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1. Introduction

This document covers the deliverable D2.5 of the COOPENERGY project. The deliverable is submitted either in English (5-10 pages in an electronic format) or in National language with a 2-3 page summary in English. Each COOPENERGY regional partner is responsible for delivering this document for its own region.

2. COOPENERGY

The main goal of COOPENERGY is to foster the development of collaboration models in sustainable energy planning between the regional and local public authorities to lead the transition towards low carbon communities and regions.

COOPENERGY aims to mobilize eight (8) regional public authorities to work hand in hand with the local authorities and demonstrate their collaboration by developing Multi-Level Governance (MLG) models that support the creation of mutually beneficial Sustainable Energy Action Plans (SEAP) at regional and local levels and the development of joint actions in energy planning for the successful implementation of SEAPs. In complement to cooperation in strategic regional energy planning, three (3) **themes of collaboration** were identified as key cross-cutting pillars for the successful definition and implementation of the MLG models. COOPENERGY will focus on these collaboration themes:

- **Financial instruments**
- **Modelling, planning and monitoring tools for decision making**
- **Awareness raising and stakeholder involvement instruments**

3. Overall context in sustainable energy planning

Achieving sustainable energy solutions often requires the development of a number of interrelated measures such as a change in land use, sharing of sustainable energy resources or development of new financial models. Therefore, successful implementation will require coherent and concerted energy planning to bring all the differing strands together at regional and municipality levels. This could include additional support for the development of:

- infrastructure planning at a spatial and network level (covering more than one public authority or region) such as renewable energy networks
- cross boundary renewable energy resource supply chains e.g. wood fuel biomass
- natural resource use planning and conflict management
- comprehensive monitoring of energy use and GHG emissions at regional and local levels to inform development of local SEAPs and business cases



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- development of innovative financial mechanisms supporting local actions

Successful implementation is further complicated by the fact that regional SEAPs are often part of a wider plan or strategy involving a greater number of stakeholders, and a longer plan development time. It is therefore imperative at the outset to develop a firm multi-level governance basis for action.

4. Main purpose

Each regional partner will perform an **analysis of the situation in its region** with regards to the implementation of MLG models in **sustainable energy planning** and provide recommendations for further improvements to the planning processes.

It will:

- Analyse if the local and regional needs are addressed in the regional SEAP by interviewing the regional authority and a number of municipalities (at least 3 per region).
- Identify areas of potential conflict for each stakeholder and propose a mapping of inconsistencies.
- Identify the drivers to provide a comprehensive business case for the definition of ambitious regional SEAPs.
- Assess if the financial instruments are planned and approved.
- Provide recommendations for improving the regional SEAP in terms of methodology for its revision as well as priority areas.

The report of the review analysis will be discussed with the regional authorities and serve as basis for COOPENERGY activities.



5. Regional situation in energy planning

5.1 General information

The legal basis for the conception of a regional SEAP is the state treaty from the 26th of July 2005 between the German Länder Baden-Württemberg, Hesse and Rhineland-Palatinate regulating the regional planning in the Rhine-Neckar Metropolitan Region with the Verband Region Rhein-Neckar VRRN (Rhine-Neckar Regional Association VRRN) coordinating the implementation of the regional SEAP.

➤ Energy planning responsibilities at regional level.

Please indicate the areas of responsibilities of your regional government in relation with energy. Please indicate (YES/NO). If YES please describe.

- Public buildings (schools,..): NO
- Public transport: NO
- Energy network infrastructures (planning, operation,..): NO
- Local energy production (planning, authorisation, operation,..): NO

Energy and GHG monitoring: YES

- On the basis of existing approaches a regional monitoring process for the regional SEAP work is in progress. The setup of a regional database will show the status quo of the energy turnaround process (“Energiewende”). The monitoring will also visualize the production- and consumption data in a transparent way to support local-level climate change activities.

Land use and spatial planning: YES

- See:<http://www.m-r-n.com/en/home/regional-planning-development/regional-planning/standardised-regional-plan.html> :

According to Article 3 of the state treaty signed by the federal states of Baden-Württemberg, Hesse and Rhineland-Palatinate dated July 26th, 2005, the preparation, forward projection and amendment of a standardised regional plan for the Rhine-Neckar region, is one of the core tasks of the Rhine-Neckar Regional Association. In particular, the state development programmes and plans of the three federal states are to be taken into consideration. The plan is an expression of the political will of the entire region and the basis for its spatial development.

➤ **Regional SEAP and Covenant of Mayors**

What is the name of the “regional SEAP”?

- Regionales Energiekonzept Metropolregion Rhein-Neckar

When was it established?

- The General Meeting of the Association approved it in March 2012.

Does it need to be revised, if yes when?

- No intention to revise it within the following years due to the complex democratic process in which it was designed and approved. 75 projects are defined as drafts in the regional SEAP. The operationalization will be coordinated by working groups e.g. “climate friendly communities”; “energy round table meetings”, “sustainable mobility”. Right now monitoring is being established (milestones):
- Develop indicators, yearly monitoring report, provide comparability between regions and communities, integration of performance data in GIS (Cluster GeoNet MRN) for a regional energy atlas, integration of monitoring elements at communal level for a “local energy atlas via iFrame”.

Are there any Covenant Of Mayors coordinating structures in your region? Please describe.

- The Verband Region Rhein-Neckar is “supporting structure” since 2010.
See: http://www.eumayors.eu/agenda_en.html?archive&id_event=70

How many CoM signatories are present in your region?

- 15 communities so far.

5.2 Cooperation between national and regional levels

To what extent are National public authorities involved, support or can influence energy planning activities at regional and local levels?

- At national level the Federal Government set ambitious goals for energy efficiency and renewable energy in 2010 and in July 2011 the “Energiewende” was decided with the phasing out of nuclear power as a key aspect. The new national laws also include measures strengthening the climate smart development of cities and communities. This influences the energy planning in the MRN. For example there is the nuclear power plant Biblis (A and B), that was shut down as a consequence. An example for MLG Cooperation: On national level the grid development plan (GDP) relates to the need for expansion in the German onshore power transmission

system. It is the result of a constructive public debate based on public consultation. The consultation was accompanied by some dialogue events in the region with the transmission system operators (Tennet /TransNet BW). See:http://www.netzentwicklungsplan.de/system/files/documents/GDP_2013_conclusion_second%20draft.pdf

Are there any collaboration processes in place between the National and Regional levels that support the design and/or implementation of the regional and local SEAPs?

With the action programme "Demonstration Projects of Spatial Planning" (MORO) the Federal Ministry of Transport, Building and Urban Affairs supports practical trials and implementations of innovative action approaches and instruments for spatial planning in co-operation with science and practice, i.e. together with participants on site, in the region. The Rhine-Neckar Planning Association is participating in the MORO "Regionale Energiekonzepte" which aims at fostering regional strategies by means of application and advancement of regional development and spatial planning instruments.

5.3 Cooperation between regional and local levels

➤ **Content of the regional SEAP**

What are the 3 main sectors targeted by the "regional SEAP"?

- Energy efficiency (buildings, combined heat and power production, energy management); renewable energy (wind, solar, water, geothermal, bioenergy, heat pump), system integration (combined heat and power production, smart grids, energy storage technologies), mobility (private and public transport)

What is the level of recommendations/actions at regional level/joint actions between regional and local levels, proposed within the regional SEAP?

- 75 projects are defined as drafts in the regional SEAP. The operationalization will be coordinated by working groups e.g. "climate friendly communities"; "energy round table meetings", "sustainable mobility".

Does the regional SEAP include an estimated budget for implementing the recommendations/actions?

- No.

Does the regional SEAP provide recommendations or measures for addressing interrelated measures such as a change in land use, sharing of sustainable energy resources or development of new financial models?

- The regional SEAP is mainly based on projects with target group orientation. In some cases recommendations concern the development of regional funds through cooperatives of citizens and / or companies, municipalities and banks.

➤ **Regional SEAP design and approval process**

What was the process followed for designing the “regional SEAP”?

How was the regional public authority represented and involved?

- The General Meeting of the Association approved the regional SEAP in March 2012. At the same time the Verband Region Rhein-Neckar VRRN (Rhine-Neckar Regional Association VRRN) was appointed to coordinate the implementation of the regional SEAP.

How were the local public authorities represented and involved?

- In steering committees and working groups.

Were other regional stakeholders represented and involved during the design process?

- Yes: energy companies and agencies, environmental organizations, Institutions of Education and Research, network organizations, Chambers of Commerce and Trade, major power station operators, housing developers, other relevant companies, (...).

What were the different phases followed for designing the “regional SEAP”?

How long did it take?

- Identification of the players in the regional energy sector, pre-consultation (2008)
- Decision of procurement, public invitation to tender and launch event (2009)
- Involving stakeholders in concept development via steering committees and working groups (2010-2011)
- Final decision at the association's general meeting and presentation of final concept at regional conference (2012)

Was the National level involved?

- The Rhine-Neckar Planning Association submitted the proposal for a regional SEAP in 2009. The Committee of Regional Development and Management made the decision for the elaboration of a regional SEAP. Through the intense participation of representatives of the regional municipalities and experts of the relevant sectors such as renewable energy, the regional SEAP was finalized in 2012 with the approval of the Association Assembly of the Regional Planning Authority.

➤ **Needs of local and regional public authorities**

- This section is based on the feedback from regional and local public authorities.

Regional Public authorities interviewed

Name: Verband Region Rhein-Neckar VRRN (Regional Authority): Klemens Gröger (20.09.2013) and Julia Eustachi (27.09.2013)

Question 1: In your case, what are the benefits and dis-benefits of implementing a collaboration process in sustainable energy planning between the regional and local levels?

Benefits of collaborative approach in sustainable energy planning

- Coherence between regional and local SEAPs
- Possible synergies between public authorities (e.g: joint procurement, access to energy planning tools for smaller municipalities,...)
- Experience sharing within the same region – Pool of ideas, experience,..
- Solidarity mechanisms between communities (for instance urban/rural)
- Proper knowledge base for feasible actions with high potentials
- Avoid duplication – Coherence of policies
- Demonstrate common interest in climate protection. Impetus for energy transition

Dis-benefits of collaborative in sustainable energy planning

- Difficult to communicate and understand

Question 2: Considering the existing regional SEAP, what are the potential conflict areas or inconsistencies (due to the lack of cooperation) that could prevent its successful implementation? Or prevent the implementation of the local SEAPs? Please provide details about the targeted area, reasons for the potential conflict and inconsistency.

- There is no obligation to adopt a local SEAP and the topic of sustainable energy and climate protection competes directly with other locally relevant issues such as demographic change, e-Government and so on. Additionally there is a rising image problem with the term “Energiewende”, as it provokes local conflict in e.g. land use in the case of wind power and bio energy. Apart from that there are different systems and support structures for local SEAPs such as Covenant of Mayor, European Energy Award,... and private companies offering consulting for local SEAPs.

Question 3: What recommendations would you like to suggest to improve the cooperation in sustainable energy planning between the regional and local levels?

- Target orientated activities, e.g. involving citizens in supporting energy cooperatives. Strengthen the positive effects of cooperation in form of bundling information and support with Know-How, create transparency, provide an overview and benchmarks for the energy turnaround. Support intercommunal dialogue and cooperation.

Local Public Authorities interviewed: communal survey conducted in July/August 2013:

The online questionnaire was sent to 93 requested contact persons for Energy and Environment at local level. It was open from the 9th of July till the 5th of August 2013 with a response rate of 82,8%. In the announcement mail of the survey it was stated that the survey is part of COOPENERGY . The questionnaire comprised 48 questions with the following topics: degree of recognition of the regional SEAP, local activities on Energy and Environment and presence of local SEAPs, specific action and involvement in energy related networks and initiatives such as Covenant of Mayors, energy cooperatives, local needs for support and cooperation with the region. Here are some of the results:

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Are you aware of the regional SEAP?		
Response	Number	Percentage
Yes	40	52%
No	35	45%
No response	2	3%
Has your community a local SEAP?		
Response	Number	Percentage
Yes	22	29%
No but in progress	19	25%
No	35	45%
No response	1	1%
What are the reasons for not having a local SEAP?		
Response	Numbers	Percentage
No financial resources	16	21%
Lack of Know-How	15	19%
Lack of staff	23	30%
No interest	0	0%
Others	8	10%
Is there a citizens energy cooperative in your community?		
Response	Number	Percentage
yes	18	23%
no but is in progress	9	12%
no	44	57%
no response	6	8%
Is there an interest to start a citizens energy cooperative in your community?		
Response	Number	Percentage
Yes	8	18%
No	15	33%
No Response	22	49%

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How can the institutions of the MRN support the community in creating and implementing a local SEAP? Please choose from the list the two most important options:		
Response	Number	Percentage
Enhance the exchange of knowledge and experience	52	68%
Intensify intercommunal exchange	21	27%
Find common solutions to problems	22	29%
Ensure sustainability of cooperation	13	17%
Mediate between the different interests	4	5%
Increase the visibility of the topics Energy and Environment in the MRN	21	27%
Other	1	1%
How can the cooperation between the institutions of the MRN and the communities be shaped in the field of energy & climate?		
Response	Number	Percentage
Joint events		
very important	17	22%
important	23	30%
not so important	12	16%
not important	7	9%
not important at all	0	0%
no response	18	23%
Joint Public Relation	Number	Percentage
very important	1	1%
important	24	31%
not so important	16	21%
not important	11	14%
not important at all	4	5%
no response	21	27%
Joint Internet presence	Number	Percentage
very important	2	3%
important	13	17%
not so important	19	25%
not important	12	16%
not important at all	10	13%
no response	21	27%
Joint information exchange	Number	Percentage
very important	20	26%
important	34	44%
not so important	7	9%
not important	0	0%
not important at all	0	0%
no response	16	21%
Cooperation in networks	Number	Percentage
very important	14	18%
important	30	39%
not so important	12	16%
not important	4	5%
not important at all	0	0%
no response	17	22%



6. Synthesis

7. 6.1 SWOT Analysis Implementing reg. SEAP

Strengths	Weaknesses
<ul style="list-style-type: none"> • Political will and democratic process of designing regional SEAP • Department of Energy & Environment of the MRN GmbH, dedicated to promote and support energy related activities in the MRN • Regional Climate Protection Manager of Rhine-Neckar Regional Association in charge of optimizing and monitoring the regional SEAP • Cluster StoREgio and GeoNet • Mix of innovative companies (the world market leader in insulation materials and industrial process and control) combined with Institutions of Education and Research • Geographical situation: Rivers Rhine and Neckar (for transportation and cooling); Rhine Graben for deep thermal energy, height levels of the Palatinate Forest and Odenwald good wind conditions, rural areas for biomass, the annual solar radiation comparatively high and good for PV • Diverse energy mix and communal utilities • Sound experience with Smart Grids and storage networks • Lighthouse projects of energy efficiency (LuTeKo, 3 Liter House, one of the biggest passive house settlement in the world) 	<ul style="list-style-type: none"> • Different legal frameworks of the three Länder Hessen, Baden-Württemberg and Rheinland-Pfalz that are comprised by the MRN • High level of energy consumption ins SME • Low incentives for energy-focused building refurbishment (lack of awareness and knowledge, high cost, demographic change, ...) • Lack of Technical Universities and engineering knowledge • Fragmentation of energy producer and supplier (48 utilities) • Small scale energy transmission networks impede the implementation of smart grids • Resistance against wind power in the Palatinate Forest and in touristic areas • Poor wind conditions in the Rhine Valley and Hardt • No obligation for communities to adopt local SEAPs; often lack of money and Know-How as well as competing policy fields at communal level



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<ul style="list-style-type: none"> • Biggest district heating network in Germany • "Island" local heating system • Energy agencies and networks • Established cooperation platforms with regional stakeholders and communities (in the course of designing the regional SEAP): Existing steering committees and working groups to operationalize the 75 project drafts of the regional SEAP • Cooperative Structure with Bio Energy Model Region H-O-T for knowledge Transfer • Model region for regional SEAPs (MORO) • Citizens' participation via energy cooperatives • Regional energy atlas (in the making) for transparent up to date information of the status of the "Energiewende" in the MRN 	
<p>Opportunities</p> <ul style="list-style-type: none"> • Energy saving through implementation of energy efficiency measures in existing building and SME • Increasing of economic potential of the handicrafts industry and SME with investments in energy efficiency • Installation of 350 wind power plant with designation of priority areas for windpower in the common Regional Plan • Increase of decentralised power generation via solarpower • Installation of geothermal plants in the 	<p>Threats</p> <ul style="list-style-type: none"> • High energy prices lower the acceptance of renewable energy • Disproportion of cost and benefits in energy-focused building refurbishment • Damages following seismological disturbances due to geothermal plants • Destruction of the aesthetic qualities of the landscape (e.g. wind power) resulting in economic losses for the tourist industry • Weak financial structure of communities • Lack of business models for smart grids • Inefficiencies of energy storages due to

<p>Upper Rhine Graben</p> <ul style="list-style-type: none"> • Ensuring sustainable energy supplies with the entry into service of Block 9 Großkraftwerk Mannheim • Further expansion of district heating, local heating and adsorption cooling • Small pumped storage units in the Odenwald area • the expansion of combined heat and power (CHP) through mini and mikro CHP plants • Leading role in developing Storage Technologies • Increased application and roll-out of smart grid and smart home • Regional added value increase with the expansion of renewable energies, enhance the competitiveness and improve attractiveness of location • Create a network of energy cooperatives in the region and support the start of new ones • Exploit the potential of renewable energy with the help of initiatives (e.g. Initiative Energieeffizienz), the energy atlas, events with H-O-T and activities in relation to COOPENERGY • Promote positive image of turnaround in energy policy; build up acceptance and identification with regional SEAP • Become a pioneer region for energy efficiency, renewable energy and system integration 	<p>high costs</p> <ul style="list-style-type: none"> • Sharp drop in the price of thermal facilities • Lack of material flow for bioenergy • Drop in demand of heating as a consequence of passive-house standard and thermal insulation • Lack of heat islands for CHP • Lower feed-in tariffs after the amendment of the renewable energies Act (EEG) • Lack of low-voltage networks for EE • Heightening of the financial and banking crisis • No solution in the case of wind power due to different regulations in the three Länder and policies in the counties • Lack of involvement of citizens provoking conflicts in local land use (wind power, bio energy) • Private companies offering to consult communities in climate protection activities. They can be a competitor to the region if not using a common standard (such as in the case of different standards in computerized solar land register).
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6.2 Recommendations for collaborative sustainable energy planning:

Please provide a list of recommendations related with collaboration activities for sustainable energy planning within your region :

The results of the communal survey will serve as an additional information basis for the operationalization of the 75 projects that are defined as drafts in the regional SEAP and for the monitoring process. Internal discussions for recommendations are still continuing, so no final results can be presented here so far. As the process of designing the regional SEAP took two years and the implementation started in mid-2012, a revision is not yet planned and the focus lies currently on building up a monitoring process. An adaption to new circumstances and needs of the local level is possible through specific actions related to the 75 project drafts of the regional SEAP, which are coordinated by already existing working groups (e.g. “climate friendly communities”; “energy round table meetings”). At present stage no new steering committee will be established (as proposed in WP3 of COOPENERGY) in order to avoid duplication. Next working group meeting will be in November, where recommendations are discussed to improve collaboration and to intensify the exchange of information and knowledge between the different levels (see above results communal survey). The Verband Region Rhein-Neckar VRRN dialogues directly with communities, additionally the MRN GmbH bridges the gap between companies, communities and citizens. Concerning COOPENERGY, recommendations for a collaborative approach in implementing the regional SEAP can be made in relation to the 75 projects through choosing a target group for concrete action. A solution for a potential threat identified in the SWOT-Analysis is to increase the acceptance of the “Energiewende” through citizens’ participation. Citizens’ energy cooperatives gain importance in designing the “Energiewende” as a bottom-up approach and in enhancing regional added value. They will be included in the monitoring process of the regional SEAP via yet to be adopted indicators and in the energy atlas. Energy cooperatives and citizens in general become a focus group for WP 3 and 4 of COOPENERGY. A MLS Forum will be set up to engage citizens’ energy cooperatives through creating an exchange platform and helping interested citizens to found an energy cooperative within the MRN. To promote the collaborative approach the competition for citizen’s energy ideas “BürgerEnergieideen” for local heating solutions and renewable energies will be supported by COOPENERGY as an energy info day. In this competition citizens and communities develop ideas for potential sustainable energy related projects in their community. The best idea will be awarded a feasibility study sponsored by local financial institutions. This way, citizens, communities and the region work hand in



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hand. A second energy info days' topic will also focus on citizens in discussing the use of GIS to estimate and exploit the energy wood potential of private forests and communal forests.