predstavnika, broj telefona i e-mail)

Stručna služba za razvoj i
međunarodne projekte ZDK

(regionalna organizacija "živih"
laboratorija)

Salih Alispahić

(regionalni predstavnik
"živih" laboratorija)

(potpis)

Zenica, 28.03.2018.

(mjesto i datum)

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Potpisom Deklaracije o učešću, potpisnik je odlučio da se pridruži eZJN GRASPINNO "živoj" laboratoriji i imenuje predstavnika za komuniciranje sa regionalnom organizacijom "živih" laboratorija:

ALMY TRANSPORT d.o.o.

(ime i adresa organizacije)

JASMIN KALABIĆ

(ime i prezime ovlaštenog lica)

(potpis ovlaštenog lica)

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Stručna služba za razvoj i
međunarodne projekte ZDK
(regionalna organizacija "živih"
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Salih Alispahić
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U skladu sa aktivnostima projekta GRASPINNO, potpisnici se slažu da učestvuju u:

eZJN "živa" laboratorija

čiji je cilj poboljšanje kapaciteta vlasnika javnih zgrada za upravljanje energetsom efikasnošću koja počinje od zgrada sa najmanjim nivoom zelene efikasnosti, te jačanje kapaciteta malih i srednjih preduzeća i drugih aktera u eko-inovacijama na tržištu zelenih energetika kroz osiguranje šireg usvajanja zelenih elektronskih javnih nabavki.

Potpisom Deklaracije o učešću, potpisnik je odlučio da se pridruži eZJN GRASPINNO "živoj" laboratoriji i imenuje predstavnika za komuniciranje sa regionalnom organizacijom "živih" laboratorija:

NATIONAL-GAS d.o.o. BREZA

(ime i adresa organizacije)

ADISA NAHIC'

(ime i prezime ovlaštenog lica)

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ADISA NAHIC' 061/787-915 nahicn@breza.gov.me

(ime i prezime predstavnika, broj telefona i e-mail)

**Stručna služba za razvoj i
međunarodne projekte ZDK**
(regionalna organizacija "živih"
laboratorija)

Salih Alispahić
(regionalni predstavnik
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Zenica, 28.03.2018.
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U skladu sa aktivnostima projekta GRASPINNO, potpisnici se slažu da učestvuju u:

eZJN "živa" laboratorija

čiji je cilj poboljšanje kapaciteta vlasnika javnih zgrada za upravljanje energetskom efikasnošću koja počinje od zgrada sa najmanjim nivoom zelene efikasnosti, te jačanje kapaciteta malih i srednjih preduzeća i drugih aktera u eko-inovacijama na tržištu zelenih energetika kroz osiguranje šireg usvajanja zelenih elektronskih javnih nabavki.

Potpisom Deklaracije o učešću, potpisnik je odlučio da se pridruži eZJN GRASPINNO "živoj" laboratoriji i imenuje predstavnika za komuniciranje sa regionalnom organizacijom "živih" laboratorija:

PROGRAM Žepče
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Kosim Badžić
(ime i prezime ovlaštenog lica)

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(potpis ovlaštenog lica)

Stručna služba za razvoj i
međunarodne projekte ZDK
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