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Energy Agency Rhineland-Palatinate

PHASE 1 "Interregional learning" a) Exchange of experience - Action a.3) (Semester4) and Action a.1) (Semester 5)

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List of abbreviations and Definitions

ALEA	Alba Local Energy Agency
ANERGO	Alba Regional Energy Observatory
BISKO	Local authority balancing standard
EARLP	Energy Agency Rhineland-Palatinate
EMIS	Energy Management Information System
EPC	Energy Performance Contracting
ERDF	European Regional Development Fund
ESS	Energy Agency for South East Sweden (project partner)
EU	European Union
GHG	Greenhouse Gas
IRENA	Istrian Regional Energy Agency (project partner)
MUEEF	Rhineland-Palatinate Ministry of Environment, Energie, Food and Forestry
NKI	Nationale Klimaschutzinitiative des Bundesumweltministeriums (German National Climate Initiative)
RBA	Regional Background Analysis
RLP	Rhineland-Palatinate
SEAP	Strategic Energy Action Plan
SMiV	System for Monitoring and Verification of energy savings



1 Introduction – Background Information

The SUPPORT project is being funded within the second call of the INTERREG EUROPE Programme of the European Commission, under the specific objective 'Improving low-carbon economy policies'. The aim of SUPPORT is to help municipalities to implement their local energy policies, like SEAPs or in Germany also Energy and Climate protection concepts as funded under German National Climate Initiative (NKI). The main focus of the SUPPORT project is energy efficiency in public buildings. Often municipalities face difficulties in funding efficiency measures. Therefore a core question has been how to help municipalities to get better access to funding, in particular structural funding.

The first step in SUPPORT has been an analysis of the regional background in the partner regions in the field of energy policies and the identification of regional best-practices. One outcome of the regional background analysis of Rhineland-Palatinate has been that the availability of energy data is essential for municipal climate action. In particular, the provision of data and/or the accessibility of data are important issue. Also with regard to the use of subsidies energy saving effects must be proven. Valid and consistent information about the energy consumption of single buildings is also necessary for negotiating and implementing contracting solutions, as an alternative funding source.

Through the development of the regional knowledge framework on energy data in 2018, with the participation of regional stakeholders, the following problems concerning data were further detailed:

- There is little data available at local level. Most of the available energy data is at national and regional (state of Rhineland-Palatinate) level.
- Municipalities do not have to publish their energy data or make them available to other public bodies.
- No uniform balancing method required for municipalities, only a recommendation.
- The different distribution system operators do not collect the data uniformly, for example in terms of consumption groups. Some do not even report the sector "municipal facilities" separately.



- Often energy data has to be obtained individually by each municipality. This can be very time consuming due to bureaucratic procedures and the various data sources. It can also be cost intensive since data providers often want to be paid for this service.
- The high number of sources for energy data makes it very difficult to work with the available information. There is often inconsistency between the data of different sources and also from the same source if data retrieval is done at different times (e.g. due to software changes at provider side, legal changes).

The interregional learning process itself has ensured that we deal with this topic in depth in Rhineland-Palatinate. Other project partners, e.g. IRENA and ALEA, are pursuing new approaches for us or have new tools in their regions that can help us to address these problems. There are some very interesting aspects:

- **EMIS**: Central data collection in an online tool that enables the comparison of consumption data throughout the country.
- **SMiV**: System for Monitoring and verification of energy savings using the same uniform methodology. It is used on local and national level.
- **ANERGO** Energy Observatory: Help to monitor SEAPs via a data portal and thus support their implementation. Strengthen citizen participation in the implementation of local energy policies.

The action plan therefore focuses on measures in this field to support municipalities in implementing their energy and climate protection concepts and to promote the implementation of energy efficiency measures in public buildings.

Another concern that we have pursued with the project from the outset is to reinforce further financing possibilities for the implementation of efficiency measures. There are numerous funding opportunities in Germany for efficiency measures in buildings. We talk about a funding jungle. Still, we are left with unimplemented measures. There are many reasons for this, but municipalities are often unable to raise their own funds for co-financing. Contracting could represent a solution strategy. The Swedish project partner (ESS) has presented a particularly interesting approach for us. During the staff exchange in 2018, more detailed



discussions were carried out and the possibility to import approaches into Rhineland-Palatinate was examined:

Full scale EPC: Municipal properties – to most part build in the 1960's and 70's – will be upgraded in order to meet the energy needs of today (reduction of energy use >20%)

This action plan defines how the learning from the interregional exchange in the project SUPPORT will be transformed into actions in Rhineland-Palatinate. The regional background analysis together with the exchange of best practice on interregional level and the identified data situation in Rhineland-Palatinate served as input to develop this regional action plan to improve the performance of the chosen policy instrument and the implementation of local energy policies. The action plan will be implemented in Phase two of the Project SUPPORT (07/2019-06/2021).

1.1 General Information

Project: support local governments in low carbon strategies (SUPPORT)
Partner organisation: PP 11 Energy Agency Rhineland-Palatinate
Other partner organisations involved (if relevant): no
Country: Germany, DE
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1.2 Political Context

The Action Plan aims to impact: x

- Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument



Name of the policy instrument addressed: Operational Program 2014-2020 ERDF Rhineland Palatinate: PA 2, IP 3d, Specific Target 3; PA 3, IP 4b IP 4e IP 4f

On the side of the ERDF funds it became obvious that there are many national funding programs supporting energy refurbishment measures. Therefore the ERDF fund in Rhineland-Palatinate focuses on innovative measures in this field. The regional ERDF fund also supports the establishment of new advisory/ information services as well as increasing the regional municipal information sharing. This means that projects can be supported which focus on the municipal capacity building to enable them to implement energy efficiency measures. The EARLP wants to carry out projects inspired by SUPPORT to help municipalities in the capacity building process to improve their data collection and management skills. This action plan therefore focuses on 3 concrete measures, which will nevertheless have a large number of municipalities as beneficiaries:

- It is difficult to develop and implement "innovative" solutions that would be eligible for ERDF funding, especially for small but also financially week municipalities. However, through financed advisory and information services of the EARLP, they can still benefit from the funding. Municipalities can indirectly benefit from ERDF funding because they can be provided with support (data services, tools, personal support, training) free of charge. This helps them to examine the energy situation of their buildings independently and to create the conditions for financing solutions.
- Another form of policy change, the "change in the management of the policy instrument" would entail a long coordination process with the Finance Ministry, the ERDF administrative authority and other relevant bodies, changes in administrative rules, etc. The effects in the current funding period (end of 2020) would be arguable.



2 Activity 1: Municipal greenhouse gas balancing and regional climate protection portals

2.1 Background: Use of the acquired knowledge from SUPPORT

A problem in Rhineland-Palatinate are inconsistent or missing data for the compilation of energy balances and above all the updating of already existing energy balances, which were created within the framework of the compilation of local energy and climate protection concepts. There is a multitude of methodologies in the municipal greenhouse gas balance, which impair the comparability, updating or aggregation for higher-level administrative bodies and often overload local authorities and balance readers with the interpretation. Due to the time and effort required to obtain data, resources are tied up and consumed at an early stage. The high expenditure required and the heterogeneous data situation increase the inhibition threshold for strategic municipal climate protection, especially in municipalities with limited financial resources. The interpretation and comparison of the balance sheets - are often difficult especially when updating concepts. The know-how to do so is often an additional expenditure. Furthermore, energy and climate protection concepts often end up in a drawer and are not implemented due to a lack of time, financing or staff. The information is hardly accessible to the public. At the same time, the previous formats of drafting and implementing (partial) concepts often meet with little response on the ground. The participation formats are usually designed as face-to-face events. This is rather poor. Therefore, EARLP was looking for a solution and wanted to test uniform balancing and data collection for RLP in a pilot region.

The Romanian project partner ALEA (Alba Local Energy Agency) identified similar problems with its municipalities with regard to the implementation of SEAPs and structures for access to local energy data:

- Energy data for SEAPs had to be obtained individually by each municipality, through time-consuming bureaucratic procedures leading to low data availability or quality.
- Lack of political commitment.



- Lack of collaboration of data providers.
- Need for tools, processes and skills.
- Lack of participation of citizens in the implementation process of local SEAPs.

To solve these problems, ALEA developed ANERGO, an Energy Observatory. They presented this tool as best practice to the SUPPORT project partnership in the context of the regional background analysis 2017. ANERGO was also presented as best practice to the Interreg Europe learning platform and the policy expert saw high potential for transfer to other regions. Staff exchanges could not be established in the first half of 2018, but this was not too problematic as the 3rd project partner meeting and the 4th interregional seminar took place in Alba Iulia. Personal talks were also held here. ALEA provided very detailed information, in particular about the initial situation in Alba Iulia and the concrete offer of ANERGO, in its "Regional shared knowledge framework on energy data collection and management". Further aspects could be investigated through in-depth research. As the system is very successful, it is also presented by CoM and Energy watch. This was very helpful to show potentials to regional stakeholders and to get support for the idea. Altogether the following aspects of ANERGO are very interesting for Rhineland-Palatinate and the EARLP and there are good possibilities to improve our initial idea with this approach:

- 1. Main objectives: facilitate access of local authorities to energy data for better implementation and monitoring of Sustainable Energy Action Plans (SEAPs).
- 2. Second main objective: Encouraging public participation in the process of implementing and monitoring of SEAPs.
- 3. Support the establishment and implementation of SEAPs (energy and climate protection concepts) with a uniform accounting system.
- produce aggregated reports at local/county level (charts, diagrams on energy consumption and GHG emissions) for different consumer sectors (e.g. public lighting, municipal buildings.
- 5. it provides aggregate energy consumption data at local level, per sectors for territorial-administrative units.



- 6. Produces statistical data (charts, diagrams) showing trends in different consumer sectors (ex. public lighting, municipal buildings).
- 7. ENERGee Watch the European network of observatories for energy and climate.
- 8. Partnership agreements of municipalities and energy data providers with ANERGO to facilitate the exchange of energy data.
- 9. The transfer to another region (Bucharest) has already been tested and which material is needed for it: templates of agreements for cooperation between the observatory and municipalities /data providers and other information for necessary resources (human skills, soft tools, hard infrastructure).
- ANERGO is a structure within Alba Energy Agency ALEA: ANERGO observatory is operating on the same hardware equipment and software services as ALEA. The ANERGO website is hosted on a subdomain.
- 11. Publishes the public energy reports.

About the main objectives: that is exactly what made us be interested in ANERGO, since it deals with the described challenges in Rhineland-Palatinate. We see great potential to support the implementation of energy and climate protection strategies. About the 3rd point: To increase the quality of the database in order to be able to describe a reliable starting point and thus obtain a basis for decision-making in local authorities. Above all, it is important that the local strategy can be updated and thus monitored in order to implement it. The keyword is: credibility of the data!

Also ANERGO has features (e.g. web platform) to encourage public participation in the implementation of concepts. In Alba Iulia an online platform for information and participation (ANERGO) was developed. Our idea of regional climate protection portals serves this aspect, too. We were therefore able to benefit from their experiences.

During talks in Rhineland-Palatinate with the University of Koblenz-Landau, we became aware of the work of Donnersberg district. This district operates a climate protection portal for the participation of its citizens in the creation and implementation of local energy and climate protection concepts. This portal was complemented by balance data (GHG, potentials).



The Energy Agency has set up the Energy Atlas in 2015. It is a good tool to provide an overview on the different regional developments in the energy transition in Rhineland-Palatinate. Unfortunately the data can't be used by every municipality to build up a local energy balance. The available local data is not uniform and not detailed enough. Not included are data on potentials (cadaster), greenhouse gas/energy balances or opportunities for citizen participation in the establishment of climate protection and energy concepts.

Therefore, we want to take into account ANERGO's experience with regional approaches in our project and also address the needs and structures in RLP. This means that we want to introduce a uniform system and a uniform tool nationwide. A collective presentation of the individual balance sheet results in the Energy Atlas will be introduced. In addition, we want to be able to involve and activate citizens more strongly in the implementation of local energy and climate protection strategies. Modern media formats are indispensable for the long-term establishment of municipal climate protection processes. A web-based municipal climate protection portal can transparently present the potentials and the agreed measures and will serve to inform citizens and stakeholders. Citizens can be activated better via a local or regional portal/web service (such as ANERGO for the Centru Region) than via a statewide (RLP) information service such as the Energy Atlas.

Regional know-how, such as the climate portal of the Donnersberg district, will be used to implement the action described here and will be supplemented by approaches and experiences from Alba Iulia. The connection and use of regional projects, offers and experiences, like the Energy Atlas, is meaningful in order to realize/ensure the conversion of the ideas won from the interregional exchange.

2.2 Description of the measure

We used the experiences of ANERGO to further develop our project in RLP. The name of the project is "KomBiReK - Municipal greenhouse gas balancing and regional climate protection portals". The projects main focus is to improve the quality of municipal energy and climate protection concepts. To improve the data availability for local authorities and the ability to update local balance sheets is an important step in this context. This makes it possible to



improve the level of implementation of these municipal policies. We transferred the main objectives and certain aspects of ANERGO; its role is to fulfil the need for aggregate energy consumption data at local and regional level to support municipalities in the development and implementation of local energy and climate protection concepts. KomBiReK consist of 2 parts/work packages:

1. Uniform Balancing system/methodology and Rhineland-Palatinate license for a balancing software

This will provide the data basis for all further components of the project. A homogenous data structure is required for the uniform presentation of the balance results in the energy atlas and in the climate protection portal. This results from the use of a uniform methodology with the same balancing software, user training and a preferably homogeneous data basis, as it is the aim of the central data collection of the EARLP

- Invitation to tender for a greenhouse gas accounting software and training courses for local authorities.
- Acquisition of pilot municipalities: sign partnership declarations to obtain political support.
- Available data from EARLP's Energy Transition Monitoring will be entered for municipalities (service of data delivery free of charge). The initial situation will be created. In return, municipal data from the balancing tool can be used for energy turnover monitoring in order to improve or update the existing data situation.

2. White Label Modular regional climate protection portal

This web-based tool will transparently present the greenhouse gas balances from climate protection concepts, potentials and the adopted measures and serve to inform and involve citizens and stakeholders. The regional reference at local community level is a distinguishing feature because it arouses interest and is intended to motivate climate protection activities.

• As a supplement to the nationwide energy atlas RLP, a climate protection portal is designed as a municipal supplement:



- The results of the current GHG balance on site (actual state) and the potentials of the various sectors (PV rooftop modules, wind power, households, transport) are presented in scenarios for 2020 and 2030.
- The portal is to be expanded to serve as an information and participation tool for citizens in the development of a local climate protection concept, and will continue to be used for (success) monitoring in the updating of balance sheets.
- The climate protection portal is developed as a CMS (Content Management System), so that a municipal climate protection or energy management can take over the maintenance of the data and the regional pages of the portal.
- By the development as White label, the Rollout for further districts and cities in Rhineland-Palatinate is possible without large (technical) expenditure.

We have selected a pilot region in Rhineland-Palatinate to develop and implement the system according to regional requirements. Rhineland-Palatinate is too big as a federal state to roll out directly. For this reason, we were looking for a pilot region that would provide political commitment but would also be structurally comparable to the "Alba County" region. ANERGO Energy Observatory is located in Alba Iulia and covers the Territory of Alba County and certain areas of "Centru" Development Region in Romania. Alba County is a rural district in Rumania with almost 350,000 inhabitants and a few small urban centers (4000-60,000 inhabitants). There is a small regional university located in Alba Iulia. It is similar to the Palatinate area, in particular the region "Mittelhaardt & Südpfalz" which we chose as the pilot region in Rhineland-Palatinate. The region has about 400,000 inhabitants. It is mostly rural with some urban centers, like Grünstadt (13,000 inhabitants), Bad Dürkheim (19,000), Germersheim (20,000) and Landau in der Pfalz (46,000). The region is characterized by viticulture and forestry. There is a small university located in Landau with ca. 8,000 students. A future state-wide roll out (State of Rhineland-Palatinate) is aimed at.

ALEA has encountered the following problems during the introduction of ANERGO:

• Lack of trained staff within the staff of local authorities skilled in energy efficiency and municipal energy consumption management; Training and coaching of dedicated



local authorities' staff on how to use and maintain their dedicated observatory energy data bases is of high importance.

- Lack of financial resources for hardware infrastructure: sensors, automatic data acquisition systems and real-time transmission of energy consumption data.
- The real involvement of the main actors (public authorities and energy data providers) is crucial for successful implementation.
- External financial resources needed to establish and operate ANERGO.

This was addressed in the development of the implementation of KomBiReK and the following steps were and are being taken:

- Involvement of the main actors: Consultation with advisory board Mittelhaardt & Südpfalz. Cooperation from the very beginning to have political approval.
- Tool is made available to municipalities free of charge (licenses are issued). Balance sheets are prepared free of charge for pilot municipalities. This at least partially reduces the financial burden for municipalities.
- Training and coaching for Tool is advertised directly and offered to the municipalities. External financing of introduction and testing in pilot region via ERDF-RLP.

It is expected that strategic municipal climate protection and the preparation of balance sheets will be stimulated, even in less financially strong municipalities, which can lead to a reduction in the burden on municipal budgets and an increase in regional added value and future security through the implementation of energy-efficient measures.

2.3 Actors involved

EARLP and Landau-Koblenz University implement the measures in the region. They are affiliated partners. They put in place project management and technical conditions. The quality is assured through the cooperation with the university. Therefore, funding is possible via the policy instrument. The main target group of the project and direct users of the new services are municipalities and municipal administrations in Rhineland-Palatinate, specifically with administrative districts and cities as drivers for the subordinate administrative units. The



pilot region includes the districts of Bad Dürkheim, Gemersheim, Südliche Weinstraße and the city of Landau/Pfalz, almost the entire area of the Mittelhaardt and South Palatinate regional office of the EARLP. Altogether, these municipalities account for almost ten percent of RLP's land area and population.

Who	What	Note	
Project implement	nter, affiliated partners		
EARLP	 Project management and communication Use of EARLP structures: e.g. Energy Atlas, regional offices Provision of the White label including modules 	2 employees: one in the head office in KL and one in the pilot region	
University Koblenz- Landau	 Conception and technical implementation of the White label including the modules in coordination with EARLP Preparing balance sheets for pilot municipalities 	One part time position and one student employee	
Target group, Sta	akeholder		
Municipa- lities in pilot region	 Get for free: balancing tools, training, data service (Energy Atlas) The University of Koblenz-Landau prepares the balance sheets for them Each of them is given its own climate protection portal 	Balance sheet preparation is carried out down to the smallest municipal level in RLP (local municipalities): 150 balance sheets can be created	
Other municipa- lities in RLP	 Free provision: balancing tools, training, data service (Energy Atlas) Licenses for climate protection portals (White label) available from 2021 onwards Preparation of balance sheets, calculation of potentials and scenarios, etc. at their own expense 	Tendering of the balancing tool by EARLP for at least 600 (150 for pilot region) licenses	
Citizens	 In municipalities with regional climate protection portals 	From 2020 in pilot regions, then progressively throughout RLP	
Service Providers			
Balancing	• Service provider for EARLP, offering balancing	Tendered in early 2019: Climate	



tool	tool and training courses	Alliance
Climate • Protection Portal	Service provider for the University Koblenz- Landau, which programs climate protection portals	Will be tendered: Several providers do exist

2.4 Timeframe and work plan

The project development, including application for subsidies, was carried out with ideas from SUPPORT from 2018. From 2019, implementation steps were taken to introduce a uniform balancing system and improve the data situation for municipal climate protection and energy policies. From 2021, the data will be transferred to other regions of RLP.

2019		
2010		
1st quarter		
Idea was developed into a project concept: in SUPPORT, the RBA for RLP was completed. The problematic situation in the area of "energy data" clearly emerged. Best practices (SMiV, EMIS, and ANERGO) of SUPPORT project partners were presented. ANERGO from ALEA turned out to have particularly interesting approaches.		
2nd quarter		
Cooperation agreement between ERLP and university of Koblenz-Landau		
3rd quarter		
Administrative districts in the pilot region sign letters of intent to participate (i.e. creation of regional climate protection portals)		
2nd + 3rd quarter		
Preparation and submission (20.08.2018) of the project application for ERDF funding for the financing (acquisition of the balancing tool, development of the online portals etc. – material and staff costs)		
4th quarter		
EARLP received a notification for the provisional start of action. The tender for the GHG balancing tool and training is launched.		
2019		
1st quarter		
 Grant notification for EARLP and University Koblenz-Landau EARLP awards the contract for the balancing tool 		
2nd quarter		



- Start of awarding licenses of the THG tool to municipalities throughout Rhineland-Palatinate
- Kick-off event (17.06.2019) with State Secretary in the ministry of Energy and Environment RLP and District Administrator Bad Dürkheim at the final regional conference of SUPPORT
- Promotion of KomBiReK (license awarding of GHG-Tool, trainings, data service)

3rd + 4th quarter

- Call for tenders and award of contract for "Programming climate protection portal" by the University Koblenz-Landau
- Start of the conception of the climate protection portal
- Start of the preparation of balance sheets in the pilot region

2020

- Inclusion of initial balance sheet results (mainly from the pilot region plus other existing ones) in the Energy Atlas
- Finalization of the White label for regional climate protection portals in Rhineland-Palatinate
- Start of the conception of the roll out in Rhineland-Palatinate

From 2021

Opening the White label to other municipalities outside the pilot region

2.5 Budget: Costs und Financing

For the implementation of the described action a budget of approximatively 1,207,000 euros is needed. The action is financed by subsidies from the Rhineland-Palatinate ERDF program: 550,400 euros are eligible according to ERDF specifications. The rest comes from the State and from own funds (EARLP, municipalities).

The action contributes to the ERDF program Rhineland-Palatinate

Support in the development and implementation of strategic concepts (for CO₂ reduction) for municipalities and the targeted use of resources, model character and transferability through statewide (RLP) orientation.





3 Activity 2: Spreading Contracting in Rhineland-Palatinate

3.1 Background: Use of the acquired knowledge from SUPPORT

Efficiency measures in municipal properties are often not implemented at all or only delayed due to the tense financial situation and restrictions imposed by municipal law. Investments beyond mere maintenance are often not possible. In order to nevertheless implement identified efficiency potentials in municipal properties, municipalities could make use of alternative financing options. In particular, this includes local partnerships with companies, such as contracting models. In particular, financially weak municipalities could nevertheless implement energetic measures with contracting models. Despite the possibilities offered by contracting models, municipalities in Rhineland-Palatinate are very reluctant to do so due to a lack of information and the complexity of contracting projects:

- In Rhineland-Palatinate energy saving contracting is quasi non-existent.
- Energy supply contracting for individual properties (e.g. a new heating system) is more common.
- The local regulatory authority for municipalities approves contracting contracts of max. 10-15 years. It is therefore a challenge to realise a longer-term commitment (e.g. 20 years). However, energy savings for complex measures can often only be achieved over a longer period of time.



The EARLP is very interested in winning over local authorities to the subject of contracting in order to help them finance energy efficiency measures in their properties and thus implement their energy and climate protection concepts. Therefore, the best practice "Full scale EPC in the municipality of Kalmar", which was presented by the Energy Agency Southeast Sweden (ESS), contains interesting starting points for us. ESS presented the example of Kalmar as part of its regional background analysis and at the first interregional seminar in Rovinj (12-14 September 2017) and the Interreg Europe policy learning platform Due to the initial situation in Rhineland-Palatinate and the great interest in the subject of "contracting", the Managing Director of EARLP and a coordinator at the Rhineland-Palatinate Ministry of the Environment, who is responsible for municipal issues, took part in the staff exchange to Kalmar. From 17 to 19 April 2018 they could discuss with the employees of ESS, Kalmar's municipal managers and the contractor (Caverion Sverige AB) on site. The following aspects are particularly interesting for us and we see potential for better spreading the subject of contracting in RLP:

- Staging the contract in 3 phases (data collection, implementation, monitoring)
 - a. Better exit possibilities for municipalities and contractors from the contract if this becomes necessary, e.g. because required services (energy savings) cannot be provided.
- Bundling of all municipal properties into one global project, not only the same type of buildings (e.g. Schools, Gyms). Over performers make up for under performers and thus allows not only cherry picking but energy renovating the whole public building stock.
- Argumentation to convince municipality: long term saving of energy costs through investments.
- Calculating the costs of the energetic measures in Kalmar, the concrete advantages of contracting could be demonstrated on the own example. No abstract example calculation. Contracting solution was cheaper in Kalmar than doing it themselves.
- A long planning period of 20 years during which the savings must be demonstrated.



- Experienced Contractor: Carvion has a long experience of energy services and has carried out similar assignments in other Swedish municipalities: Leksand, Mora Strand, Ludvika, Torsby.
- The city of Kalmar with approx. 62,000 inhabitants is quite comparable with some medium-sized towns and municipalities in Rhineland-Palatinate: Bad Kreuznach (pop. 51,000), Frankenthal Palatinate (50,000), Landau in der Pfalz (46,000), Pirmasens (40,000), Zweibrücken (34,000), Andernach (30,000), Idar-Oberstein (28,000), Bad Neuenahr-Ahrweiler (28,000), Bingen am Rhein (25,000).
- Most of the municipal buildings in Kalmar date back to the 60s and 70s. In Rhineland-Palatinate municipalities, many administrative buildings also date from this period due to a large number of regional reforms between 1969 and 1974.
- The region of southern Sweden is otherwise similar to RLP: rural character with some urban centres.

We are particularly interested in the drafting of contracts and here we see potential to reduce the complexity of contracting and to convince local authorities to use contracting.

We discussed these findings and other classical contracting approaches with municipal actors who have already introduced energy management systems during the regional twoday SUPPORT intensive workshop on 22nd/23rd November. The aim was to find out how open municipalities in RLP are to contracting approaches and which actions have to be taken to achieve the implementation of the Swedish approach in Rhineland-Palatinate. It turned out that the municipal stakeholders recognized the potential, but are still hesitant when it comes to their own properties. The idea was to launch an extensive contracting project in a pilot municipality to demonstrate the feasibility of the project in Rhineland-Palatinate and to develop consulting and guidance material based on the experience gained.

3.2 Description of the measure

Our goal with this action inspired by the example of Kalmar is: to make municipalities in RLP use contracting at all, especially energy saving contracting and this on a larger scale, meaning with several properties and with a longer term. In order to achieve this in Rhineland-Palatinate, we first want to tackle a larger contracting project in a pilot municipality (full scale



probably not achievable). In order to better spread the topic throughout Rhineland-Palatinate, experience will be used to develop specific regionally coordinated advisory and guidance services. There are two work packages:

1. Implementation of a larger contracting project in a pilot community:

Together with a municipality in Rhineland-Palatinate, we will select buildings from its portfolio for energy-saving contracting and advise the municipality on the tendering procedure for a contractor. We will check on this particular case whether the "3 Phase Model" from Sweden is applicable in reality in Rhineland-Palatinate. Furthermore, the EARLP will support the municipality in the negotiations with the contractor and the contract design in order to achieve cost efficiency and desired energy saving results.

- Together with the pilot municipality: Initiating a contracting project including several municipal buildings.
- Pooling different buildings into various bundlings on the basis their structural and energetic situation, so that over performers make up for under performers and thus allows not only cherry picking but energy renovating the whole public building stock. Typical municipal buildings are selected: build in the 60es and 70es, office buildings, schools, gyms etc.
- The costs of the contracting solution and implementing chosen energy efficiency measure in own contribution will be calculated and compared.
- Swedish "3 phase model": adapt it for the service description and the legal framework in Germany and RLP.
- Support of the municipality in contract negotiations and contract drafting.

When selecting the pilot municipality we will take into account experiences from Sweden. The Swedish partner described challenges and requirements that had to be met to realize the contracting project. The starting point was the political aim to save 20 % of the energy consumption of the municipal real estate. Therefore an overall review of the real estate portfolio was required. In Rhineland-Palatinate we will work together with municipalities that have already implemented an energy management system in their municipal building stock and have written an energy report. Only these municipalities have the necessary knowledge



and structure. This is a precondition to secure the development of a bigger EPC project in the next 2 years and actually transfer aspects from the Swedish Best-Practice.

2. Improvement of the consulting and support offer for "contracting" in RLP

The pilot municipality is intended to demonstrate the potential of contracting for energy efficiency for municipalities in Rhineland-Palatinate. In order to convince other municipalities to use contracting as a financing option, consulting and guidance material will be developed on the basis of this experience. By transferring the Swedish approach to one municipality we can gain experience and react to local peculiarities and legal conditions. Components are:

- Develop a tool (e.g. Excel) with which municipalities can estimate whether properties (bundled) have potential for energy saving contracting.
- Develop a checklist for tenders and service descriptions.
- Develop checklist for contract negotiations.
- Put together tips on how to involve and convince the local council. Presentation templates are created for this purpose: Arguments for contracting (e.g. cost comparison with own contribution), pilot municipality as example from RLP.

All offers are free of charge and can be downloaded from the EARLP website. At the same time, personal consultation by an EARLP employee is offered free of charge to Rhineland-Palatinate municipalities. With these documents and personal consultation we want to reduce the complexity for the municipalities and remove obstacles. In order to reduce further obstacles to extensive or full-scale EPC projects, the findings will also be used to negotiate with important stakeholders. This is particularly important in order to achieve longer terms for contracting projects, so that energy efficiency measures with long payback periods can also be implemented:

- Local regulatory authority for municipalities: approves contracting maturities of max.
 10-15 years. Because: especially financially weak municipalities should tie up funds for a project.
- Contractors: Longer terms and "not only cherry picking" are aimed at. Contractors often do not want long term contracts with complex building portfolios (prefer smaller



measures that can quickly pay for a quick return on investment). The level of investment may well be high, but it should pay off quickly.

The interregional exchange with ESS has taught us "to think big" and EARLP wants to implement the described action based on the Swedish experience. As a long-term result, we hope that:

- The useful combination of buildings into a contracting project is common practice or is at least considered in every contracting project.
- Contracting projects are planned on the long-term in order to fully exploit their potential.

3.3 Actors involved

EARLP promotes the implementation of a contracting project in a pilot municipality in Rhineland-Palatinate and develops information and guidance services for other municipalities in Rhineland-Palatinate on the basis of this experience.

Who	What	Note	
Project manager	nent		
EARLP	 Identification and support of the pilot community Development of support material for tenders and contracts 	1 employee who, as an expert, accompanies the municipalities throughout the entire process and makes the procedure transferable	
Target group, Stakeholder			
Pilot municipality	 Receive free of charge support from EARLP throughout the process Tendering, negotiating and concluding contracting contract Profit from the energetic measures by saving energy costs 	Should have produced an energy report	
Users of the buildings	 Profit from the energetic measures, e.g. improved indoor climate for better working environment 		



Other municipal- lities in RLP	 Free provision: support material for calls for tenders and contracts Receive improved advisory services from EARLP 	Active addressing of municipalities introducing energy management systems	
Service provider			
Energy service companies	 Tender contractor who is ready to perform a large EPC project Negotiations on longer maturities and bundlings 	Should have experience with larger EPC projects	
superordinate decision makers			
Local regulatory authority	 EARLP negotiates over longer-term contracting maturities EARLP provides information about contracting projects: potentials for municipal investment and long term cost savings 		

3.4 Timeframe and work plan

The application for subsidies and the search for a pilot municipality will begin in 2019. In 2020, the main focus will be on defining the contracting project, tendering and contract negotiations, including the conclusion of the contract. In 2021, this process will be reflected upon and the information and consulting material will be prepared on the basis of experience in order to disseminate contracting throughout Rhineland-Palatinate.

2019			
2nd quarter			
 Preparing Kalmar example and using it for presentations Preparation of an ERDF project application in order to be able to finance the intensive consultation and preparation of the information and guidance material 			
2nd + 3rd quarter			
 Find a pilot community: talking to (large) municipalities, informing at events of energy management networks: Draw up a checklist for the selection of a pilot municipality: Energy management introduced, energy and climate protection concept adopted, saving targets formulated for their municipal building stock, building stock has so far not been renovated at all or only to a limited extent in terms of energy efficiency. 			
3rd + 4th quarter			
• Conclude a cooperation agreement with the mayor, which allows the municipality to participate as a pilot in the entire process and to allow the EARLP to use the tendering and contract documents for the development of advice and guidance services			



- Capture the situation in the pilot municipality on the basis of the energy report: What is the energetic situation of the municipal buildings, which buildings are to be energetically modernised, which saving targets exist?
- EARLP and municipalities jointly select the buildings for the EPC project in order to achieve a useful bundling

2020

Continuous involvement of the local council during the individual milestones on the way to the contracting contract: EARLP provides a basis for argumentation and presents individual results of the negotiation process with the contractor

1st + 2nd quarter

- Prepare tendering of the contractor:
 - Search for experienced contractors in Rhineland-Palatinate and Germany: have already implemented larger EPC projects
 - Check whether the "3 phase model" from Sweden can be applied and, if necessary, adapt it to the legal framework. Set up service description together with pilot municipality
 - In municipality: concrete calculations of the energetic condition of buildings and potential savings for selected buildings as part of the preparation for the services description

2nd + 3rd quarter

- Together with the municipality: viewing the offers and prepare negotiations with contractors
- EARLP provides personal support for the municipality in contract negotiations: duration, savings results, measures to be implemented, schedule
- Negotiated contract will be presented to the local council for approval

4th quarter

Contractor begins implementing first measures in pilot municipality

2021

- Review the tender, negotiation and contract and exchange experience with pilot municipalities to make any necessary adjustments of consultancy service
- Conducting discussions with local regulatory authority for municipalities on the legal framework for contracting and pointing out the potentials (long-term energy cost reduction) for (financially weak) local authorities. The aim is to enable contracting contracts with longer terms for municipalities

3.5 Budget: Costs and Financing

The Energy Agency Rhineland-Palatinate needs a budget of approx. 370,000 euros for the implementation of the action (intensive support of pilot municipality and statewide (RLP) transfer). The action is financed by subsidies from the Rhineland-Palatinate ERDF program;



185,000 euros are eligible according to ERDF specifications. The rest comes from the state and from own resources (EARLP).

The action contributes to the ERDF program Rhineland-Palatinate

Support in the development and implementation of strategic concepts (for CO2 reduction) for municipalities and the targeted use of resources, model character and transferability through nationwide orientation.

4 Activity 3: Comprehensive and Standardized Energy management

4.1 Background: Use of the acquired knowledge from SUPPORT

Energy management is of significant importance for municipalities in the implementation of their energy and climate protection strategies. The systematic recording and control of their energy consumption is the groundwork for identifying, prioritization and concretely dealing with potential energy savings and inefficiencies. Only this way can energy consumption and the associated costs be durably reduced. At the same time, municipalities can consistently pursue their own climate protection goals and document their successes. In Rhineland-Palatinate, the Energy Agency has been working on introducing energy management in municipalities since 2015:

- Local energy management is carried out in Rhineland-Palatinate at the moment but as pilot actions, with different systems of collecting and proceeding data, (e.g. online and offline systems, etc.).
- Especially for municipalities with less than 30,000 inhabitant's costs of energy management systems in the purchase of hardware (metering devices) and software (additionally high license costs for the use) are very high. Larger municipalities or small ones with energy costs above 250,000 Euros/year reach break-even-points for such systems (costs carried by savings due to the energy management).



- The small-scale territorial structure of RLP is particularly problematic, as small municipalities have few human and financial resources for such long-term tasks. This makes it difficult to establish Energy management systems all over Rhineland-Palatinate.
- Energy management is a voluntary task for municipalities, there is no legal obligation.
- There is no standard for energy reports in Germany. DIN EN ISO 50001 is only obligatory for companies. Consequently, there are no uniform energy reports. Moreover there is no obligation to publish energy reports.

We are aiming to standardize the municipal energy management in Rhineland-Palatinate, including the process of implementing it, the used software and calculating/ data proceeding methods. The Croatian lead partner (IRENA) presented us two systems from Croatia which showed us that it is possible to implement a uniform structure for municipal energy management (EMIS) and to calculate and verify energy savings according to uniform standards (SMiV). IRENA presented both systems as best practices in their Regional Background analysis and at the first interregional seminar in Rovinj, Croatia (12.-14.09.2017). Moreover we were able to talk the Croatian project manager of EMIS from the Croatian Government Real Estate Agency at the second (Seville 13.-16.03.) and third (Alba Iulia 9.-10.08.) interregional seminar in 2018. Both practices were accepted to Interreg Europe Learning Platform's best practice database. We identified EMIS as a very interesting system. The following aspects are of particular interest for the EARLP:

- 1. Nationwide and centralized system (SMiV and EMIS). There is a need for a comprehensive and standardized energy management system in RLP.
- In Croatia it is a legal obligation to use the nationwide energy management system (EMIS).
- 3. One part of EMIS is, that it provides a software the municipalities have to use (integrate energy data and proceeding it).
- 4. EMIS: Open for automatic (meter) and manual (reading data) feed-in: if municipalities have already collected data, they can also be integrated.



- 5. Information on energy data is collected at a centralized point and can be analysed on a regional level. There is a great interest in reaching this level in RLP in the future.
- 6. 6% energy saving on average only by monitoring consumption, without investments in construction/ infrastructural measures.
- There are comparable spatial structures in RLP: Croatia has 4.2 million inhabitants (RLP= 4.1 million) and there are many small municipalities.

We are aiming at transferring the aspect of a nationwide and centralized system but in the form of a comprehensive and standardized energy management system in Rhineland-Palatinate. The Rhineland-Palatinate government would get a (realistic) picture of the energetic condition of public buildings in Rhineland-Palatinate municipalities for the very first time. The basis for this is the creation of uniform energy reports or a database built up with standardized data. The Croatian practice EMIS showed us, that not only local authorities but also the superordinate political institutions can make sound decisions based on a nationwide standardized energy management system. This is crucial so that decisions on how to better support municipalities in increasing their energy efficiency can be made.

4.2 Description of the measure

The action aims at implementing a comprehensive and standardized municipal energy management system in Rhineland- Palatinate to help small local authorities or the ones with annual energy costs under 250,000 Euros to better identify efficiency potentials in their building stock. With the learning from EMIS and SMiV we want to test how small municipalities can be convinced to implement an energy management system and to show them the added value of such a tool. One challenge will be the usage (e.g. publication, collecting for database) of the municipal data due to data protection regulations. The municipal data is crucial though, to prepare and update political decision making on state level (RLP).

We developed the following idea out of the interregional learning process: In one region in Rhineland-Palatinate a pilot project will be carried out where consumption data of different municipalities will be digitally and uniformly recorded, so to say a "little Croatia". At the same



time the experiences will be used to negotiate with the Ministry of Energy, Environment, Food and Forestry Rhineland-Palatinate (MUEEF) to create legal frameworks and/or adapt the funding landscape to foster a comprehensive and standardized municipal energy management system in RLP. The action consists of two parts:

1. Pilot region "little Croatia"

Opposite to Croatia in RLP there is no legal framework for a comprehensive and standardized municipal energy management, therefore we want to realize it with municipalities in a pilot region on a voluntary basis. It will be like a "living lab" for the EARLP to figure out requirements but also concerns of the local authorities regarding uniform data collection. One problem could be a lack of political commitment on local level because if municipalities want to work together (e.g. to purchase an energy management system) they must sign contracts with each other. The negotiations can be very difficult and therefore take a lot of time. The EARLP will help the municipalities as a consultant and mediator.

- The pilot municipalities implement a uniform and digital data collection and energy management system with the help of the EARLP. Hurdles/obstacles but also push factors for a comprehensive and standardized energy management in RLP will be detected.
- The Municipalities will jointly tender one energy management software solution and hardware components (e.g. meters) to collect, proceed and view/publish data on the consumption of their buildings following the same methodology. Not every municipality has to purchase its own license and maintain the system. This will save money and the break-even point is reached much earlier for small municipalities making it more attractive. Since there is no legal obligation in RLP to use a tool provided by the government (like in Croatia) we cannot transfer EMIS as a tool but we can transfer the idea of municipalities all using the same tool. To do so and to have a cost saving effect they have to purchase the tool together.



• EARLP signs partnership contracts with municipalities so they provide us with their data to reach a standardized database. This is necessary since there is no legal obligation to provide this data like in Croatia.

The RLP region "Nationalpark Hunsrück-Hochwald" will be the pilot region. The region "Nationalpark Hunsrück-Hochwald" is a national park founded in 2015. There are 129 individual municipalities which are organized in seven subordinated municipal associations and rural districts in the national park in Rhineland-Palatinate. It was chosen as because:

- Region in RLP with severe changes (demographic change/ aging of population) leading to questions about the future use of the municipal infrastructure and costs.
- In addition, when the "Nationalpark Hunsrück-Hochwald" was founded it was decided to prepare a joint Energy Report for the whole region. Until now it is not possible to do that because there is no uniform data base. The reason is that most of the municipalities in the region do not have an energy management system yet and the ones having one use different systems. As a result there is a high pressure to take action in the region and the described action has good chances to be implemented.
- The spatial structure of the region is quite comparable with Croatia, but of course smaller: very rural and nature-rich with two small urban centers (Birkenfeld with 7000 inhabitants, Morbach 10,000). There are many small municipalities with usually less than 1000 inhabitants.

2. Improving the legal framework in RLP for municipal energy management

To implement a comprehensive and standardized energy management system all over RLP it might be necessary to make it a mandatory task for municipalities like it is in Croatia. The work package deals with the question how energy management could become a mandatory task for municipalities in RLP. From our perspective this could be reached in two ways:

1. Convincing municipalities of the positive effects of energy management: e.g. energy savings without investing in building infrastructure. This could start a bottom-up process making local authorities demand it from the RLP government.



 RLP institutions see the potentials of energy management for long term cost savings in (financially weak) municipalities. This could start a top-down approach making (e.g.) the RLP Court of Auditors demand an energy management system in municipalities.

The first point will addressed with the first work package. The second point will be addressed by the experiences made with pilot region (hurdles and push factors) in the second work package. Conditions for the implementation of comprehensive and standardized energy management in RLP can be:

- The state of RLP provides more financial resources for municipalities so they can implement an energy management system (e.g. new topic in ERDF).
- Legal requirements will be added to the RLP Climate Protection Law to create a legal framework.

The EARLP will intensively exchange with participating municipalities and on the same time communicate with the MUEEF (responsible for ERDF, RLP Climate Protection Law) about the proceedings and results in the pilot region, to start processes on the legislative level: creating legal framework or adapt funding programs. The function of the EARLP as an intermediate body between the RLP government and the municipality is crucial in this context.

4.3 Actors involved

Project management	
 Project management, Coordination of municipalities Intermediate between municipalities and RLP institutions Negotiations with MUEEF In the long run: build up a data base with standardised collected and proceeded data 	nent, . and

To implement the described action three actors will be involved.



Target group, Stakeholder			
Municipa- lities in pilot region	 Jointly purchase and implement a uniform energy management system Profit from the cost saving effects of implementing an energy management 	Municipalities in the "Nationalparkregion Hunsrück- Hochwald": 129 municipalities	
Other municipal- lities in RLP	 Better legal framework and funding conditions 	If experiences in pilot region and negotiations with MUEEF move well all municipalities in RLP can implement a uniform system	
State of Rhineland-Palatinate			
Ministry of Environment, Energy, Food and Forestry RLP	 EARLP negotiates funding conditions and recommends legal conditions EARLP provides information about energy management: potentials for municipal investment and long term cost saving In the long run: EARLP provides a data base with the collected data 	Will get a great overview on the energetic situation of public buildings if a comprehensive and standardised energy management can be implemented all over RLP	

4.4 Timeframe and work plan

In 2019 the action is prepared by concluding contracts with and between the municipalities and drafting an application for funding. In 2020 the municipalities jointly procure energy management software, implement it and produce first data. At the same time the EARLP provides the MUEEF with first information and negotiates about better funding conditions and makes recommendations for adapting the legal framework.

2019			
2nd + 3rd quarter			
 Workshop in the pilot region and presentation of the action using the example of EMIS In pilot municipalities, check which hardware is required or which systems are already available. Does this lead to special requirements in the procurement of the software and hardware? Conclude a cooperation agreement with the municipalities, which include the allowance for the EARLP to use the collected municipal data (necessary since there is no legal obligation for municipalities to publish their consumption data) Conclude contracts between the municipalities that they are willing to jointly procure. 			
3rd + 4th quarter			



• Preparation of an ERDF project application in order to be able to finance the intensive consultation, build up a data base and negotiations.

2020

1st + 2nd quarter

- EARLP supports the municipalities in jointly tendering the necessary hardware and software so that the service description meets their actual needs. In addition "jointly" means a big challenge for the municipalities since all local councils have to accept the tender documents. This is a lot of coordination and negotiation. The EARLP will be consultant and mediator.
- Joint tendering of energy management software including training for local authorities on how to use it correctly
- Set-up of the digital recording, i.e. installation of the digital meters in public buildings, integration of the meters into the software and then initial test measurements and their evaluation.
 - Maybe adjustments have to be made
 - Interpret the collected data together with the municipal staff

3rd + 4th quarter

- Evaluate the experiences and make first recommendations towards the MUEEF
- Initiate action at political level in RLP: a precise description is not yet possible, as this requires intermediate results from the implementation process in the pilot region

2021

- Municipalities constantly measure the energy consumption of all their buildings and constantly learn through the measurements
- At the same time the implementation process in the pilot region will be evaluated: What has to be improved, to implement a comprehensive and standardized energy management system and build up a data base (like EMIS) in RLP
 - Survey of the municipalities (pilot region)

4.5 Budget: Costs and Financing

The Energy Agency Rhineland-Palatinate needs a budget of approx. 275,000 euros for the implementation of the action (intensive support of pilot region and negotiations with RLP political institutions). The action is financed by subsidies from the Rhineland-Palatinate ERDF program; 137,000 euros are eligible according to ERDF specifications. The rest comes from the state and from own resources (EARLP).

The action contributes to the ERDF program Rhineland-Palatinate



Support in the development and implementation of strategic concepts (for CO2 reduction) for municipalities and the targeted use of resources, model character and transferability through nationwide orientation.

Endorsement

Date:_____

Signature: _____

Stamp of the organisation (if available): _____



Appendix

Stakeholders List – Involved in the elaboration of the action plan

Name and Position	Contact info	Role
Mareen Kilduff	Mareen.kilduff@energieagentur.rlp.de	Project manager at EARLP for municipal energy management
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Christoph Benze		Coordinator for municipality energy development at Rhineland- Palatinate Ministry for Environment, Energy, Food and Forestry (MUEEF)
Heike Fenn		Coordinator for municipality energy development at MUEEF
Claudia Alt		Berlin Energy Agency
Andrea Brach		VG Höhr-Grenzhausen
Julian Keiber		VG Jockgrim



Helmut Heim	VG Höhr-Grenzhausen
Markus Forschner	VG Bodenheim
Nico Hickel	VG Bad Ems
Anne Kuschnik	VG Römerberg-Dudenhofen
Silke Merz	Stadtverwaltung Sinzig
Daria Paluch	VG Wörrstadt
Thomas Sippel	VG Wörrstadt
Riccarda Vitt	VG Kirchen (Sieg)
Frank Reifenrath	VG Kirchen (Sieg)
Marcel Ring	VG Hamm (Sieg)
Silvia Schmitz-Görtler	VG Freinsheim
Marcel Schwill	Stadtverwaltung Neustadt an der Weinstraße