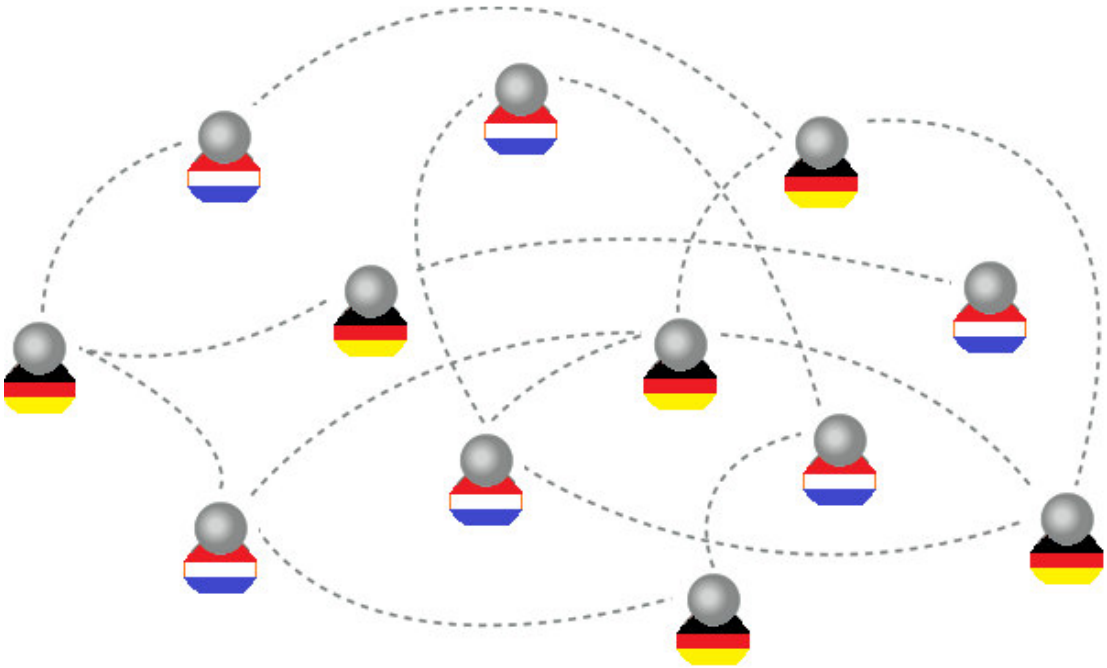
Evaluation of the Interreg IV energy projects in the Euregio



EUREGIO

UNIVERSITY OF TWENTE.

INTERREG Deutschland Nederland

Evaluation of the Interreg IV energy projects in the Euregio

Master thesis Public Administration
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Summary

Since the fifties local governments and other organizations in the Euregio are participating in cross-border cooperation to solve cross border problems. Since 1991 the European Union is funding these local initiatives in order to let the internal European borders fade away and to contribute to the regional development. The Euregio as an organization is responsible for carrying out the EU cross border funding program, called Interreg. In this research, the energy projects of the Interreg IV program in the Euregio have been evaluated.

Five projects in the area of renewable energy and energy savings technologies are currently (2011) running in the Euregio. The purpose of this research is to evaluate the implementation and goal achievement of the five projects, and to analyse factors which facilitate or hinder the implementation.

The first activity of this research has been to analyse the projects as being policy. This means that the goals, means and time-choices of the projects have been described. On the basis of this an evaluation of the implementation as an indirect evaluation of the goal achievement has been done. This means that the focus is on the implementation, and more specifically on the effectuation of the plans made in the projects. The results show that in all five projects the project partners are implementing the means. They are therefore doing what they are supposed to be doing. There are however some differences with regard to the planning and some other problems. The planning of activities of some projects is reasonable and they do not encounter many problems, other projects show considerable delays or deviations from the initial project planning. Overall the implementation of project activities is done adequately in all five projects.

The second main activity of this research was to assess the influence of certain factors on the cooperation and implementation of all five projects. Focus in this research was on the cooperation between organizations in networks and on cross-border cooperation. Several factors of both characteristics have been analysed that might have an influence on the cooperation and therefore the implementation. Overall most factors influencing cooperation seem to function well in the projects, which is in line with the findings on the implementation of the projects. Theory on the factors therefore seems to be able to explain the quality of the implementation. Two hindering factors that are present in every project are the low need for cross-border cooperation, and the high density of rules and administration the project partners have to cope with. Especially the latter factor has a negative influence on the cooperation according to the lead partners. With regard to the hindering factors in the projects almost no links were found between them and the implementation. This means that the theory on the factors does explain a good implementation, but has not been able to explain the differences between the projects.

In general, the findings on the implementation in the five projects are quite positive. The means are being implemented and not many factors seem to be hindering the cooperation. On the basis of this a high level of goal achievement can in principle be expected, the prospects are good, but directly measuring goal achievement was not possible. When looking more closely at the projects it can be seen that the link between goals and means is sometimes not totally clear or direct, and needs to be strengthened by third parties who have to help achieving the goals by for example applying the knowledge developed in the projects. On the basis of the hindering factors at least two recommendations can be given which seem particularly important for new projects: try to increase the need for cross-border cooperation, and try to reduce the density of rules and administration. Especially the latter has been indicated as having a very negative effect on the cooperation. Overall the influence of the hindering factors should not be overestimated since the implementation is going rather well.

Preface

With this thesis I complete the final assignment of my master program Public Administration at the University of Twente. Besides the study related purpose this thesis has also been written for the Euregio. The Euregio, an intermediary organization, wanted to have more documented knowledge on the implementation of some of their projects. Thirdly the thesis marks almost the end of my student period at the University of Twente.

Before I started at the Euregio in February of this year I was considering doing something with 'energy' in my master thesis research. Soon it turned out that the focus was going to be on the implementation, policy, network, and cross-border side of the energy projects the Euregio wanted to evaluate. Of course I had way too little knowledge of energy, meaning that the energy side did not really get attention although I know a few words by now.

For offering me the opportunity to do this interesting research I would first like to thank Peter Seitz who quickly responded to my open application at the Euregio. Secondly I want to thank my supervisors at the University of Twente who have guided me and helped me finishing this thesis. Also I want to thank the interviewees and the respondents who have provided me with the necessary information. Finally I want to thank my family and friends who all have contributed to my time as a student.

Mart oude Egbrink

Enschede, the Netherlands
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1. Introduction

This research evaluates five Interreg funded energy projects in the Euregio. The research analyses the implementation and goal achievement of the five projects and tries to provide explanations for deviations between planning and implementation by looking at influencing factors.

This chapter first gives some background information on some notions and concepts used in the projects. Then the research questions are introduced and explained. The chapter ends with a reading guide for this report.

1.1 Background

One important aspect of every energy project this research focuses on is that it is partially funded by the Interreg program. Since 1991 the European Commission is subsidizing cross-border cooperation between members of the European Union to 'reduce' the border and promote the development on all sorts of areas. There are three different programs; A, B and C. Interreg A which plays a role in the projects in this research is a program for European cross-border cooperation and regional development in the cross-border regions.

Currently we have come to Interreg program IV A. For this program it has been decided to develop and write it for the entire Dutch-German border region. Along this border there are four EU-regions. Every region is responsible for effectuating the program in their area. The five projects in this research fall in the EU-region named the Euregio. This means that the Euregio is designated to carry out and coordinate the Interreg IV A Deutschland-Nederland program on their territory. This for example means that they have to assess the applications for a subsidy, guide the projects with regard to some administrative and substantive requirements and monitor the progress of projects. The Euregio is an area which mainly consists of the regions Achterhoek, North-East Overijssel and Twente in the Netherlands, and Grafschaft Bentheim, Osnabruckerland and Munsterland in Germany. In total the region comprises of about 3.4 million citizens and an area of 13,000 square kilometres.

Within the Interreg IV A Deutschland – Nederland program there are three main priorities: 'economy, technology and innovation', 'sustained regional development' and 'integration and society'. Within the second main priority there are three task fields of which renewable energy and energy saving technologies is one. Within this field Euregio is at this moment financing (and coordinating) five projects that are the focus of this research. The topics of these projects are: building energy efficient homes, maintaining hedgerows, biomass, energy management systems and combined heat and power generation. These are all small-scale projects. Through subsidies the Euregio wants to give the development of certain technologies a boost so they can be brought into practice earlier. A more detailed description of the projects will follow in the next chapter.

1.2 Research questions

Of the five projects the Euregio first wants to know to what extent activities are being implemented, goals are being achieved so far and if it is realistic to expect full execution of the projects and achievement of the goals that are set. As is explained more detailed later on, this is done by means of an interim process evaluation. Given the fact that the projects are small and still in progress it is not possible to do a complete effect evaluation; not everything can be measured (yet). Therefore it is wise to do a process evaluation of the implementation. This means checking if they are doing what was planned. Are they implementing the planned activities? And why does this or not correspond with the intended plans? This can also offer an explanation for the (non-)achievement of the goals, and can be seen as an indirect evaluation of the effects (Maarse, 1995).

Secondly, as will also be part of the interim process evaluation, the Euregio would like to know what influences the cooperation and therefore quality of the implementation. It is of course important to

know if activities are taking place, but when this is known it is also important to know if there are any problems and what can be done to improve certain things.

The value of the evaluation for the Euregio lies in the fact that an image is obtained from what happens within the projects, are they on track with their activities, and what should be adjusted if there are any problems. This is important because the Euregio can spend its money only once. Likewise it is important because they are the ones being held accountable by the European Union for the failures and successes of the projects. The two main questions of this research therefore are:

- Given the phase of implementation what are the prospects of goal attainment of the energy projects?
- What are barriers or facilitating factors in goal attainment of the projects?

In order to answer these general research questions the following sub-questions have been compiled.

First we need to get to know the projects. What do they look like and for which reasons are they made? As will be made clear, this for example means that the goals and the means need to be identified. On the basis of these an evaluation can be done.

1. *What are the different energy projects, what are the problems they need to solve, what are the goals and means of these projects and how are they constructed?*

Once it is clear what the content of the projects is and on the basis of what they can be assessed it is time to measure. First the implementation and on the basis of that the likely goal achievement needs to be assessed. Once this is clear it is important to examine factors that might undermine the cooperation and implementation, and might therefore help explaining the quality of the implementation.

2. *To what extent have the projects goals been achieved yet and in how far have the means been implemented?*
3. *What are factors that promote or hinder implementation in the projects? And what does this mean for the future of these and new projects?*

Once it is clear to what extent the projects are being implemented, goals are being achieved on the basis of this, and certain factors are facilitating or hindering the projects it is also possible to determine to what extent the (further) achievement of goals is (still) realistic when combining all this information.

4. *To what extent is the achievement of the goals (still) realistic?*

1.3 Reading guide

In order to answer the research questions a certain structure is given to this report. In the following chapter the projects are described in their most important aspects. This means that the first sub question is answered there. In chapter three and four theory and methodology is discussed which is needed to answer the other three sub questions. What theory is needed to evaluate the implementation of the projects, and what does literature say about which factors are important to consider? As will be seen the theory will focus on evaluation theory and on factors about networks and cross-border cooperation. The methodology will then more precise explain how the theory is applied and how the projects are examined. In chapter five the second sub question, about the implementation and goal achievement, is answered for every project. In chapter six the third sub question is answered by discussing the facilitating and hindering factors in every project. Since this third sub question is also about the link between the factors and the implementation the factors are

compared with the implementation and possible relations are discussed to see if the factors can help explain the quality of the implementation. On the basis of this information it will also be possible to answer the fourth sub question in chapter six by combining the answers on the previous sub questions. The final chapter will consist of a conclusion and some recommendations.

2. The energy projects conceived as policies

This chapter gives a structured view on the energy projects based on the policy concept. This enables the evaluation of the projects. What are the projects in this evaluation, what are they meant for and what are they trying to do? There must be an understanding of the content, and of the relations between the different parts of the projects in order to do a proper evaluation. With giving a view on the projects this chapter tries to give an answer to the first sub question of this research. First a description of characteristics of policy is given. On the basis of these characteristics the projects are then described. This for example means that the goals, means and time choices of the projects are mentioned (Hoogerwerf, 2008). By using the characteristics of policy a more structured view on the projects arises. In addition a short description of the Interreg program is provided, and a description of the role of the Euregio and the projects in the Interreg program.

2.1 Policy

There are various views on what policy exactly is. Some say that policy is a combination of goals and means. Some say policies are the 'intentions, choices and actions of one or more administrative authorities aimed at steering a particular social development'. Others say that policy is a politically endorsed plan, or that policy is an aim in activities and ideas. In most definitions of policy often the same elements are present. Below these elements are mentioned (Hoogerwerf, 2003, Beleid, processen en effecten).

A (policy) problem

A problem is a situation that is undesirable, and that should be changed in a more desirable situation. This means that a problem can also be seen as a 'difference (discrepancy) between a measure (principle, standard) and a represenation of an actual or prospective situation' (Hoogerwerf, 2003, Beleid, processen en effecten). From this defintion we can see that a problem depends on the interpretation of people. Depending on what is the norm, the standard, a situation is considered a problem or not. The problem defintion is therefore dependent on the standards.

There are three important additional characteristics of problems. The first is that many policy problems are interrelated and interact with each other. Problems often have an effect on more than one dimension and policy made often also has effects on other problems. Secondly, policy problems are to a certain extent subjectively determined. The extent to which something is experienced a problem depends on for whom it is considered a problem. Thirdly, policy problems are dynamic. This means that policy also needs to change as the problem changes (De Vries, 2003).

Goals

'A goal can be described as a desire of a group of people they have decided to achieve'. The last part is very important, it distinguishes a goal from a desire. Setting a goal means that you want to achieve it and you let society know what your intentions are. For the evaluation of the projects it is important to know what the goals are if something needs to be said on the goal achievement.

With regard to goals many distinctions can be made. An important distinction is between permanent and non-recurring goals. Once a non-recurring goal is achieved the policy will also end, with permanent goals it is necessary to continue policy as long as the goals need to be achieved.

Means

A mean is an instrument which can be used to achieve desired goals. For each goal it is possible to use multiple means, or it is also possible to achieve multiple goals with less means. There are usually three categories of policy instruments, of means. Legal, economic and communicative. These are also known as legal requirements, financial incentives and information transfer (Fenger & Klok, 2003, pp. 242-244). Depending on the composition of the group of project partners some instruments may or may not be used. Companies for example do not have the possibilty of making binding laws. It is

however possible to close contracts with partners in order to ensure some investments in money or time. Information transfer seems possible for all sorts of partners, and financial incentives are dependent of the available funds.

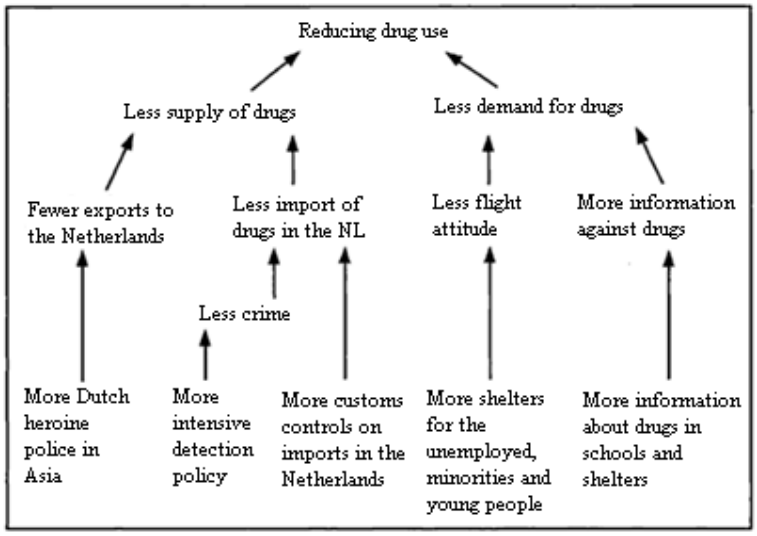
Time choices

Regarding the goals and the means certain time choices need to be made. These include the timing, pace and time sequence in which goals should be achieved, or implementation should take place (Bressers & Klok, 2003, pp. 206-207). With this knowlegde it is possible to know how the implementation is going; are they for example on schedule with the implementation or not?

Structure

The goals, means and time choices related to the problem all interact with each other. The relationships between these components is what we call the structure. To clearly present these relationships we use a policy instruments model. This model gives a visual represenation of the means and the goals of the projects. Figure 1 is an example of a policy instruments model (Hoogerwerf, 2003, Beleid, processen en effecten, p. 25).

Figure 1: policy instruments model for a policy to reduce drug use in the Netherlands



(Source: Hoogerwerf, 2003, Beleid, processen en effecten, p. 25)

By means of this policy model it becomes clear what the relationships between goals and means are. Unlike the problems, goals, means and time-choices, the policy instruments model will not be mentioned in this chapter, but is added to this report in appendix A for the projects. This has been done since it is only necessary if the structure is not clear yet on the basis of the goals and means.

2.2 EUREGIO and the Interreg program

The Interreg program is designed to foster an integrated European region. In this case an integrated Dutch-German region. Organizations on both sides of the border need to work together on solutions for common cross-border problems. Within the current program, Interreg IV A Deutschland – Nederland, there is one operational program for the 'European territorial cooperation between the Netherlands, North Rhine-Westphalia and Lower Saxony'. Within this program each EU-region is responsible for specific tasks related to the projects and partnerships in their region (EU, 2007, pp. 6-9). Besides the Euregio from which the projects in this research originate, there are the following other three EU-regions in the Dutch-German region: Euregio Eems Dollard, Euregio Rijn-Maas Noord and Euregio Rijn-Waal.

Goals

Central objective of the Interreg program is to develop an integrated European region. To achieve this it is important to take into account all aspects that are important for regional development. To include all these aspects three areas of priorities have been distinguished:

- 'Development and strengthening of a transnational, innovative economic space and related to that preservation and further development of employment in the region.'
- 'Strengthening a sustainable regional development to improve the quality of life in the border area, also as one of the conditions for economic growth.'
- 'Development and improvement of social integration in the border area, not in the least place to strengthen cross-border civic identity.' (EU, 2007)

Each of these priorities includes a number of areas (see figure 2).

Figure 2: priorities and areas of the Interreg program

1) Economy, technology and innovation	2) Sustainable regional development	3) Integration and society
a) Promoting technology and knowledge transfers between research institutes and business	a) Promoting renewable energies and the development of energy-saving technologies	a) Promoting cross-border health care and consumer protection
b) Promoting economic networks and cross-border cooperation between enterprises	b) Promoting cross- border development of infrastructural supply	b) Promoting of cross-border employment/commuter
c) Promoting the qualifications to improve the innovative potential of industry	c) Promoting cross-border nature and landscape protection and environmental protection	c) Promoting inclusion, particularly through education and culture
		d) Promotin cross-border cooperation on 'internal safety'
4) Technical assistance		

Source: (EU, 2007)

The projects that are evaluated in this study fall under priority 2A: promoting renewable energies and the development of energy-saving technologies. The European Union wants to decrease the dependence of member states on conventional energy sources. In this context the following goal has been set for priority 2A:

- 'Increase the use and extent of strenghts and potential opportunities of the grant area in the field of renewable energys and energy-saving technologies. Further, emissions of environmentally harmfull substances must be reduced within the possibilities of the program'.

As a consequence of achieving this goal there should be less dependence, more innovation and therefore more jobs, and less emissions of environmentally harmfull substances. The projects have to be in line with the goal of priority 2A in order to be eligible for a subsidy.

Means

To achieve the goal of priority area 2A there are a number of possible activities that can be undertaken:

- ‘Promoting cross-border projects for the development and application of renewable energies and alternative technologies for energy production’
- ‘Encourage the development of technologies or measures that contribute to energy efficiency’
- ‘Encouraging cross-border cooperation in the field of eco-profit '
- ‘Experience exchange on energy-efficient applications, e.g. between governments in the Netherlands and Germany’

These possible activities are aimed at businesses, universities, colleges, research institutes, innovation- and business centres, local and regional organizations and governments (EU, 2007, pp. 66-68).

As soon as a project pursues goals that are in line with the goals above, and they comply with a number of other criteria, the project is eligible for a subsidy (EU, 2007, p. 100). Approximately 25 million euro is available for priority 2 for the period 2007-2013. Guideline for awarding subsidies to projects is that a maximum of 50 percent can be financed by the Interreg program. All the projects in this research are between 40% and 50% financed by Interreg, and have a total budget of between 0.3 million and 1.7 million euro. In addition, a maximum of 30 percent can be financed by the national government, and at least 20 percent of the costs should be covered by the project partners. Project partners are organizations that participate in projects organizationally, financially and with personnel (EU, 2007, pp. 80-81).

The Interreg program subsidizes projects only for a couple of years. This means that once no more subsidy is provided to a project this project will in principle also end. This stresses the importance of an intermediate evaluation because it is important to be on schedule to make sure the project is really finished at the end of the subsidy.

Time choices

The Interreg program runs from 2007 to 2013. Within this period it is possible to request a subsidy (EU, 2007, p. 80). Within the Interreg program it is not further defined to what extent goals need to be achieved at certain times.

2.3 Future oriented building in the Euregio

The project Future oriented building in the Euregio is about promoting passive construction as a form of building. By means of a bi-national expertise center, knowledge of different stakeholders on passive construction must be gathered and disseminated to provide an increase in this method of constructing houses. The following partners are participating in the project. The first partner mentioned is het applicant, the lead partner who has final responsibility:

- Handwerkskammer Munster (lead partner)*
- Saxion Hogescholen
- Fachhochschule Munster

*Lead partner as described in the project descriptions, and not necessarily a ‘lead organization’ as mentioned further on by Provan and Kenis (2007). This also applies to the lead partners in the other projects.

The problem

Passive house construction happens too little in the current situation. An important cause is that there is too little knowledge among planners and builders on techniques for passive construction. To solve this the partners want to move towards a situation in which all the stakeholders have the right knowledge about passive contruction. This needs to be achieved through knowledge dissemination and promotion of passive houses. If this has a positive impact on the construction of passive houses, then this will influence the achievement of the goals that are set by the European Union.

Goals

The main goal of the project is formulated as: 'accelerate the uniform passive construction throughout Euregio and enable companies to do this using technology transfer and marketing support'. This goal is also formulated as: 'moving companies that are open for innovation towards passive construction according to Euregio standards while at the same time stimulate the demand for these particular innovative buildings'.

In the context of the main goals there are three targetgroups. The first and main target group are SMEs. Construction companies, carpenters, etcetera. Companies and people that want to work with passive standards. The second group are the architects, construction engineers and planners (also SMEs). The third group are the people who want a passive house; homeowners, investors and public institutions.

Means

As with the other projects often at first sight different means are mentioned in all sorts of documents. This did cause some confusion with regard to what the means in a project are. Therefore in all projects the means as described in this chapter have been checked by the lead partner as being the right ones. This project consists of four main activities which have a number of sub tasks. The tasks can mainly be characterized as communicative means. By transfering knowledge about passive building to the SMEs, and by realizing a demand the partners try to stimulate the construction of passive houses. By performing these tasks, additionally a bi-national expertise center with two locations, one in the Netherlands and one in Germany, needs to be established. These centers are not necessarily a physical center, but can be seen as a network of knowlegde and expertise. The Handwerkskammer and Saxion Hogescholen are the two responsible partners for the bi-national center.

1 Analysis of the situation: existing know-how should be pooled and differences between the Netherlands and Germany need to be determined.
   A Do an inventory with regard to passive construction sconditions, technology, planning, advice, market)
2 Knowhow-transfer: this is about a transfer to the SMEs of information, training and best practices so it becomes more feasible for companies to build passive houses.
   A Organize information sessions on energy efficient/passive construction for the SMEs
   B Excursions for SMEs
   C Development of courses about building physics, building engineering and quality assurance in passive construction (new construction and restoration)
   D Pilot implementation of the courses
   E Conferences for SMEs
   F Scientific/technical support for passive construction projects
3 Needs analysis and support for the SMEs: this is about realizing a demand, and motivating SMEs for further development and marketing.
   A Developing a scan tool for businesses that they can use to orientate themselves on the market for passive construction for the first time
   B Business surveys with regard to possibilities and potential obstacles with regard to the further development as a company in passive construction
   C Preparation of individual innovation action plans as strategic development for companies, (with and at SMEs)
   D Organizing meetings for particularly innovative companies (triathlons)
   E Development and support of a transfer network: Werkgroep Passiefhuis
4 Public relations: it is important to stimulate the market and get a movement on the passive market going. In this way, the usual long innovation cycle can be shortened. This will be done by promoting the subject to the branch but also the the broader public.

A Development of information materials for companies
B Development of information materials for potential clients
C Thematic preperation for the internet
D Lectures for information and advice to interested parties for construction and restoration works, owners of private buildings, public authorities and investors
E Participation in conventions for consumers
F Press campaign: 'pro passiefhuisbouw'
G Dissemination of information materials

Time choices

Regarding the project certain time choices are made. When should things be done, at what rate and in what order? In figure 3 the means of this project are shown. Also with regard to the time-choices it was often difficult to match the time-choices with the means since in the time-choices often the means had other descriptions. Therefore the time-choices have also been verified with the lead partners in all five projects. The project is scheduled to take place from April 1st 2009 till March 31st 2012.

Figure 3: time choices for the implementation of Future oriented building in the Euregio

	2009									2010											2011												2012		
Mean/month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1A	x	x	x																																	
2A							x	x	x																											
2B							x	x	x	x	x	x																								
2C							x	x	x	x	x	x																								
2D																x	x	x	x	x	x															
2E							x	x	x										x	x	x										x	x	x			
2F							x	x	x							x	x	x																		
3A				x	x	x																														
3B							x	x	x	x	x	x																								
3C													x	x	x																					
3D																x	x	x																		
3E				x	x	x				x	x	x				x	x	x				x	x	x				x	x	x				x	x	x
4A										x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x									
4B							x	x	x							x	x	x																		
4C				x	x	x							x	x	x										x	x	x									
4D													x	x	x				x	x	x				x	x	x				x	x	x	x	x	x
4E													x	x	x	x	x	x							x	x	x	x	x	x						
4F																									x	x	x				x	x	x	x	x	x
4G													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

2.4 Warm-up

The European Union and its member states have set as a target for 2020 to increase the efficiency of deployed energy with 20%, reduce greenhouse gas emissions with 20% and increase the use of renewable energy to a total of 20%. The project Warm-Up wants to contribute to these in the Euregio. The focus is on developing an environment management system for the municipalities in the Euregio with which they can monitor their energy use. Project partners are:

- Institut für Abfall, Abwasser, Site und Facility Management e.V. (lead partner)
- Saxion Hogeschool
- Gemeente Winterswijk
- Gemeente Hardenberg
- Stadt Horstmar
- Stadt Ennigerloh

Besides these project partners DNL-contact is involved as a project coordinator. The exact role of this coordinator is discussed in chapter four.

The problem

To contribute to the European goals it was decided to set up an energy management system in a regional context. This is because there are some problems on the regional level that might be solved

by a joint approach. A first problem is that many municipalities use too much energy due to inefficiency. To remedy this, an energy management system is needed. A second problem is that many municipalities are too small and do not have the right staff to achieve this. A third problem is that municipalities are obliged to look at the energetic condition of their buildings, this is however all they need to do, they do not have to take measures, and therefore this project can contribute because otherwise municipalities would probably do less. A fourth problem the actors in the Euregio experience is that different actors do not cooperate in a network and therefore do not learn from each other about energy potentials and the additional strengthening of the regional economy.

Goals

The main goal of the project is: 'a systematic development of strategies and management tools for the implementation and realization of energy and environment management systems in municipalities'. With achieving this goal the project wants to reach a state that is closest to a self-care or climate-neutral municipality, and in this way contribute to the European goals.

Given the main goal of the project the targeted groups by this policy are the municipalities. Initially the project is targeted at the municipalities that are a project partner. After that the intention is that the knowledge gained in the project is also shared with other municipalities. The policy also has implications for other local actors. Think of companies that might get extra work from the municipalities, or schools who need to use less energy.

Means

In order to reach the main goal there are two main means. The first consists of two parts. The first part (1A-1G) is mainly about finding short- and long-term measures that can be used in order to reduce the energy use. The second part (1H-1I) consists mainly about an energy management system which municipalities can use in order to monitor the energy use of their buildings. When they see the energy use is too high they can for example use a measure they have identified to reduce their energy use. The second main mean is about making other municipalities enthusiastic. This mean might be less important than the first mean, it however seems to be a mean aimed at achieving the project goal and it is not just obligatory promotion of the project. The means are mainly about information transfer. This information also stresses financial consequences of energy use, but the means themselves cannot be seen as financial incentives.

1 Cross-border strategy for the implementation of an energy management system and climate protection among small and medium municipalities. Strategies and instruments need to be developed for the application of existing energy-management systems. Next to that there will be a comparison of processes in the partner municipalities.
   - A Inventory, registration and comparison of energy policies of the municipalities (1st phase)
   - B Identification and calculation of potentials, preparation of list of possible measures (2th phase)
   - C Research on locally available potentials and application possibilities of renewable energy (2th phase)
   - D Profitability analysis of the individual measures (2th phase)
   - E Elaboration of the priority lists (2th phase)
   - F Practical implementation of measures within the project duration (3th phase)
   - G Initiating sustainable optimization measures (3th phase)
   - H Developing a concept serving the organization and continues controlling with the use of IT
   - I Implementation of electronic management systems
   - J Development of an EU-regional guide for the implementation of a strategic energy- and climate management system in SMM
   - K Establishing an EU-regional working group

2 Setting up a Dutch-German information and exchange platform for the EU-regional climate protection and energy management, building on project results and best-practice examples. This platform aims at providing the knowledge also to other municipalities that do not participate in the project.
   A Website
   B Newsletter
   C EU-regional starting conference
   D Closing conference with a presentation of the results and new project ideas

Time choices
The implementation of the project must take place from July 1st 2009 to February 29th 2012.

Figure 4: time choices for the implementation of Warm-up

	2009						2010												2011												2012	
Mean/month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2
1A	x	x	x	x	x	x	x	x	x	x	x	x																				
1B													x	x	x	x	x	x														
1C													x	x	x	x	x	x														
1D																x	x	x	x	x	x											
1E																x	x	x	x	x	x											
1F																						x	x	x	x	x	x	x	x	x	x	x
1G																						x	x	x	x	x	x	x	x	x	x	x
1H													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1I													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1J																												x	x	x	x	x
1K													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2A													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2B	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2C													x	x	x																	
2D																															x	x

2.5 Micro-CHP

CHP or cogeneration is a technique used in boilers. Boilers with this technique can apart from the heat also supply a house with a large proportion of its electricity needs. According to the project CHP in boilers has a huge potential since in West-Europe every year six million boilers are replaced. To make the use of these little power plants financially viable it is important that in the coming years many of these boilers are put onto the market. The project partners are:

- ECOS GmbH (lead partner)
- HOMA software BV
- Handwerkskammer Osnabrück-Emsland
- GEAS energiewacht
- Stichting wonen Delden
- Stadtwerke Osnabrück AG

The problem
There is no cross-border approach with regard to micro-CHP. This is due to the different organizational structures of companies on both sides of the border. For micro-CPH to have succes extensive cooperation is needed. Only with cooperation the accelerated introduction of micro-CHP on the market can be accomplished and only then it can be viable for companies to (partailly) switch to micro-CHP. Another problem is that the exploitation and management of micro-CHP plants is a major technical and logistical challenge. The installers of boilers do at this moment not have enough knowledge of micro-CHP to make an accelerated market introduction possible.

Goals
The main goal of the project is: 'accelerate the market introduction of micro-CHP on both sides of the border'. This is necessary because with the current production numbers micro-CHP is still quite

expensive. Next to achieving this goal the project and the means designated to it may also lead to a greater exchange of information between companies on both sides of the border.

Target groups are the SMEs who will need to offer micro-CHP boilers on the market and maintain them. The energy companies must ensure that the energy produced by the micro-CHP boilers is being used efficiently. Housing companies and homeowners are also an important target group because they have to decide whether or not to use a micro-CHP boiler. The focus overall is on the energy companies and housing companies who can buy and use the boilers, for example in tenement houses. For an individual home owner a micro-CHP boiler will probably keep being expensive. Finally the project is also targeted at governments, planners and decision makers in the field of energy.

Means

The main instrument which is used to achieve the goals is the further development of the micro-CHP control and management system already developed by HOMA Sofware BV. This system, that can be used by housing companies, energy companies, etcetera, needs to virtullay link many micro-CHP installations to each other to create a virtual power plant. This system, which is needed to efficiently use the energy, needs to be used, tested, and optimized in this project. Besides the development of the system the two other important means, the development of business plans and the development of training modules, are there to disseminate all the knowledge on how to use, install and maintain the micro-CHP installations. This also needs to accelerate the market introduction.

1. Further development of the management system.
   - A Construction of a demonstration installation in the training centre of Handwerkskammer Osnabruck-Emsland by installers (laboratory phase)
   - B Construction of test installation in cooperation with Stadtwerken Osnabruck (field experiment)
   - C Field test of the demonstration installation to measure the performance and heat storage capacity of micro-CHP at different capacities
   - D Determination and documentation of CO2 emission reduction per micro-CHP and for an entire network
   - E Adaptation of the software to remote monitoring
   - F Calculating the profitability of individual micro-CHP installations and whole micro-CHP networks
2. Development of a business plan for the creation of a virtual power plant.
   - A Developing a 'business development plan' for the introduction of a virtual power plant consisting of micro-CHP installations for regional energy suppliers, service providers, housing companies and development agencies
   - B Drafting a final report with advices for the market introduction and a presentation of the business development plan to relevant target groups
   - C Informing SMEs and involve them in installation techniques, information campaign
   - D Developing a workshop for energy companies and other potential users of micro-CHP installations
3. Development of training modules for installers and other people who will have to work with micro-CHP installations.

Like all the other projects this project does have PR activities. These are in this project largely reflected in other means instead of being mentioned directly. They are reflected in the second and third mean, and magazines, newspapers, partners' websites and a final seminar will be used for this. All the means are mainly about generating information and transferring this information to all the parties in order to motivate them to do something with the technology.

Time choices

The implementation of the project must take place from September 1st 2010 to August 31st 2012.

Figure 5: time choices for the implementation of Micro-CHP

	2010				2011												2012							
Mean/month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
1A	x	x	x	x																				
1B	x	x	x	x																				
1C					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1D					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1E					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1F													x											
2A																x	x	x						
2B																						x	x	x
2C							x	x	x	x														
2D														x	x	x								
3																	x	x	x	x	x	x	x	x

2.6 Energieland Biores

The partners aim is to increase the use of biogas. An increased use of biogas should lead to a reduction in CO2 emissions. The project wants to address this issue because there is a large energy potential in the Euregio with regard to biomass. Next to this there are large differences between both sides of the border. Through the network structure of the project the partners want to provide more knowledge sharing, joint activities, etcetera, and ultimately increase the demand and supply of biogas. The following partners participate in this project:

- Landwirtschaftskammer NRW (lead partner)
- Fachhochschule Munster – Abt. Steinfurt
- PlanET Biogastechnik GmbH
- Kreis Steinfurt
- DNL-contact GmbH & Co. KG
- Landwirtschaftskammer Niedersachsen, Bezirksstelle Emsland
- Technologiekring Twente – Bioenergiecluster Oost-Nederland
- Biogasvereniging Achterhoek
- AOC Oost

Besides these project partners DNL-contact is involved as a project coordinator. The exact role of this coordinator is discussed in chapter four.

The problem

The main problem is that the large potential with respect to biogas there is in the Euregio is not fully utilized. There are a number of underlying problems here. A first one is the increasing demand for, and tension between food and agricultural products for energy production. Mais for example, the main ingredient of biogas in the Euregio, can be used for biogas but is also used as food. A second problem is that the growth in the use of biogas is encountering technical processing limits. A third problem is that there are shortcomings with regard to logistics. This can partly be explained by the fact that in recent years the focus in Germany was on the development of technologies, while in the Netherlands the focus was more on networking in the industry.

Goals

The main goal of the project is 'to provide an increase in energy output and energy efficiency in relation to biomass in the form of biogas'. In this way a 'cross border energy land' should be founded.

The first and main target group are the operaters/exploitants of bio-energy techniques. The techniques, innovations and solutions that need to be developed are primarily for them. A second target group is the regional SMEs. Due to more installations companies will get more work, more contacts and more knowledge. The third target group is the science, in the end the obtained knowlegde should be transfered to this group.

Means

The main goals need to be achieved through a knowledge transfer and R&D activities to and for the main target group. The partners have divided the project into four stages: research, development and application of technologies, networking, and evaluation. These steps are shortly outlined below. The steps 1A, 1B, 2A, 2B, 2C and 3 can also be seen as six subprojects. Just like projects described above also the means/subprojects in this project are mainly about information transfer. With this information transfer people need to get to know the possibilities with regard to other substances for biogas, more efficient techniques, and they have to be supported in order to increase the output and efficiency. The fourth mean, the evaluation of the project, needs to be done by an external party.

1. The research step is about mapping the current supply of biogas in the Euregio and the demand for biogas.
   - A Drawing up a register of available biogenic waste from agriculture in the Euregio. This involves the registration of these substances and establishing the economic potential of these substances. In addition, waste of animal and vegetable substances is identified.
   - B Drawing up a register of possible locations for biogas plants. Attention is given to the demand from business and the potential demand from citizens, for example entire neighbourhoods.
2. The development and application step is about developing new techniques so that the efficiency can be increased, the separation and processing of residues can be improved, and a knowledge transfer to the main target group can take place.
   - A Determining the energetic potential of plant material geographically, economically and technically. This should result in a manual for these substances. Then it should be examined to what extent the materials can be included in a regional energy cycle.
   - B Investigating the potential in the separation, processing and marketing of residues. This involves finding a good separation technology, development of methods for material processing and developing a marketing strategy.
   - C Knowledge transfer to the main target group. This knowledge is provided by for example advice and guidance on the spot.
3. The third step is to establish a network of suppliers, service providers and operators. By bringing together companies, supply can meet demand, and results of the project can be communicated.
4. Step four concerns the evaluation of the project. This accompanying evaluation should be performed by an external party.

The third step, establishing a network, is the main way through which PR will be managed. The measures used for this network include newsletters, a website, workshops, articles in journals, brochures and a final conference.

Time choices

The project was supposed to start on January 1st 2009, and should end on December 31st 2011. Because the finances of the project were not ready at the beginning of 2009, the partners decided to move the project forward six months. The planning therefore now runs from July 2009 till June 2012.

Figure 6: time choices for the implementation of Biores

	2009						2010												2011												2012					
Mean/month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1A	x	x	x	x	x	x	x	x	x	x	x	x																								
1B	x	x	x	x	x	x	x	x	x	x	x	x																								
2A							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2B							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2C							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

2.7 Energiequelle Wallhecke

In essence the project aims at further developing an existing management system for hedgerows. With the use of this system the partners want to better maintain hedgerows and at the same time use the wood from the hedgerows as an energy source to combat the rising costs of fossil fuels. The following partners are participating in the project:

- Kreis Steinfurt (lead partner)
- Landkreis Graftschaft Bentheim
- Kreis Borken
- Kreis Coesfeld
- Kreis Warendorf
- Coöperatieve vereniging Pan
- Vereniging Agrarisch Natuurbeheer Berkel & Slinge
- t Onderholt Agrarische Natuurvereniging

In addition to these project partners DNL-contact is involved as a project coordinator. The exact role of this coordinator is again discussed in chapter four.

The problem

The project tries to solve two problems. The first problem is that hedgerows in the Euregio are at this moment not being maintained well enough. The reason for this is that it costs a lot of time and money. Given the value of hedgerows for the nature and culture there is however a need for better maintenance. The second problem is the increase in energy costs. This makes the use of local hedgerows as an energy source increasingly attractive, especially when the energy from the hedgerows is from the region and also being used in the region.

Goals

The main goal of the project is, 'by using the energetic value of wood, making the maintenance and development of hedgerows economically attractive'. The focus with these goals is on the maintenance of the hedgerows, and only after that on the economic opportunities the hedgerows give.

The project has four target groups. The first group consists of the owners of hedgerows who get a better opportunity to maintain their hedgerows and use its value. The second group consists of companies in the region dealing with landscape maintenance. The third group are the users of the wood who obtain a profitable energy resource. You could think of households, municipalities, farmers and companies. The fourth target group are the companies specialized in wood-burning heating systems that might benefit if more interest in wood from hedgerows as an energy source is created.

Means

Within the project there are three subprojects. The first two subprojects will eventually form the actual management system and are therefore the most important part of the project. This

management system has to make maintenance of hedgerows economically attractive. The third subproject is about promoting the use of wood in heating installations in the Netherlands since it is not very common yet in the Netherlands.

1. The efficient and sustainable maintenance of hedgerows. The tasks described here are necessary to make the system (Wallis) usable.
   - A Registration and identification of hedgerows
   - B Determining the potential of wood from the hedgerows
   - C Management plan for the efficient care and harvest of wood from the hedgerows
   - D Introduction of quality assurance, including training
   - E Adaptation of the already available internet management system for other regions
   - F Logistical concept for harvesting, storage and sale
   - G Information distribution about the maintenance of hedgerows and participation in the management system
2. In the second subproject it is about aligning and increasing demand and supply, and in doing this putting forward the system for this purpose.
   - A Analysis of the market for firewood products
   - B Bringing together and stimulating of players on the firewood market
   - C Optimizing and magnifying the market segment of local wood
   - D Increase the demand for firewood
   - E Setting up a marketing (demand and supply) platform
3. The third subproject has the task of promoting the use of wood in heating installations. This is especially for the Netherlands because here the use of wood is not as well known as in Germany.
   - A Establishing an information system/provision with regard to the maintenance of hedgerows (e.g. workshops)
   - B Giving information with regard to technological improvements on wood-fired boilers (workshops)
   - C Quality control of harvested wood

Like for the other projects also the means in this project can mainly be characterized as an information transfer. The main action for example of the system is to give insight into the overall situation. The PR of the project is completely covered by the third mean.

<u>Time choices</u>

The project started was supposed to start August 1st 2009, and it has to end July 31st 2012.

Figure 7: time choices for the implementation of Energiequelle Wallhecke

	2009					2010												2011												2012						
Mean/month	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7
1A	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1B	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x																			
1C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x													
1D				x	x	x	x	x	x	x	x	x	x	x	x	x	x																			
1E			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
1F				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
1G	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2A							x	x	x	x	x	x	x	x	x	x																				
2B							x	x	x	x	x	x	x	x	x	x																				
2C							x	x	x	x	x	x	x	x	x	x																				
2D							x	x	x	x	x	x	x	x	x	x																				
2E							x	x	x	x	x	x	x	x	x	x																				
3A						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3B																				x								x								
3C													x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

2.8 Concluding remarks

In this chapter the projects have been described as policy, and some general information on the Interreg program has been given. First, this was necessary to get acquainted with the projects in a structured and comparable way. Secondly, the information on the projects enables an evaluation of the implementation and goal achievement. To evaluate these it has to be clear what needs to be implemented, and which goals need to be achieved. The time-schemes (planning) of the projects have also been given. On the basis of these it is possible to not only assess whether or not projects are implemented, but it is also possible to assess the progress of the implementation by using the planning as a criterion. Thirdly, knowledge about the projects is necessary for selecting theories that might help explain the quality of the implementation of the projects. In the following chapter we will give theory on how to evaluate the implementation and goal achievement, and theory that might help explaining the quality of the implementation and possible problems or deviations in the implementation of the projects.

3. Theoretical framework

In this chapter we will explain the theoretical framework used in this research. Theory is needed to answer the second, third and fourth sub question; to measure the dependent and independent variables. First theory regarding policy evaluation is given, in particular interim policy evaluation. This will provide us with a tool to evaluate the implementation and the goal achievement in the projects. This will answer our second sub question.

Secondly, this chapter introduces and discusses theory that is helpful in developing an explanation for the findings on the implementation. This is done by looking in the direction of facilitating and hindering (influencing) factors. These are the independent variables that influence the implementation and the quality of it. The theory is based on two major characteristics of the projects: the implementation in networks of actors and cross-border implementation.

The first theory regarding influencing factors is about the governance form of a network. Each of the five projects in this research has a particular governance form. To govern a network as optimal and effective as possible certain conditions need to be present to let the governance form work effectively.

The second theory relates to network effectiveness criteria. According to Provan and Milward (2001) network effectiveness can be researched on three levels; the organization level, the network level and the community level. This research focuses on an evaluation of the performance of the network, and less on the effects for the community or for the different partners. The focus will therefore be on the network level effectiveness and the factors that influence the effectiveness on this level (Provan & Milward, 2001).

The third theory relates to the cross-border cooperation characteristic of the projects. First there is a short explanation on the meaning of cross-border cooperation. Then it is discussed how and which factors from this theory are applied in the projects.

The analytical framework we develop in this chapter enables us to assess the state of the implementation of the projects, the goal achievement, and also enables us to explain the state of the implementation on the basis of the influencing factors. This means answering the second and third sub question. Finally it is with this information possible to answer the final and fourth sub question which is about the expectation to what extent the achievement of goals is still realistic. Thus also taking into account the influencing factors and not just the implementation as is done at sub question two. At the end of this chapter an overview of factors that are used and the structure of this research are given.

3.1 Policy evaluation

Since the projects are seen as policy the evaluation of the projects is also considered a policy evaluation. According to Bressers and Hoogerwerf (1995, Het beleid en het beleidsveld) policy evaluation can be seen as the 'assessment of the perceived content, processes or effects of policy on the basis of certain criteria'. In the following paragraphs the three categories of evaluation, content, processes and effects, will shortly be treated. After that the relevant evaluation method for this research is further explained.

The first type of evaluation is an analysis of the content of a policy. As with the description of the projects got clear, the projects include goals and means. It is important to at least demonstrate the relationship between these goals and means. An analysis of the content of policy is on the one hand necessary for further evaluative steps. For example, if one wants to test the effectiveness on the basis of official goals, one should first take note of the content of policy since this content also includes specified goals. The content can also lead to the use of a particular evaluation theory or a

particular research strategy. A second possibility of using a content analysis is the review and/or evaluation of the policy theory. Policy is based on assumptions regarding final, causal and/or normative relations. Through a content analysis, and identifying the relations in and with the policy field, one can test whether these assumptions are correct by testing the policy to the reconstructed theory (Bressers & Hoogerwerf, Het beleid en het beleidsveld, 1995, pp. 51, 54-68).

A second type of evaluation is a study of the processes of policy. It is possible to look at the policy preparation, policy formulation and policy implementation (Arentsen, 1995, pp. 44-45). A process evaluation is needed to see if what we want to do really is possible. Policy evaluation can in this be seen as evaluating the application of the means of a policy. Questions that are important here and are also relevant in this research are for example to what extent the implementation conforms to the planned implementation, or what obstacles occur in the implementation (Swanborn, 2002, pp. 191-192). Regarding the policy implementation, which is important in this research, three evaluation methods can be distinguished (Maarse, 1995, pp. 130-133). The first is an evaluation of the goals related to the implementation. This is about internally oriented policies. A second method is a 'goal free' evaluation of the policy implementation. Here the implementation is evaluated not on the basis of internal- or external-oriented goals, but on the basis of using for example certain needs that exist. The third possibility is an evaluation of the implementation as an indirect evaluation of the effects of a policy. Based on the implementation judgements are made about the effects of a policy, without directly measuring them. The reasoning behind this method is that the success of a policy largely depends on the implementation of the means (Bressers & Hoogerwerf, Inleiding tot de beleidsevaluatie, 1995, p. 27; Arentsen, 1995, pp. 43-45; Maarse, 1995, pp. 130-133).

The third type of evaluation concerns the evaluation of the policy effects. It is possible to look at the goal attainment, the effectiveness and the efficiency. The goal attainment simply concerns the degree to which goals are achieved. This is done by comparing the then current position with the goals. Important here is (as also with the effectiveness and the efficiency) to consider what goals to use as criteria. Often official goals are used. There are reasons why this should not always be the case. Evaluation of the effectiveness is about the extent to which the policy has contributed to the goal attainment. Important here is to exclude alternative explanations, and to look at causality; can the achievement of the goals be attributed to the policy (Coenen, 1995; Bressers & Herweijer, De bijdrage van het beleid aan de doelbereiking, 1995)? Finally, evaluation of the policy effects can focus on the efficiency. This focuses on the assessment of costs in relation to the outcomes. Have the benefits been achieved at minimal costs, or are the benefits as high as possible given the used resources (Arentsen, 1995, p. 46; Doelen & Leeuw, 1995, pp. 200-204)?

Type of policy evaluation used for the five energy projects

For the evaluation of the projects a process evaluation with regard to the implementation is used. More specific, a choice has been made for an evaluation of the implementation as an indirect evaluation of the effects of a policy. This means that the implementation, the independent variable in relation to the goal achievement, is assessed to indirectly say something about goal achievement, the dependent variable. On the one hand this is a forced choice. It is difficult to measure the actual policy effects. Projects are not yet in a phase where measuring goal attainment is possible, there are other intervening contributions to goal attainment, the data are not yet available or it is very difficult and time consuming to gather the data. On the other hand it is also a logical choice. Without a thorough knowledge of the implementation, results of an investigation into the outcomes are of little assistance. Only if it is known how the implementation went it is possible to put the outcomes in perspective, and it is possible to influence these outcomes. Because it is an indirect assessment of the effects, identifying facilitating or hindering factors as the independent variables that influence the implementation, is important for assessing the likelihood of further implementation and future goal achievement (Maarse, 1995, pp. 130-133; Provan & Kenis, 2009, pp. 444, 451).

Within an indirect evaluation of the effects of a policy different types of evaluation can be distinguished. Effort evaluation is about asking for the capacity of the organizations. Do they have enough staff and money to put into the projects? It is about asking to what extent things are being spent on an activity, and looking if this input is sufficient to achieve the goals that have been set (Patton, 2008, pp. 323-324). Monitoring is a second kind of implementation evaluation. Monitoring is often done in the form of an internal management system, and therefore most of the time used by internal staff or evaluators (Patton, 2008, p. 324). A process evaluation as an implementation study is looking at the actual actions in a project. What is exactly happening and why and how is this happening? It is about thoroughly understanding and researching the program; what does this program look like, to what extent is it being implemented, and what explains the success or failure of this program? Besides asking for the progress it is therefore also necessary to search for factors that influence the program and the quality of the implementation. With the information of a process evaluation it is possible to understand outcomes and make adjustments if necessary (Patton, 2008, pp. 324-325; Maarse, 1995, pp. 128-133). A fourth type of evaluation from Patton (2008, pp. 326-327) that needs to be mentioned is treatment specification. This type is about specifying what actions exactly have to lead to what effects and then to see to what extent the planned actions are really being done. Treatment specification is therefore more about assessing the extent to which things are being done, were process evaluation as mentioned above is more about understanding why things are being implemented or not, looking for reasons for the success or failure of this.

For this research a combination of a process evaluation and a treatment specification is used. In the first chapter the actions that have to take place in the project have already been described. The following step is to examine to what extent planned activities are really being implemented. This is the treatment specification. Once that is done it is time to examine the facilitating and/or hindering factors that influence the implementation. What factors influence the quality of the implementation of the programs? This is part of the process evaluation as described by Patton (2008).

There are some comments that have to be made with regard to a process evaluation of the implementation. First an evaluation of the implementation in general can be an evaluation of the entire implementation process. This includes the substantive activities; implementing the means, but also the activities around this implementation, the coordination and governance of these activities. Or as Patton (2008) says, a process evaluation focuses on the 'internal dynamics and actual operations'. In this research the focus is on the implementation of the means, on the actual operations. Are the means being implemented and to what extent? To see what influences the implementation, facilitating and hindering factors as independent variables are identified. These factors will however not be considered part of the implementation in this research since the focus is on the substantive implementation.

A second comment is that in the implementation of policy often the distinction is made between policy introduction and policy application (Graaf & Hoppe, 1996, pp. 91-92, 376-377). When a municipality for example adopts a new policy this policy first needs to be introduced. This is the link between the policy as it has been decided, and the policy application. In this research this distinction will not be used. The projects cannot really be divided into an introduction and application part.

Thirdly, with an indirect evaluation it needs to be taken into account to what extent the implementation of the means is a good indicator of goal achievement. It is possible that these vary per project. A final comment concerns the fact that different actors are involved in the implementation. In policy usually the implementing actors, a target group and remaining actors are involved. Since an evaluation at the network level is the purpose the focus is on the implementing actors (Maarse, 1995, pp. 124-137).

3.2 Network performance and effectiveness

This section discusses two theories on networks. These theories, as also the theory on cross-border cooperation, give factors (independent variables) that might influence the implementation (dependent variable in relation to the factors) in the projects and explain the quality of the implementation. When discussing each theory a choice is made for which factors are and which are not used in this research. At the end of this chapter an overview of all the factors that are used will follow. Before the theories are discussed first shortly an explanation on network(s) (governance).

There are many definitions of networks. In general it is about cooperation between various organizations. For this research a definition is given merely to give an idea of what a network is, and not to give the right definition. A network is a ''whole network (network level) consisting of multiple organizations linked through multilateral ties'' (Provan, Fish, & Sydow, 2007, p. 482). A whole network means that at least three organizations cooperate to achieve a common goal. The relationships between the organizations are often formal and the goals that are set are actively pursued and directed. The relations between the different actors are most of the time non-hierarchical, and the actors are connected in multiple different ways. This definition looks at a network from the network level as will also be done in this research (Provan, Fish, & Sydow, 2007, pp. 480-482).

There are some general characteristics that emerge when studying the concept of governance. First governance often refers to shifts in governance. There are vertical shifts which refer to the shift of powers from nations to international organizations, or downwards from international organizations to national or regional organizations. This is the case with the Interreg funds which can be allocated by regional organizations which then have to implement international policy. Governance also often refers to horizontal shifts in administrative power from for example the executive to the judiciary. And there can also be mixed vertical-horizontal relations. Secondly, in these shifts of governance we often see that the form of governance changes. Networks become more and more important. This also means that there is a less important role for hierarchies and markets as a form of governance. Cooperation is becoming more important, and allocation through exchange and payment, and decisions on the basis of authority are becoming less important (Heffen & Klok, 2000, pp. 161-163).

When looking at the characteristics of the projects it is clear that the projects in this research can be seen as networks, and as a form of governance. Given that the other main characteristic is cross-border cooperation, the focus clearly lies on the relationships between partners. This evaluation will therefore, as has been mentioned earlier on, focus on the network level where these relationships occur, and where the influence of the cooperation on the implementation can be assessed.

The first theory about networks will talk about the governance of a network, so not about a network as a form of governance, but about steering, controlling and coordinating a network. It is about which form a network should have to work effectively when four particular contingencies are present in a certain extent. In the second theory it is stated that the effectiveness of a network can be analysed on three levels; the organization level, the network level and the community level. Some factors from the network level of this theory are used.

Modes of network governance

Three forms of network governance

Provan and Kenis (2007) distinguish two dimensions in network governance. The first dimension is about whether network governance is brokered or not. Networks can be governed by all the partners who all interact with each other. This would mean that a network is highly decentralized. Or a network can be governed through a single organization. In that case the network is highly brokered and interactions mainly take place with this one actor and not with all the other actors. These two are of course both extremes and networks can also be medium brokered. The other dimension is by

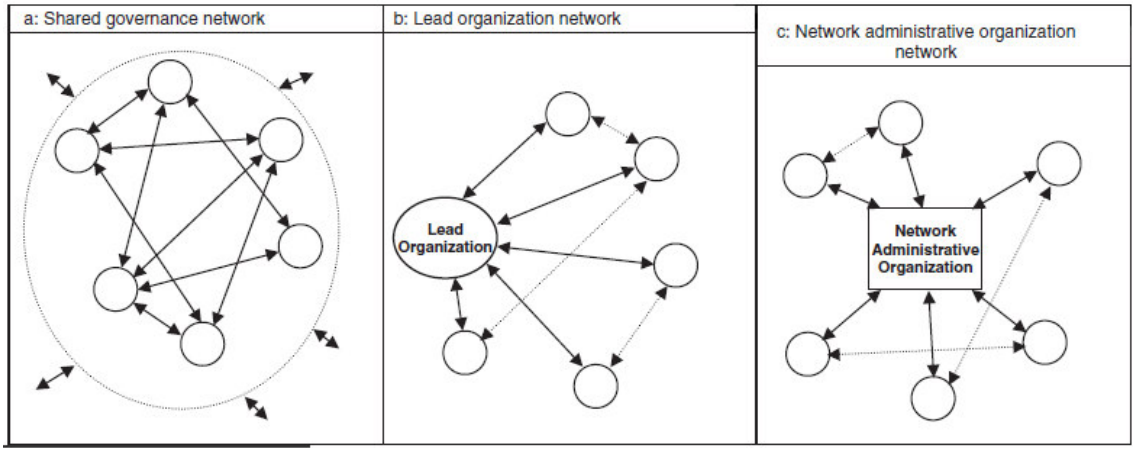
who the network is governed. Is this by network partners of by external parties? These two dimensions lead to three sorts of network governance (Provan & Kenis, 2007, pp. 5-6).

Participant governed/shared governance is a network which is governed by all the network partners. The governing can be done formally or informally. In the end it is the responsibility of all network partners to manage the network and make decisions. Reasons for shared governance are for example community building. When all the partners have a say, they might be more committed to the goals of the network. It might be possible that some partners perform some more tasks, but in general it is about shared responsibility (Provan & Kenis, 2007, pp. 6-7).

In a lead-organization governed network it is also just the project partners that govern the network. The difference with shared governance is that a lead-organization governed network is less decentralized. The management and decision making in the network is coordinated through a single lead organization who is a partner in the network. This means that the network becomes brokered and highly centralized. The network partners can however still communicate with each other. There are different ways in which one can become a lead partner. A lead partner might be chosen by the other network partners. Another option is that the lead partner is chosen 'from above'. It can also happen that the partner with the most resources (e.g. knowledge, money, etc) and/or legitimacy becomes the lead organization because of its central role (Provan & Kenis, 2007, pp. 7-8).

The third form of network governance is through a network administrative organization (NAO). This sort of network is not governed by the network partners anymore, but by an external party, the NAO, who is assigned to govern the network. This NAO does not take part in other activities than governing the network. Just like with the lead organization form of governance also in this case the network becomes centralized, but again this does not mean that partners stop to communicate with each other. A NAO can be assigned by the network partners or 'from above', and a NAO can both be a single person or an entire organization.

Figure 8: forms of network governance



Source: Provan & Kenis, 2009, p. 447

Four contingencies in network effectiveness

The governance of a network is much more difficult than the governance of a hierarchy or market; it has to deal with multiple problems. It is therefore important to use the right governance form in a network in order to be able to effectively handle some major problems that are shortly mentioned here. A network does not have the benefits of a hierarchy or ownership. This means that things can less easily be decided; all network actors and their interests need to be taken into account (Provan & Kenis, 2007, pp. 3-4). This often means that many network activities, decisions and relations have to be managed (Kersbergen & van Waarden, 2004, p. 156). If the network is not properly governed a

lengthy process might for example reduce the motivation of certain project members and with that affect the effectiveness of the network. A second problem is the formal accountability of actors in a network. Cooperation in a network is often based on voluntary agreements which make it hard to hold someone accountable (Provan & Kenis, 2007, pp. 3-4). If there are no clear agreements in the form of contracts opportunistic behaviour of certain actors is a possibility. A third problem might be the legitimacy of a network. In this regard a distinction between internal and external legitimacy can be made. Internal legitimacy for a network means that the network partners see the network as a legitimate way of pursuing certain goals, thus a network has to have an extra value over a market or hierarchy. External legitimacy can also be problematic since the network needs to make sure it becomes seen as a network instead of a collection of actors. This is important for the commitment of partners and therefore the effectiveness of a network (Provan & Kenis, 2007, p. 15).

The authors describe four contingencies that need to be present to a certain extent and explain why the governance form is effective or not. These are: trust, number of participants, goal consensus, and nature of the task which determines the need for network-level competencies. Trust is described as ''the willingness to accept vulnerability based on positive expectations about another's intentions or behaviours''. In networks it is about if trust is widely or narrowly distributed (high or low density) across members, and whether or not there is or needs to be a high decentralization of trust. In shared governance it is important that everybody trusts each other, otherwise they will not cooperate with each other. When there is less trust it is better to have a brokered form of governance, where with a NAO somewhat more trust is needed than with a lead organization because the NAO needs to be collectively monitored (Provan & Kenis, 2007, pp. 9-10).

The second contingency factor is the number of participants in the network. This relates to the governability of a network. With more participants the governance of a network becomes more complex, and the network coordination needs to be centralized around a network broker. In this way not all the network partners need to communicate with each other but they directly communicate with the network broker. A NAO form of governance is likely to be more effective with many participants than a lead organization (Provan & Kenis, 2007, pp. 10-11). With more network partners it might also become more difficult to hold someone accountable.

With regard to the goal consensus a distinction between organization and network level goals needs to be made. For the effectiveness of a network it is important that there is some consensus on the network level goals. This does not mean that organization level goals also need to be the same between organizations. These can be quite different between the different organizations. When there are intermediate levels of goal consensus brokered forms of network governance have an advantage over shared governance. With a lead organization the consensus can be lower than with a NAO because a lead organization can make decisions. A NAO is less able to do this and has to mediate between the network partners. If the partners want to come to useful cooperation a minimum level of goal consensus is required (Provan & Kenis, 2007, pp. 11-12).

The fourth contingency factor is the need for network level competencies. In order to achieve the mutual goals as a network some competencies need to be present. Two things are important in this context. First, what is the nature of the task the network partners need to perform? Secondly, what external demands are being faced by the network? If the tasks demand much cooperation between partners, the need for network level competencies is high. A lead organization or NAO are the organizations who are able to coordinate and perform tasks associated with high levels of cooperation and interdependency. External pressures from for example funders or lobbyists can best be managed by a NAO since it has the competencies for interactions with external actors (Provan & Kenis, 2007, pp. 12-13).

Figure 9: key predictors of effectiveness of network governance forms

Governance Forms	Trust	Number of Participants	Goal Consensus	Need for Network-Level Competencies
Shared governance	High density	Few	High	Low
Lead organization	Low density, highly centralized	Moderate number	Moderately low	Moderate
Network administrative organization	Moderate density, NAO monitored by members	Moderate to many	Moderately high	High

Source: (Provan & Kenis, Modes of network governance: structure, management, and effectiveness, 2007, p. 9.)

In this research the projects are examined on all four contingency factors and their governance form. Once both are known the four factors are compared with the governance form of a project. On the basis of this comparison the relation between the governance form and the implementation can be assessed. The governance forms are mentioned in the methodological framework (and appendix C), as it will also become clear there how the four contingency factors are measured. Networks sometimes have characteristics of more than one of the three forms of network governance. During this research it will be seen to what extent the network projects can be categorized as one of the forms or to what extent they can be seen as a hybrid form (Deen, Denters, & Klok, 2010, pp. 38-39). Next to that it will in the analysis be assumed that if for example the goal consensus is higher than needed for a certain governance form to work effectively this is also good. It does not seem likely that a governance form will be less effective if for example the network participants agree too much with each other on the goals. Another remark that needs to be made with regard to the forms of governance is the distinction between policy preparation and policy execution. In these processes the form of governance can differ from each other (Deen, Denters, & Klok, 2010, pp. 38-41). It is important to realize again that in this research it is about the execution of the policy, the implementation of the projects, and not about the preparation.

Three tensions & evolution

In addition to the four contingency factors and the governance form there are some tensions inherent in network governance, and certain possibilities with regard to changing the governance form. For this research they are less interesting, but it might be useful to be aware of them.

Three tensions very much relate to, if not derive from, the governance problems of governability, accountability and legitimacy described earlier on. Only if these tensions are managed properly, the network can be effective. The first tension is between efficiency and inclusiveness. On the one hand it is important to be efficient, and therefore important to keep things governable. On the other hand in a network it is important to involve every actor in the decision making process for say trust building or better solutions. In shared governance the focus lies of course more on inclusiveness and within a lead organization governance form more on efficiency. A NAO is more balanced with an emphasis on efficiency. The second tension is between internal and external legitimacy. Internal legitimacy is important because only if this is present the partners will cooperate and interact with each other. External legitimacy is important for the funders, the target groups, etcetera. Shared governance is the best form to address the needs of internal legitimacy. The lead organization is the best form to enhance external legitimacy, while the NAO form of network governance is in between again. The third tension is between flexibility and stability. On the one hand networks are often considered flexible with a capability to react quickly to competitors and other external threats. On the other hand it is for a network also important to have some stability. This is important for network legitimacy and maximizing network outcomes. Shared governance best addresses the issue of flexibility. A NAO form of governance is the best form to enhance stability in the network because

the emergence of a NAO means there is a need for structure. A lead organization is also good for the stability (Provan & Kenis, 2007, pp. 14-17).

If there is a mismatch between one or more of the four contingencies and the form of network governance it might be wise to change the form. According to Provan and Kenis is it possible to move from shared governance to one of the brokered forms of governance. It is much more difficult to go from a brokered form to shared governance. This is because a brokered form is often more stable and it has more members, and consequences of change cause the partners to object it (Provan & Kenis, 2007, pp. 18-19; Deen, Denters & Klok, 2010, p. 38).

Network level effectiveness

The second theory is from Provan and Milward (2001). According to them effectiveness of public-sector networks can be analyzed on three levels. The community, network and organization/participant level. In their framework the authors identify criteria for each level that can be seen as indicators for the network effectiveness (Provan & Milward, 2001). The three levels will now shortly be presented, and after that the use of the criteria on the network level is discussed.

The community level is about the contribution the network makes to the community it serves. The stakeholders on this level are for example client advocacy groups, politicians and the general public. The effectiveness on this level is measured by criteria like costs to the community, aggregate indicators of client well-being and public perceptions that the problem is being solved (Provan & Milward, 2001, pp. 416-417).

The network level is about the network as an organizational entity itself. It for example needs to have sufficient internal and external legitimacy and costs cannot be too high. The stakeholders on this level of effectiveness are the primary funders and regulators, network partners and possibly a NAO. The effectiveness can be measured by criteria like the costs of network maintenance and member commitment to the network goals (Provan & Milward, 2001, pp. 417-419).

The organization/participant level is about the gains of cooperation for an individual network member. Often the reason to join a network is because of individual reasons. The effectiveness of a network is affected by the members, but also vice versa. Therefore this level should also be considered according to the authors. Stakeholders on this level are individual network member clients and the managements of the network members. Criteria are for example client outcomes, agency survival and costs of services (Provan & Milward, 2001, p. 420).

Since this research focuses on the network level it is important to look at factors that have an influence on this level. There is one important comment that first needs to be made when using the criteria of Provan and Milward (2001). According to the authors the criteria are indicators of the effectiveness. The aim is however to search for factors that influence the implementation. Earlier on in this theoretical framework the difference between the substantive implementation, and the coordination and governance of this implementation was mentioned. The criteria on the network level of this theory can be seen as indicators of the effectiveness of the latter. In this research the evaluation however only focuses on the substantive implementation, and therefore the coordination and governance of the implementation can be seen as an influencing factor of this. A good coordination and governance of the substantive implementation after all facilitates the substantive implementation. The criteria mentioned by Provan and Milward (2001) will therefore not be seen as indicators of the effectiveness of the coordination and governance of the implementation, but as factors influencing the substantive implementation this research is trying to evaluate. In the following part the factors on the network level are mentioned.

The network level

On the network level it is about the effectiveness of the network as an organizational entity. For this level factors are discussed and it is also directly discussed whether or not a factor is used for this research. This depends for example on the overlap with factors of the previous and next theory.

- The number of organizations in a network is the first factor. Continuous growth is not important; it is important that especially in the beginning the number of network members does not decline. Once the network is stable it is important that when a network has a lot of members a NAO is assigned to coordinate the network. This factor is not used here since it will already be addressed by the theory from Provan and Kenis. This theory on forms of governance also allows for more variation than only the choice between a NAO or not.
- The range of services the network provides should not be too limited. At the same time it should be prevented that too many organizations are involved and therefore too many services are offered. The problem with this factor is that the networks in the projects in this research are not public service networks, and we focus on the network level. This means it is less interesting and possible to assess the range of services. We can however look at the input instead of the output. Is there then a lack of certain competencies, or are all necessary competencies and resources present? Another factor will however be used for this.
- The (strength of the) relationships between network partners are in the beginning of a network cautious. It is important that these relationships become stronger. This can for example be done by creating multiple ties (multiplexity), meaning that two partners are connected in more than one way. This factor will be used by assessing the multiplexity since a strong relationship can positively influence the cooperation and with that the quality of the implementation.
- According to the authors the presence of a NAO means that ''resources have been committed'' (Provan & Milward, 2001, p. 419) to the development of the network. Although a network can be effective without a NAO, the authors state that with a NAO there is a higher likelihood of effectiveness. The NAO also needs to distribute the resources of the network in such a way as to maximize the network effectiveness. Since here again the theory of Provan and Kenis allows for more variation this factor is not used, but it might be useful to assess the role of the network broker (NAO or lead organization). It is possible to look at the coordinating role and other tasks of the network broker.
- The costs of network maintenance need to be lower than the gains. Especially for small network partners this is important since for them costs are relatively higher than for big network partners. This factor will not be used since the costs are examined with the factors transaction costs and subsidies further on.
- The final factor from Provan and Milward (2001) on the network level is the member commitment to network goals. It is clear that the higher the commitment, the better this is for the effectiveness since it is more likely partners will invest in achieving goals they are committed to. This is especially important when there is no NAO, because then the network members themselves need to make sure everybody is committed to network goals (Provan & Milward, 2001, pp. 417-420). This factor is used since it is likely that it also has an influence in the Interreg projects. Goal commitment is different than goal consensus. Goal consensus is about agreeing on the goals, but it does not 'necessarily imply that the person is psychologically bound to the goal' (Hollenbeck, O'Leary, Klein and Wright, 1989), commitment is about really wanting to do something and wanting to achieve the goals.

3.3 Cross-border cooperation

Besides the network nature of the projects the border is another key feature that plays a role in the projects. In this section some short explanations on the border, the region and cross-border cooperation are given. These concepts do not have a direct use with regard to answering the research questions, but they will help in understanding what cross-border cooperation is. After this,

factors that have an influence on the success of cross-border cooperation and therefore on the quality of the implementation are mentioned. Together with the factors from the other two theories these factors will lead the way in the search for hindering and facilitating factors that help explain the quality of the implementation.

The border

Something that emerges from most of the definitions on borders is that a border is not just a geographical demarcation, but that a border has effect on much more than that. To clarify this, a description of Kessen (1999, pp. 29-31) is used. Initially, the border is indeed a geographical separation. Besides this the border however also has a separating force in the field of culture. People for example speak different languages on both sides of the border. Furthermore, the increasing legislation also causes increasing differences between countries. For example differences in the power of municipalities, or different sorts of social legislations. These institutional barriers that have arisen were much less present in former times because there was much less regulation then. On the one hand borders are thus seen as barriers that emerge due to the differences mentioned above. On the other hand borders offer opportunities with regard to for example certain knowledge or resources that are not available in your home country, but can be obtained by cooperating with people in the other country. This is also called the Janus face of borders (Tomor, 2010, pp. 21-22).

Cross-border cooperation

A first definition of cross-border cooperation is that it is really about cooperation between parties that are near the same border. Also is it about cooperation between local governments, individuals, companies and non-profits. This means that it is about regional parties, and not about national governments who have a bigger influence on rules of international cooperation, and therefore encounter other problems in cooperation (Reichenbach, Spoormans, & Korsten, 1999, pp. 16-17). A second definition is given by Perkmann (2003, p. 156) on the basis of four criteria. Firstly public authorities are the main advocates of the cooperation. Secondly, it is about cooperation between organisations or municipalities who are normally no legal subjects under international law. This means that they are often not in the position to enter into treaties and therefore often use more informal agreements. Thirdly the cooperation is most of the time for solving practical problems. Finally, the cooperation includes a ''stabilization of cross-border contacts''.

The region

A third concept is the region, more specific cross-border regions. Regions are often described as areas that have some common characteristics. Perkmann (2003, pp. 156-157) thinks that this is not the most important feature of cross-border regions. According to him a cross-border region can be described as ''a bounded territorial unit composed of the territories of authorities participating in a CBC initiative''. With this he also says that it is about the process of construction that determines what a region is, and not the common characteristics. This definition also seems to do justice to the cross-border region in this research. If we would assume that common characteristics define a region, the Euregio in this research might actually exists of several other regions instead of one.

Influencing factors in cross-border cooperation

Most of the factors that are listed below come from an article of Knippschild (2011), but the factors can also be found in other literature, and some additional literature besides Knippschild is also used. It will again directly be discussed whether a factor is used for this research or not. At the end of this chapter there is an overview of all the factors from the three theories that are used to identify the facilitating and hindering factors.

- The size of the cooperation area plays a role in the cooperation. The bigger the area and therefore the distance between actors, the more experience in cooperation is needed to make the cooperation successful. With large distances between organizations the experience or perception of cooperation is often less and issues tend to be more abstract, while for

abstract issues more experience in cooperation is needed. This factor is used by asking for the perceptions of these distances.

- There has to be a need for cross-border cooperation. If there is no need the cooperation becomes more difficult. The issue that is the subject of cooperation needs to be a borderless issue (Tomor, 2010, p. 29). Secondly, there has to be an opportunity, knowledge for example that is not present in your own country. Since all projects in the end are about renewable energy because this is better for the environment it is clear that the issues are borderless. The focus of this factor is therefore in this research on the need for cross-border knowledge and other competencies of foreign partners. This need for cooperation is not about finances. The factor on subsidies and transaction costs will focus on the financial need for cooperation.
- The structure of the cooperating public administrations influences the cooperation. Differences between for example Dutch and German municipalities can be of great influence on the cooperation. Think about the different powers municipalities have. This point is also mentioned by Wouters (1999, p. 101), who recognizes that cooperation is the best among partners with equal powers. Examining differences between municipalities will only be done in one project since only there both Dutch and German public administrations are participating.
- Established transnational organizations and existing legal frameworks play a role. If a transnational organization that facilitates cooperation does not exist or is not present, trust in the relationships becomes more important. In the projects in this research this factor is examined by looking at the (non financial) role of the Euregio. Did the Euregio for example help making a project possible? The Interreg funds that run by the Euregio are not included in this factor since the finances are part of the factor on subsidies and transaction costs.
- Language barriers, cultural differences and prejudices also play a role in cross-border cooperation. They can ensure that people cooperate and discuss issues fewer times and less intensive. This then influences the degree of mutual trust. This point is also mentioned by Wouters (1999, pp. 101-102) who says that differences in culture and language cause few spontaneous contacts. For this factor possible relevant differences are examined.
- The transaction costs are quite high in the case of cross-border cooperation. This means that subsidies and other ways of funding play an important role in facilitating cross-border cooperation. The projects in this research run for a great part (40-50%) on subsidies from the European Union, and besides that often on other additional subsidies. On the one hand these subsidies foster a project-based approach. On the other hand, it might become a problem once the subsidies end. This dependency on money fits in what is also called resource dependency. This theory says that you are going to take part in a network when you do not have all the necessary resources for what you want to do. In that case you will try to enter in a network with organizations that do have certain resources. In this case it means that if the organization with the resource money leaves the network, the survival of the network becomes uncertain (Fenger & Klok, 2001, pp. 162-166). This factor, transaction costs and subsidies, will therefore be examined for the projects by looking at if the project would also have been possible without subsidies, if partners are willing to invest more, and whether or not they would continue with a project once the subsidies stop.
- The objectives and expectations of the participants are important. During the agenda setting process it is important that the objectives and expectations fit well to the experience there is in the field of cooperation, the composition and the competences of the participants and the trust between the participants. Since these things are all treated by other factors they will not be examined again here.
- The parties, their competences and human resources. The more freedom, resources and other competences the participants have, the higher the chances on successful cooperation are. It is also important that there is some continuity among the partners that are involved. This factor is therefore used for examining if all the partners have enough competences and

resources to fulfil their tasks, or if certain partners have a lack of knowledge, competences, etc. Continuity among the partners will not be examined since the partners do in principle not leave the project, nor do new partners join.

- Another factor is the cross-border cooperation process. The more deliberately the process is designed and coordinated, the higher the chances on successful cooperation. This means that at least goals need to be clear, there need to be frequent face-to-face contacts, transparent decision making, professional translating and interpreting, and flat hierarchies. That the goals of a project need to be clear is already part of the factor 'goal consensus', the other points are used.
- The final factor is the density of rules and administration. Strict regulation often delays projects or makes them impossible at all. Logically the projects in this research also have to deal with some rules and administration, for example with regard to the provision of the subsidies. The question is whether the rules just have a small necessary role, or that these rules stand the cooperation and flexibility in the way (Reichenbach, Spoormans, & Korsten, Grensoverschrijdende samenwerking - een balans, 1999, p. 294). The Euregio indicates that they have to deal with a lot of administration from the Interreg; the question is whether or not this is also the case for the project partners. Regulation can also be categorized as transaction costs. According to transaction cost economics costs are made when doing exchanges. The advantage of a network could be that in a network these costs might be lower than in a market or hierarchy (Jones, Hesterly, & Borgatti, 1997).

3.4 Concluding remarks

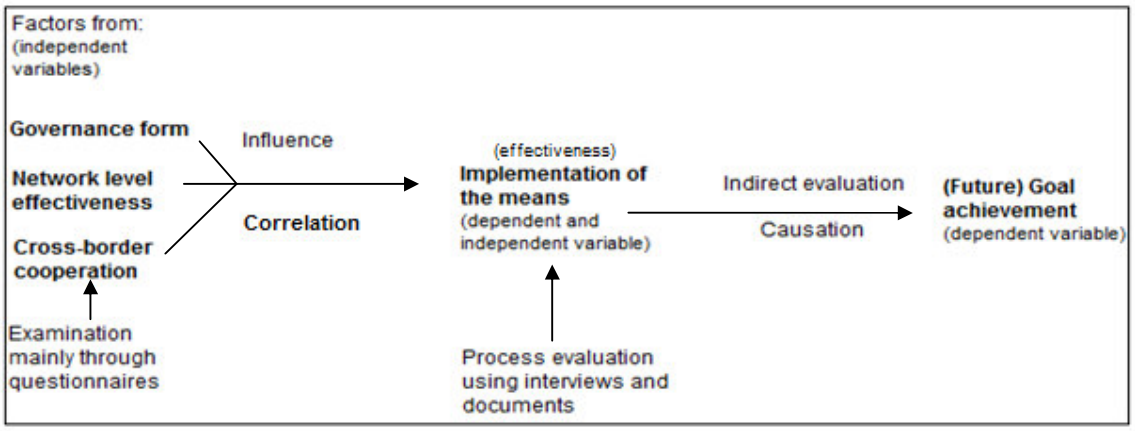
In this chapter the main features of a policy evaluation have been explained. Given the phase and characteristics of the project, a choice for an interim policy evaluation has been made, and with that an indirect evaluation of the effects. Because the projects are currently underway an examination of the implementation is sensible. Given the opportunities and the available information a direct evaluation of the goal attainment and effectiveness is also very, if not too, difficult. How this interim policy evaluation is done exactly is subject of the methodological framework in the following chapter.

In the two parts thereafter, on the basis of two important features of the projects, factors have been discussed that play roles in the cooperation within the projects and thereby influence the success of the implementation and goal achievement. A more detailed description on how the factors are operationalized and measured will follow in the methodological framework (and Appendix C). The theoretical framework will now end with an overview of the factors that are used (figure 10), and a model of the relations between the factors, the implementation and the goal achievement (figure 11).

Figure 10: influencing factors in networks and CBC

Source/ factors	Modes of network governance (Provan and Kenis)	Network level effectiveness (Provan & Milward)	Cross-border cooperation (Knippschild et al.)
	Trust	Commitment to network goals	Size of the cooperation area
	Number of participants	Strength of relationships	Participants competences and human resources
	Goal consensus	Role of the network broker	Need for cooperation
	Need for network-level competencies		Transnational organizations and legal frameworks
			Subsidies
			Language barriers and cultural differences
			Design of the CBC process
			Density of rules and administration
			Structure of cooperating public administrations

Figure 11: overview of research



In figure 11 it is seen that the main focus is on examining the implementation, and looking at factors that influence the implementation and can explain the quality of it. Additionally, the goal achievement is indirectly assessed by looking at the implementation and the influencing factors. In the model it is also already mentioned how the implementation and the presence of factors are examined. Further information on this will follow in the next chapter.

4. Methodological framework

The goal of the methodological framework is to clarify how the questions of this research are going to be answered. In essence methodology is about how a research is conducted. This means that it also includes the research questions and the theories that have been treated earlier on. The task that therefore remains here is to explain how to continue from research questions and theory towards certain choices and certain techniques that are used regarding operationalization of the theories, data collection, data analysis, etcetera. First in paragraph 4.1 the research design is mentioned in which the main characteristics of the research are discussed. After that the data collection is discussed in paragraph 4.2. In the third paragraph of this chapter it is explained how the different parts, the influencing factors, the implementation, the goal achievement, and the link between the projects are analyzed. In paragraph 4.4 we talk about the operationalization of the three theories on networks and cross-border governance. Finally, in the last two paragraphs some remarks are placed with regard to the possible threats for the validity and some concluding remarks are placed.

4.1 Design

At the end of the theoretical framework a model was presented in which it became clear that this research is mainly about examining the implementation (sub question two) and factors that influence the implementation and might help explain the quality of it (sub question three). This first means that the purpose of this research is to describe and to explain. Describe how the implementation and the goal achievement of the projects is going, and explain why this is going the way it is. In examining this, a research design is being used. The first characteristic of this design is, as just mentioned, that it is descriptive and explanatory. Some additional characteristics are mentioned below (Babbie, 2007, pp. 88-90).

What kind of study is this research? For a part this research is an evaluation research. It has been clarified that for the five projects an evaluation of the implementation is the intention, and with this an indirect evaluation of goal achievement. More specific, parts of a process evaluation and treatment specification as meant by Patton (2008) are het intention (Babbie, 2007, pp. 350).

Part of the evaluation is also looking at factors that influence this implementation. The goal is to test the presence of these factors, and look at what this presence means. Testing theory means that we can speak of a quantitative research approach. The difference between a quantitative and qualitative research approach is that the first is about explaining relations, causality, looking from the outside, testing theory and the second is about looking from the inside out at many factors and not testing a theory but understanding a situation. Whether or not the data analysis is also quantitative is mentioned further on (Jonker & Pennink, 2000, pp. 36-59).

Another element of the design is that it is a comparative case study. By also comparing the progress and scores on factors among the five projects information on the importance of certain factors in general is gathered as well, which makes it better possible to give recommendations for future projects. To answer the third sub question, it is important that the cases are compared.

A final characteristic that needs to be mentioned here is the moment of data collection. Data can be collected at one or more points in time. This is the difference between a cross-sectional and longitudinal study. Given the period for this research a choice has been made for a cross-sectional study which means that the implementation and factors are examined at one single point in time (Babbie, 2007, p. 102).

4.2 Data collection

Above, the general design of this research has been sketched. It will now be explained how the data are selected. Once the data collection has been discussed it is explained how the data are going to be analyzed; how the influencing factors, the implementation and the goal achievement are assessed.

Case selection

The five cases in this research have been selected because the Euregio wanted all five projects to be evaluated. A consequence of this is that the cases can only be researched to a certain depth since research is bound to a limited amount of time. On the one hand this has consequences for the variety and amount of data that are used. On the other hand, multiple cases also bring along extra possibilities regarding the generalizability.

Data selection

The second point is what data exactly to use. This is mainly about what data are needed on the factors, the implementation and goal achievement. But also for describing the content of the projects as policy (sub question one) data have been used, and also to give recommendations for future projects data are needed.

For the first sub question many documents have been used for giving a description of the projects. The main documents that have been used are official project descriptions and quite some concept versions. In addition there was quite some information in the monitoring system for all the Interreg projects. Finally project partners have been called in order to retrieve missing information.

The second sub question is the actual evaluation of the implementation and goal achievement. In the theoretical framework it was described that a combination of a process evaluation and a treatment specification is used (Patton, 2008, pp. 310-327). For this research it means that the implementation is going to be examined by looking at whether the specified actions are also taking place. The specified actions have already been described as the means in the project descriptions. Information on the extent to which the means are actually being implemented, the extent to which actions are taking place, is acquired through the Euregio. For each project there are progress reports. According to the rules every project has to hand in such a report every half year. Besides these documents there are some (in)formal documents about meetings and questions from the Euregio. Since not all the projects are clear in or up to date with their progress reports, interviews with the lead partners were held to get a more complete view and confirm information found in the reports and other documents. During the interviews it was asked for every mean what the progress is. Although this looks like an open question, the respondent did indicate the progress on the basis of the time choices that are set in the beginning of the project (appendix B). In this way it is easier to compare the projects. There was also room for the respondents to explain non-implementation, a lead or a delay. In this way the progress can be placed in the right context and a wrong or too quick judgement on the progress is prevented. This might also help to link some influencing factors to the progress in the projects. In addition to this the interviewees were also shortly asked on what they thought of the likelihood of goal achievement with the present means. Although the goal achievement is assessed with an indirect evaluation, their answers might offer some additional valuable information.

The third sub question is about the factors influencing the implementation. This is also the second part of process evaluation as mentioned by Patton (2008). In the theoretical framework it was decided which factors are used in searching for facilitating or hindering factors. To gather information on these a questionnaire has been send to all the project partners with questions on these factors. This questionnaire is to the German partners in the German language and to the Dutch partners in the Dutch language because not all partners speak English. The structured questionnaire contains mainly closed questions which are the same for all partners and projects. In this way it is possible to let the respondents fill in the questionnaire without as a researcher being present, and it makes it better possible to compare results among projects. The lead partners are in the questionnaire also asked what factors they believe to have a big influence on their projects. In this way it is possible to already get a clue about which factors play an important role in the

implementation, and this might be necessary given possible difficulties in assessing the influence of the factors or assessing the implementation.

With the information on the implementation, goal achievement, and the influencing factors it is also possible to answer the fourth sub question: to what extent is the achievement of goals still realistic? Thus not only to what extent goals might be achieved on the basis of the implementation, but also to what extent further and full goal achievement is realistic given the influencing factors. Below an overview of the data sources that are used. How the sub questions are answered exactly is part of the data analysis paragraph.

Figure 12: data selection

Sub question	Data sources
1: Content of the projects	Project descriptions from Euregio, monitoring system, telephone conversations with project partners
2: Evaluation of the implementation and goal achievement	Progress reports, additional documents, interviews with the lead partners
3: Influencing (hindering/facilitating) factors	Questionnaires on the presence of factors from all the partners, lead partners will also be asked to indicate the effect of certain factors on the quality of the implementation
4: Future prospects	Combination of the data sources of the previous sub questions

Respondent selection

Above it has already been clarified that the lead partners and the other project partners are interviewed and/or filled in a questionnaire. A choice has been made to interview the lead partners. During the interview for the project 'Energieland Biores' DNL is also present since DNL is also substantively involved (as a partner) as will become more clear during the description of the governance forms. The lead partners are interviewed since they are the ones who know most about the content and implementation of the projects, and interviewing all the partners would cost too much time. In addition in some projects there is a NAO, these are however most of the time not substantively involved. This means they have less knowledge than the lead partner, are less involved in the cooperation, and are therefore less suitable to interview. Next to that a NAO will not be asked to fill in a questionnaire. The factors on which the questions are based are mainly about cooperation in the projects in which a NAO does not really participate. Again, only in the project 'Energieland Biores' the NAO is asked since they have also become a project partner.

It is important to interview the representative of an organization who really represents the organization and is involved in the project. In this context a distinction between units of analysis and units of observation should be made. The projects can be seen as the units of analysis. This is what is being studied and what we want to say something about. However in order to say something about the project and gather information on them we need to gather data from the individual partners: the units of observation (Babbie, 2007, pp. 94-97). Since the partners are organizations that cannot be directly asked for information it is important that the person that is being asked is the person that is most involved in the project, and has all the necessary information and knowledge about the project. The (lead)partner that will therefore be interviewed or asked to fill in a questionnaire can be seen as the boundary role person. These are the persons that link the organizations across their boundaries (Currall & Judge, 1995). This person does however not carry outs all the activities on behalf of his or her organization; this is not possible given the high and diverse number of activities.

4.3 Data analysis

In this paragraph it is explained how the collected data are analyzed in order to give an answer to the questions of this research. The first question on the content of the project has already been

answered by the second chapter of this report. This paragraph will therefore only mention how the other three sub questions are answered.

Evaluation of the implementation and goal achievement

The implementation is examined by looking at what planned activities are really taking place; which means are really being implemented? The official means are used for this purpose. Even though activities are not always formulated in terms of the official means, there seems to be no reason to assume that other means or activities are being applied consistently. Once it is clear if and to what extent means are implemented this is also compared with the time choices. By comparing the implementation with the time choices it is possible to also say something about the progress of the implementation. Because there can be various reasons for a delay or other problems in the implementation the interviews will not only be used to ask if something is being done and what the progress is, but also for reasons for delays or other problems.

The next step is to link the implementation to the likelihood of goal achievement. In order to assess the goal achievement a causal relationship is assumed between the implementation and the goal achievement. This means there is a correlation between the implementation and achievement of goals, the implementation precedes the goal achievement in time and we assume that there are no third variables explaining the goal achievement (Babbie, 2007, pp. 90-91). During the analysis it needs to be seen to what extent the presence of these three conditions can indeed be assumed. As explained earlier on, the implementation is used as an indicator for goal achievement. All in all, this means that the progress and degree of implementation are used to say something about the goal achievement. The strength of this method is that it uncovers possible failures in the implementation and that a better understanding of the project is obtained. At the same time it means that the three conditions of causality need to be kept in mind. In order to also say something about how realistic goal achievement still is the influencing factors will also have to be taken into account, this is, however, part of the fourth sub question, since in this sub question the goal achievement is assessed purely on basis of the implementation. In examining the goal achievement the official goals are used because the official means are supposed to lead to the official goals, and it does not look like other goals are being pursued with the official means. This is also checked by a question in the questionnaire.

Facilitating and hindering factors for explaining the quality of the implementation

The data on factors are gathered by the questionnaire. For many of these factors the values on the variables in itself are already important. It might be possible to say which factors are facilitating or hindering in the project, or which combination of factors seems to be important in a project. Next to that it also means that we know on which factors work might have to be done. It can for example be that the different languages do not really affect the cooperation. It can however not hurt to learn the language of the foreign project partners, even though the influence of this might be minimal.

A next step is to compare the implementation in projects with the factors. By comparing the projects the possibility arises to get a better understanding of the influence of the different factors. It is after all assumed that they have an influence, and by looking at just one project it is not always clear if the scores match with what the theory says. In this way the theories behind the factors can be tested, and it can be seen if the factors can explain the quality of the implementation and can explain possible delays or other problems. As shown in the research model in the theoretical framework a correlation between the factors and the implementation is assumed. We can however not speak of a causal relationship. It is not that the factors cause the implementation, they influence it. This means that the implementation in itself needs to be done, and the way in which the factors are present influences the quality of this. The factors might therefore be seen as preconditions for a good implementation. In terms of a causal relationship this means that we cannot speak of a non-spurious relationship (Babbie, 2007, pp. 90-93).

To test the theory behind the factors we have to assess the relation between the factors and the implementation. A possibility is to do a rank correlation test. Because there are many factors it needs to be seen to what extent it is possible to do a partial rank correlation test in which the correlation with one or more factors is corrected for the other factors, or to what extent certain variables need to be grouped (Huizingh, 2006, pp. 275-282). Once it is examined to what extent certain factors correlate with the implementation in the projects it is possible to say something about the influence of the factors in the five projects.

Because it might be difficult to assess the influence of every different factor, the lead partners are in the questionnaires also asked for what they see as the most important factors in their projects (for most of the factors). This does not mean that the factors they mention are also the most important factors, but it might help in identifying important factors. Additionally the theory will be used to interpret the data. Next to that it needs to be seen to what extent it is possible to rank the different degrees of implementation properly, also given the fact that the projects did not start at the same time, and complete information on the implementation might not be fully available. At the end it needs to be seen to what extent this then has been a testing of theory on important factors, or a theoretical guided identification of influencing factors by simply looking at the score of a certain factor. Or in other words; using correlation or theory as the main linking mechanism.

A final point of interest with regard to assessing the influence of the factors is the use of the contingency factors from the theory on governance forms. In order to assess the influence of these four factors on the implementation it will first be necessary to look at their match with the governance form in a project. How these contingency factors and the other factors are measured is part of paragraph 4.4 (and appendix C), as also determining the governance form of each project.

Future prospects regarding goal achievement

The answers on the second and third sub question make it possible to give a prediction on how realistic goal achievement still is; answering the fourth sub question by combining data on implementation and influencing factors. With regard to the goal achievement a short look at some of the conditions regarding causality also needs to be given. Additionally, comparing the projects for examining the influence of certain factors, and looking at factors that are especially important in the five projects, also make it better possible to give recommendations for future projects in the Euregio. In figure 13 an overview of the ways in which the data is going to be analyzed and the research questions are going to be answered.

Figure 13: data analysis

Sub question	Analysis
1:Content of the projects	Describing the projects on the basis of multiple sources
2: Evaluation of the implementation and goal achievement	Assessing the implementation by looking at if activities are implemented and by looking at the progress and comparing this with the time-choices. Assessing goal achievement on the basis of degree and phase of implementation (indirect evaluation). As extra information using lead parters opinion on goal achievement
3: Influencing (hindering/facilitating)	Assessing influence of factors by examing their scores, their relation with the implementation, and directions from theory and lead partners on the influence of factors
4: Future prospects	Giving predictions regarding how realistic future goal achievement is on the basis of the answers on the previous two sub questions

4.4 Operationalization of the factors and governance forms

Operationalization means determining what will exactly be done to represent a construct (Shadish, Cook, & Campbell, 2002, p. 510). This means that it needs to be made clear how the influencing factors are going to be measured. The factors need to be operationalized to the level of questions

that are asked to measure them. In addition, the forms of governance of each project need to be determined. This is necessary to compare the contingency factors in the projects with the governance forms in the projects. Since all these questions for the questionnaire are not directly necessary for understanding the analysis, they are placed in appendix C and D. In this paragraph there are only some comments that have to be taken into account when formulating the questions for the factors. In addition the governance forms are mentioned. At the end of chapter three it was already mentioned which factors will exactly be used.

Contingency factors influencing effectiveness of network governance forms

In the theoretical framework it was explained that the trust, number of network participants, goal consensus, and need for network level competencies are measured. The scores on these factors are compared with the governance forms. Regarding trust it is for the governance forms important to know the density and distribution of trust among the partners. This means that questions need to be asked about to what extent one partner trusts another partner, and not just about the general level of trust. To measure the number of network participants no questions have to be asked. For the goal consensus it is important to mention that it is about agreeing with the official goals as described in chapter two. Since the official goals are used as criteria for measuring goal achievement the goal consensus also needs to relate to these. For measuring the factor need for network-level competences at least two questions need to be asked because the factor is about internal cooperation and interdependency, and about external demands.

Network governance forms

As soon as the scores on the contingency factors are known they need to be compared with the governance form. Determining the governance form could also be done in the analysis part of this report, but it is done here because then in the analysis the scores of the factors can directly be interpreted without there also having to determine the governance forms. The governance forms emerge on the basis of two dimensions. The first dimension was about whether a network is brokered or not. Is there a network broker that coordinates the network activities, or is the network governed by all the network partners? The second dimension was about by whom the network was governed. Are the network partners or lead organizations governing the network, or is there an external party governing the network. With shared governance and lead organization governance the network partners are governing the network, whereas with a NAO an external party is governing the network (Provan & Kenis, 2007, pp. 5-6). Looking at the projects most of them have a lead organization form of governance.

Figure 14: overview of the governance forms

Project	Governance form
Energieland Biores	lead organization (with two parters as the network broker)
Energiequelle Wallhecke	between lead organization and shared governance in
Warm-up	lead organization
Future oriented building in the Euregio	lead organization
Micro-CHP	lead organization

More detailed information on the governance forms in the projects can be found in Appendix C. It is mentioned there that on the basis of the Interreg IV program every project should in principle have a lead organization form of governance. Some remarks per project and more detailed information are provided in the appendix since there are some differences between the projects. Since most projects have a lead organization form of governance this means that in these projects for the governance form to function effectively there should be a low density and high centralization of trust, a moderate number of network participants, a moderately low goal consensus, and a moderate need for network level competencies.

Factors influencing network level effectiveness

Three factors were selected to use from the theory regarding network level effectiveness: commitment to network goals, role of the network broker, and strength of relationships. The goal commitment differs from goal consensus. The latter is merely about agreeing on the goals, while commitment is more about really wanting to pursue the goals. For the role of the network broker questions need to be asked about the tasks of the network broker. This means questions on how the finances are being handled, how the administration is being handled and how the activities are coordinated. The strength of relationships is examined by looking at the multiplexity; in how many different ways are the partners connected to each other? In addition past cooperation is examined because this might also help indicating how strong a relationship is.

Factors influencing cross-border cooperation

Nine factors influencing cross-border cooperation were selected to use: size of the cooperation area, participant's competences, need for cooperation, transnational organizations, subsidies, language barriers and cultural differences, design of the CBC process, density of rules and administration, and finally the structure of cooperating public administrations. Regarding the size of the cooperation area, the perception of the partners on these distances is important, not the actual distances. For the factor 'partners, their competences and human resources' it is important to measure if there is a lack of knowledge, skills and other competencies. The need for cooperation relates specifically to the need for cross-border cooperation. Therefore it is examined whether or not it would also be possible to cooperate with domestic organizations. Regarding the factor transnational organizations and legal frameworks the role of the Euregio is assessed. For the factor subsidies it is important to determine the importance of these. To assess the factor language barriers and cultural differences first we need to look at the language the partners speak. Does this facilitate or hinder good communication. Next to that we need to look if there are relevant cultural differences. From the umbrella factor 'design of the CBC process' multiple aspects need to be measured: frequent face-to-face contacts, professional translating**,** flat hierarchies and transparent decision-making are important. The density of rules and administration is measured quite straightforward by asking the partners on the presence of these. In addition there is one other factor that is only used in the Warm-up project: structure or cooperating public administrations. Here, it is assessed if there are differences in the powers among municipalities that are partners in the project.

At the end of the questionnaire, as has been mentioned in the previous paragraph, the project coordinators are asked to indicate the influence of certain factors. This might help in identifying the most important factors.

4.5 Threats to the validity of the research

An aim of this research is of course to provide valid and reliable results. With every research, depending on the methods used, some threats for the validity and reliability are present. Regarding validity a distinction can be made between internal and external validity. Internal validity refers to the fact whether or not the results of the research really reflect what is actually going on in reality; did the research really measure what it wanted to measure (Babbie, 2007, p. 230)? A possible threat for this internal validity can be demonstrated by the distinction between failure of program and failure of theory. On the basis of the implementation the possible goal achievement is assessed. This does assume that there is causality between the means and the goals, and that when the means do not lead to the goals, this is due to a bad implementation, also a failure of program. The danger exists that there actually is a failure of theory which would mean that the wrong means have been selected to achieve the goals. Since there is no evaluation of the theory behind the policy it could then happen that the conclusion would be that goals are probably achieved, on the basis of a good implementation, but that in reality goals are not being achieved since the means do not really lead to their achievement (Patton, 2008, p. 310). This threat is reduced by assessing the likelihood of the link between goals and means in paragraphs 5.4 and 6.3 where goal achievement is discussed.

A second threat to the internal validity is that a respondent does not have all the necessary knowledge to give correct answers, or that the respondent gives socially desirable answers. These threats can be reduced by checking whether or not the official contact person really is the person who is mostly involved, and by making the questionnaire anonymous. Reducing this threat is important since only one person is interviewed for assessing the implementation. Secondly, certain factors not present in the questionnaire may play a role in the projects. The research design tries to reduce the importance and chance of this by focusing on the most important factors, and giving during the interviews the possibility to mention additional factors. Thirdly the cross-sectional character might be a threat. The data from the questionnaire are gathered at one point in time. The danger is that views or opinions can change during the project, meaning that the way in which a factor is present changes. It is however also good that change is possible because in this way problems can be solved.

External validity is the extent to which the results of a research can be generalized to other persons, settings, etcetera (Shadish, Cook, & Campbell, 2002, pp. 83-87). Depending on the results it needs to be seen if and to what levels or groups the results can be generalized. It is more likely that the results can be generalized to future energy projects and other Interreg projects in the Euregio, than to projects in general, since these other projects have probably less resemblances with the projects under research.

Besides internal and external validity we should mention construct validity. This is whether or not the results of an observation really represent the higher order constructs they represent (Shadish, Cook, & Campbell, 2002, pp. 20-21, 64-73). For this research it means if the questions and the answers from the questionnaire really represent a certain factor. To make sure this is the case questions have to be as much as possible in line with the factor.

Reliability refers to the question that when the research would have been done again and again the same results would emerge (Babbie, 2007, pp. 143-144). The danger of reliability for this research lies in the fact that the research is being done by only one researcher which means that the researchers' interpretation or subjectivity could play a role, and the fact that questions can be interpreted by respondents in different ways. For evaluating the progress in the implementation the danger of only one researcher is reduced by using both reports and documents on the one hand, and interviews on the other hand. With regard to the questionnaires about the factors different interpretations between respondents is something that can always be present. It will of course be tried to reduce the likelihood of this by asking clear questions. It is unfortunately not possible to for example do a test-retest or split half method given the limited amount of time for this research (Babbie, 2007, p. 145).

4.6 Concluding remarks

In this chapter the design and methodology for this research have been treated. In the first three paragraphs it was explained how the different parts of this research relate to each other, how they are measured and how the data are analyzed. It became clear that the focus lies on the implementation and the factors influencing this. On the basis of the implementation an attempt is done to also assess the goal achievement, and later on the consequences of the results on the factors for the goal achievement will also be discussed. The implementation will mainly be examined by a study of documents and by interviews. The influencing factors are identified by using questionnaires. In the fourth paragraph the factors that are used were mentioned shortly by making some remarks on them, the exact questions used to measure the factors can be found in appendix C and D. At the end of this methodological framework some threats to the validity of this research have been mentioned. Since it is now clear how the analysis is done the results will follow in the next chapters. Chapter five will start with the evaluation of the implementation and the goal achievement on the basis of the implementation. In chapter six the influencing factors are discussed and they are compared with the implementation to see if they can explain the quality of the implementation. In

addition the prospects for further goal achievement are mentioned on the basis of the implementation and the influencing factors. The final chapter consists of a conclusion and some recommendations.

5. Evaluation of the implementation and assessment of the goal achievement

This chapter analyses the progress in the implementation of the five projects and makes, based on these findings, an assessment of the goal achievement at the end of the projects, and where possible also of the goal achievement during the projects. This chapter, therefore, answers our second sub-question. Once this is done the implementation is compared with the influencing factors. This is done in the next chapter. We have analysed the implementation of each project with the help of the theoretical and methodological framework developed in the third and fourth chapter. This means that we analyse the implementation and the progress of the planned activities (means in our perception of policy implementation). This is an important distinction. First it is most important that the planned activities are being implemented at all. Secondly it is important that the planned activities are implemented on time. This is important since the projects rely on finite money sources. The projects end at a certain point, thus when there are much or huge delays, the chance increases that not all planned activities can be implemented. In the second part of this chapter we make an assessment of the goal achievement of the projects. It should be kept in mind that this is only on the basis of the implementation, and not also on the basis of the influencing factors. In the following chapter where the factors are discussed, the goal achievement will therefore shortly be discussed again to talk about the possible influence of the factors on how realistic goal achievement still is. This is answering the fourth sub question by combining the information on the implementation and influencing factors. Interviews with the lead partners and project documents are the major data sources for the analysis in this chapter. With one exception (see appendix E) all lead partners shared much information on the implementation of the projects with us.

5.1 Implementation in the projects

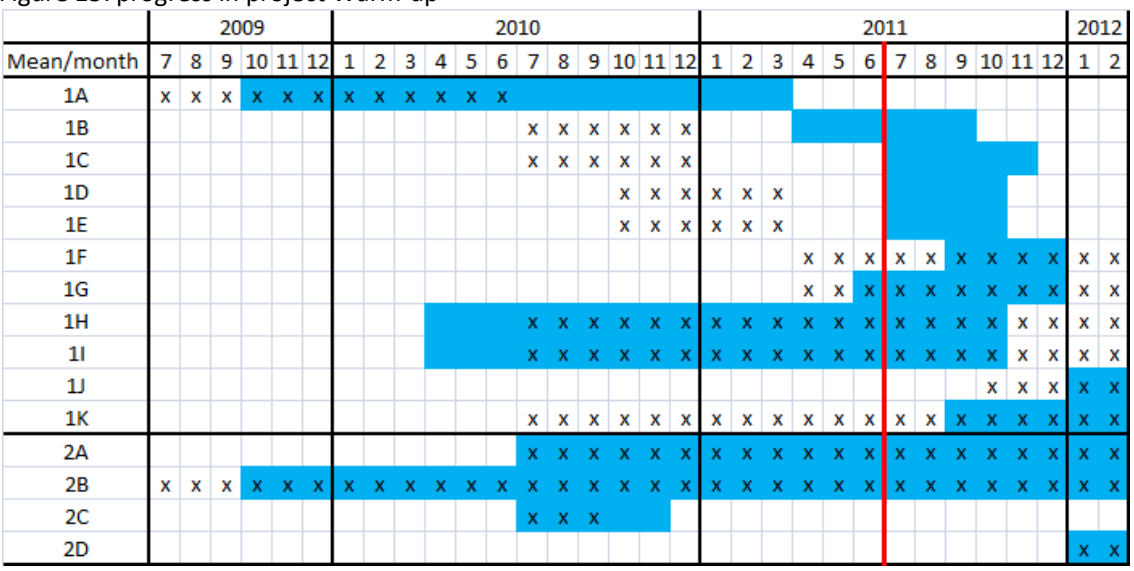
In this section we present our findings on the implementation of the planned activities of the projects. The findings of all projects are presented in a similar way. The format is explained in the next section were the findings of the first project, Warm-up, are presented.

Warm-up

Planned and implemented activities are presented in a progress table like figure 15 below. In this and the other tables, the first column lists the project activities (means). Behind each activity, the planned and the implemented activities are indicated by an “x” and the blue colour line respectively. The number of “x” without a blue colour line visualises the deviation between planned and actually implemented activities (means). The vertical red line in each table indicates the moment of data collection. Left from the red line the blue colour line should be read as “actually implemented” and right from the red line as “probably will be implemented”.

The choice has been made to not just indicate how far the project implementation is, but also to assess further implementation in the future since this gives an understanding of what can be expected at the end of the project. Every project table is followed by information on the most important findings regarding the implementation. Detailed information on the implementation and progress of every project activity can be found in appendix E. If certain reasons for a content or time related deviation, or results from the implementation are not given here nor in the appendix, this is because of information not being available.

Figure 15: progress in project Warm-up



The project activities started by the end of October 2009 while the project officially started in July 2009. This means there is a delay of more than three months in the beginning. Reason for this was that the project did not get approval from the Euregio to start earlier. According to the Euregio the partners did have the possibility to start with the project before approval, but they did not because of the summer holiday. The partners decided not to change the planning and therefore did not postpone the entire project with three months, but to let the project end by February 2012 as intended. Since there are only two things that had to start in the beginning this was not a big problem according to the lead partner, and it seems a logical decision not to change the planning.

By looking at the blue colour line it can be seen that all the activities are indeed being implemented or at least awaiting their implementation. Of these latter the intentions are to indeed implement them. The activities under 1 are what the project is about. This is also indicated by the lead partner. The activities under 2 are there to disseminate the gathered knowledge and promote the project.

When looking at the activities under 1 it can be seen that there are some considerable delays. The delay with 1A caused that the partners still have to start with 1C till 1F which are mostly about information gathering to identify energy saving measures. The delay of 1A was caused by difficulties with the information gathering at municipalities. A second contributing reason for the delay was that the project started three months late. Since 1A has been finished at this point, the information has been gathered, starting with the implementation of the subsequent activities is possible. The delay in the beginning also meant that the partners could start earlier with the management system (1H and 1I) which is the most important part of the project according to the lead partner. With this management system the partners are able to monitor their energy use. If necessary they can implement measures also identified in this project to reduce their energy use. Another important point to mention is 1K. The implementation of this seems to be delayed considerable. This is because it is not certain yet if the EU-regional working group is going to be established at all. If this will be the case than this will be done as indicated in the scheme above.

Considering the importance of the different activities the project is all in all a bit behind schedule. Considerable substantive work still needs to be done with regard to the means 1B to 1G which make it seem that the project is quite much behind schedule. Since the management system is however the most important part of the project, the situation is not that bad and the partners are overall less behind schedule than the delays of 1A till 1F make you think. The partners themselves also think the project is going to be completed, everything is going to be done and the project is going to be

finished in time. This is mentioned continuously; in the first meeting in September 2009, in the progress report of end 2010 and in the interview half a year later. Only the establishment of the EU-regional working group is not certain yet.

Micro-CHP

A difference with Warm-up is that the interview in Micro-CHP took place in an earlier stage of the project. This means that in the figure below there are fewer facts with regard to what has actually been implemented, and more predictions of what probably will be implemented.

Figure 16: progress in project Micro-CHP

	2010				2011												2012							
Mean/month	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
1A	x	x	x	x																				
1B	x	x	x	x																				
1C					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1D					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1E					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1F													x											
2A																x	x	x						
2B																						x	x	x
2C							x	x	x	x														
2D														x	x	x								
3																	x	x	x	x	x	x	x	x

When we look at the overall implementation and execution we see that the project started on time, but it should also be mentioned that the project is not that long underway yet. Nevertheless until now most activities are being implemented, or are awaiting their implementation. The activities under 1 are the most important and are all about developing and testing a management system for micro-CHP installations in order to create a virtual power plant. With regard to this there seems to be only a delay with 1D, 'the determination and documentation of CO2 emission reduction per micro-CHP and for an entire network', but according to the lead partner this is still supposed to happen. The activities under 2 are about a business development plan which is supposed to help with the market introduction of micro-CHP and a virtual power plant. These are all still supposed to be implemented, and all, except one, according to the initial planning. Mean number 3 is the development of training modules which will also have to take place in the future.

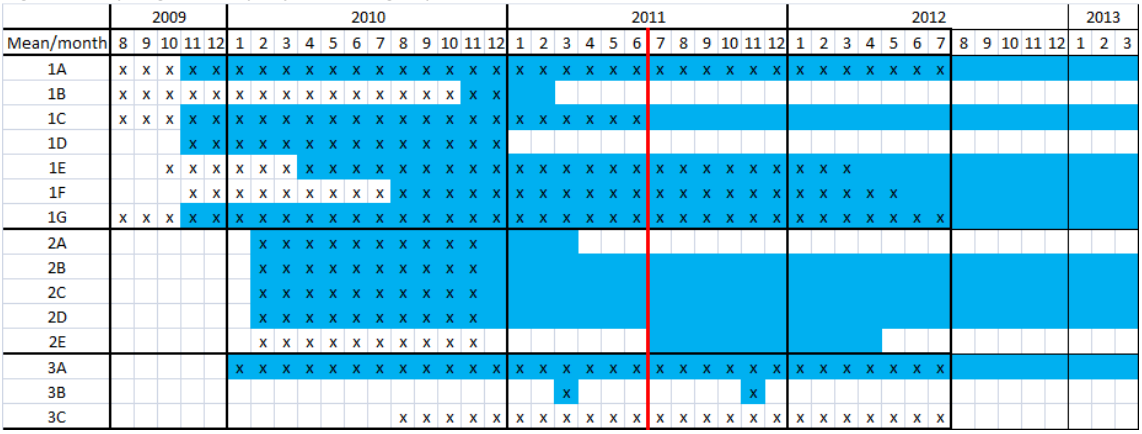
Overall it therefore seems that the partners are doing what they are supposed to, and also doing this reasonable on time looking at the planning, only with one 1D there is a considerable delay due to a reason which will be mentioned in a bit. With 2C it is not really possible to speak of a delay, but it should be seen as a shift in the planning. From the beginning there is however a significant problem that affects the entire project; two of the five installations cannot be linked into the virtual network so far. It is not sure if and when this problem will be solved, the partners are hoping by November 2011. So although the project is going reasonable, the partners are not fully implementing the activities as they are supposed to, and therefore they are practically falling behind. The reason for this is according to the lead partner the bad service from the manufacturer. A consequence of this is that all the planned activities will or are being implemented, but on a considerable smaller scale since two installations are not available, or that considerable catching will have to be done once all installations become available. This is important since the availability of the other two installations adds much value to the project and its results. In addition the partners did not have the entire summer of 2011 to do measurements and adjust software because not all installations are yet linked to each other. This is important because different settings are used in different periods of the year, so it is very useful to test all these settings. This is why the partners are considering extending the

project with two additional months. In this way the summer of 2012 can be used for measuring. A decision on this has not been made yet, meaning officially the project is still ending by August 2012.

Energiequelle Wallhecke

In contrast with the previous two projects this project has been prolonged to make sure all the planned activities can be implemented. This can be seen in the scheme below where eight additional months are added. The original time-choices scheme is maintained since the project did officially start when it was supposed to, and no changes have been made in the planning, although the partners knew that prolonging the project had consequences for the execution of the project. Officially the project started on August 3th 2009, and now ends by the end of March 2013.

Figure 17: progress in project Energiequelle Wallhecke



The actual start of the project was November 2009. This is when the lead partner started with its activities and the project got approval to start (half October 2009). It took until April 2010 until the final partner also started with its activities. Reason for the delayed start of most partners is the designation of hedgerow managers and some other formalities. Each partner had to appoint a hedgerow manager before the actual start of the project. The German partners did this by appointing external parties as the hedgerow manager on behalf of their organization. After a while it became clear that from the Interreg program the demand was that the managers were employees of the partners. This caused that the partners started with their activities in the project at various dates, the last in April 2010.

Because of this delay it was not possible to already use the harvesting period of winter 2009 as intended. This caused the partners to decide by the end of 2010/beginning of 2011 to extend the project until the end of March 2013 in order to make an additional harvesting period available. In addition to this it should be noted that by the end of 2010 the Grafschaft Bentheim decided to no longer occupy the position of hedgerow manager due to personnel problems. They did however remain a project partner. This also means that the project money that has been reserved for the personnel of the Grafschaft Bentheim became available to help financing the additional months of the project.

When looking at the planned activities all except one have been or are being implemented. The activities under 1 are about the management system for managing the hedgerows. All these activities are being implemented, albeit on average with a delay of a few months. Next to that the additional months are also used to continue with the implementation of these activities. The delays are mainly caused by the appointment of the hedgerow managers, financial problems at an external organization (1E), and a bad planning. The planned activities under two, which are to align and increase the demand and supply, are also all being implemented, although mainly in the Netherlands, and only marginally in Germany. The partners also need much more time than planned

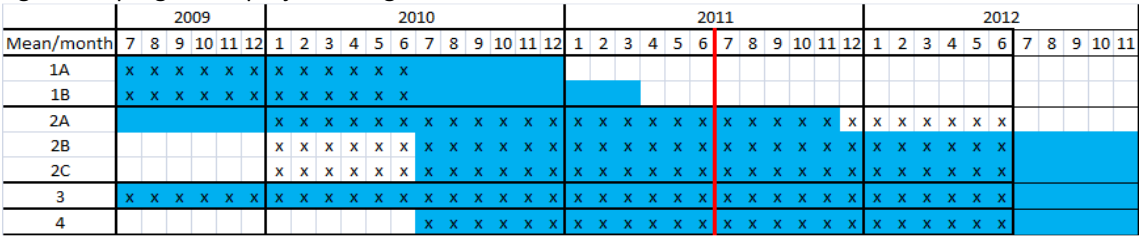
since according to the lead partner the planning was based on the German situation, while in Germany almost no work is needed. That the planning was based on the German situation is a bit weird since the lead partner also says the activities under three are mainly for the Netherlands due to the differing situations in both countries. Thus the partners have been aware of the situation in Germany and the Netherlands, they however have not taken this into account in the entire planning which makes it seem that the partners actually need much more time than planned while actually the planning is of low quality. The activities under three on the promotion of the use of wood in heating installations, which are especially for the Netherlands important, are or will be implemented on time according to the lead partner (3A & 3B), or will not be implemented at all (3C) because this is not necessary anymore.

So overall the partners are doing what they are supposed to be doing, although some comments need to be made. Firstly the hedgerow managers were appointed too late. Next to that the partners realized during the project that many activities need to be continued until the end of the project instead of ending during the project. One reason for this is the character of some activities. Systems and concepts keep having the need to be updated, adapted, etcetera. A second reason is a misconception in the planning, intentionally or not, of the situation in the Netherlands. Together with the departure from the hedgerow manager from Grafschaft Bentheim, this led to a prolonging of the project with eight months. So there is a delay on average, the project is prolonged, activities are taking more time than planned, but this might also be caused by the bad planning. A more positive remark is that with most of the activities the partners did already start, and at this moment nothing seems to be hindering their further implementation. The lead partner did also indicate in the interview that especially the German partners are not really focused on the planning. It remains uncertain if it was really too difficult for them to make a good project planning at the beginning, or if they made mistakes and/or did not take the planning very seriously.

<u>Energieland Biores</u>

The initial planning of this project was from the beginning of 2009 till the end of 2011. Due to additional questions from the funders Ministerium fur Wirtschaft NRW and the Provincie Gelderland the project approval from the Euregio to start was acquired in April 2009. Therefore the entire project started half a year later. The planning has therefore also been shifted with half a year. It was only during the end of 2009 decided to lengthen the project till June 2012, because the partners first wanted to see if they could make up for the delayed start. In the scheme below the additional half a year has already been included as should also be the case according to the lead partner since the project has practically shifted with half a year. Then later on during the project it was decided to additionally prolong the project with four and a half months. This is also indicated in the figure below, but does not belong to the initial planning.

Figure 18: progress in project Energieland Biores



Most important is that all the activities or subprojects have been, or are being implemented at this moment. The partners speak about six different subprojects – 1A till 3 – which all have their own responsible partner. DNL is there to coordinate the activities between these subprojects.

The activities under one are about mapping the current supply and demand of biogas in the Euregio. Both of these things have already been done, albeit with some additional time needed. The reason

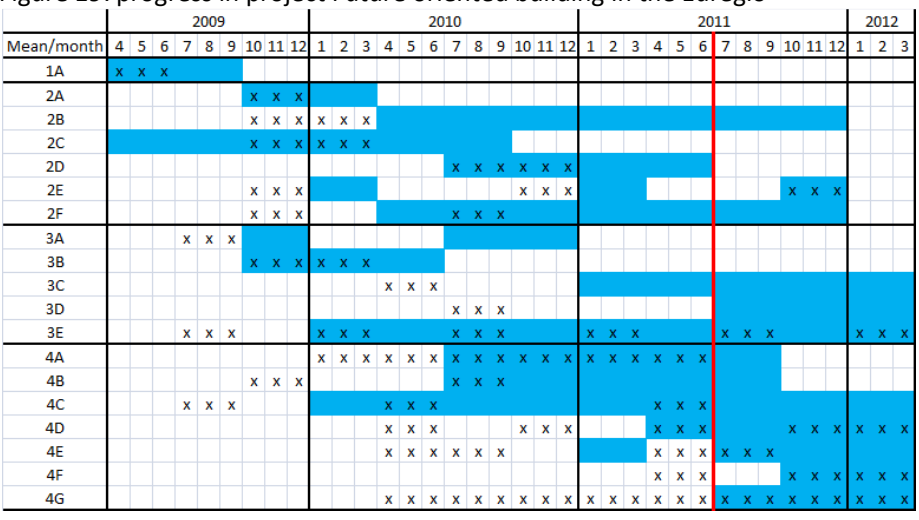
for this is that there were some problems with the data acquisition, especially on the Dutch side. The means or subprojects under two refer to developing new techniques in order to improve the efficiency, separation and processing of residues, and a knowledge transfer. All these subprojects under two are being implemented at this moment. Subproject 2A is supposed to be ready earlier because of the moment of the summers in the project, 2B is a bit behind due to problems at the Biogasvereniging Achterhoek, and 2C started a bit later because it had to wait for the results of the other subprojects. These problems caused the prolonging with an additional 4.5 months. The activities three and four are being implemented on time and have to continue till the end of the project due to the character of these activities (establishing a network and an evaluation of the project).

Overall everything seems to be going fine. All the subprojects are being implemented. The execution of the first two subprojects has been evaluated by an external party (Fachhochschule Soest) and has been judged positively. Taking into account the additional 4.5 months, the other subprojects are also pretty much on schedule. Only without the additional months the project would have a noteworthy delay.

<u>Future oriented building in the Euregio</u>

Almost no information on the implementation was obtained during the interview with the lead partner of this project (see also appendix E). The lead partner refused to talk about the implementation of the various activities, and only gave a broad description of the current situation. The Euregio indicated that they neither did receive minutes about project meetings from the lead partner. The lead partner did however send information on whether or not activities are being implemented and when they are, but the lead partner did not give much additional information on the content and results of the implementation, and on reasons for possible delays that occurred. Since the lead partner did send an email and did give other information during the interview, it is assumed that this person does have all the necessary knowledge. This means that this situation is not assumed to be a threat to the validity of this research.

Figure 19: progress in project Future oriented building in the Euregio



The project started in April 2009, and is supposed to end in March 2012. Initially the project was supposed to start and end nine months earlier. The reason for this delay is that the project did not yet have approval from the Euregio. The entire project, and planning, was therefore shifted with nine months. The approval was finally obtained in July 2009 which caused some worries among the project partners since they expected it in April 2009 when they started with the project.

On the first activity it can be said that this has been implemented, although there is no explanation on why this took some additional months. The activities starting with number two need to make sure that there is a knowledge transfer to the small and medium enterprises. The considerable deviations from the scheme, both the delays as activities on which the partners started earlier, are mainly caused by two things. One is that Germany has a major lead in passive construction in comparison with the Netherlands. This for example makes it difficult to organize excursions in the Netherlands (2B). The other cause is that the complexity and time needed for the tasks has been underestimated. This latter is also a cause for other delays at the activities under three and four. The activities starting with number three are also all being implemented. These are about supporting and motivating SMEs to develop them further with regard to passive construction. A reason for the delays here is, besides the complexity and underestimation of tasks, that there is a low interest from German companies (for 3A-3C). The activities at four which are about stimulating the market are also all being implemented or awaiting this. Reasons for delays are again the complexity/difficulty of tasks (4A-4B), and the fact that the partners have not yet been able to start because they have been too busy with other activities (4D-4G).

Overall there are some things that need to be summed up. First the activities seem all to be implemented or supposed to be implemented. So yes, the partners are doing what they are supposed to do. On the other hand there are deviations with regard to the extent activities are being implemented, time needed for implementing, and when this is done. It is for example difficult to organize excursions in the Netherlands (2B), and with regard to support for SMEs there seems to be less interest in Germany than in the Netherlands (3A-3C). Both are due to the differing situations in both countries. The lead partner also acknowledges that the parallel implementation of certain planned activities was difficult due to the differing situations. Besides the differing situations there are some other reasons. One reason is that the partner Saxion did not have many personnel available in the beginning of the project. Another more important reason seems to be that the planning was not good because the partners underestimated the amount of time needed for and the complexity of the activities. This was at least to a certain extent due to that the planning is obligatory for a project to start. According to the lead partner this bad planning was the main reason for the deviations, and not the wrong or too slow implementation. This caused the partners to pragmatically deal with the time-choices. A lot of shifts have been made in the scheme to - according to the lead partner – come to useful and meaningful results. A consequence of this bad planning is that finishing all activities will be very difficult without prolonging the project. This has not yet been decided on. So to conclude; all means are being implemented or awaiting implementation. However, still quite some work needs to be done, and without prolonging the project finishing everything might not be possible.

5.2 Conclusion on the implementation

This section gives a recap on the implementation of the five projects. Overall in all projects the partners are in principle implementing the planned activities. However, there are differences with respect to problems, timing, possible extensions and prospects for further implementation. The differences among the projects have been used to rank the projects in terms of best practise. Although discussion on this ranking scheme and ranking is possible (see also paragraph 5.3) we think it is helpful to compare the implementation of the projects. It should however not be forgotten that the projects are all doing pretty good and the projects are close to each other. The fifth place is therefore not bad, but just least good. In the following figure the rank-order, and the main criteria on which this rank-order is based. After the figure a summary per project is provided.

Figure 20: rank-order of the projects on the basis of the implementation

Rank	Project	Main criteria
1	Energieland Biores	Full implementation, positive judgement of first two sub-projects, within new time frame on schedule
2	Warm-up	Full implementation, small lead with most important mean, on average a delay of a few months
3	Energiequelle Wallhecke	Almost full implementation, considerable delays mainly due to appointment of hedgerow managers and bad planning/differing situation in GE/NL. Due to prolonging (full) implementation however expected
4	Future oriented building in the Euregio	Almost full implementation until now. Huge delays and extra time needed due to underestimation of tasks and differing situations in GE/NL. Further and full implementation will be slightly difficult
5	Micro-CHP	Full implementation, however to a much smaller extent. This leads to considerable less value of the projects results, and availability of other two installations in the future is not certain

In the project Energieland Biores all six subprojects and the accompanying evaluation are being implemented. Practically seen the project is prolonged with 4.5 months. The partners decided to do this due to difficulties in the data acquisition which have their effect on the project, and due to problems at the Biogas Vereniging Achterhoek. Until now the subproject 1A and 1B have been judged positively, and there seem to be no obstacles for continuing and completing the project within the new time frame with the additional 4.5 months. Within this time frame the project seems to be on schedule.

In the project Warm-up all planned activities are being implemented, or supposed to be implemented. The project started a bit later. This delay together with the difficulties on the first activity caused some significant delays on subsequent activities. The partners do realize this, and seem confident they will finish this on time. There also seem to be no obstacles hindering this. Next to that there is a small lead with the implementation of the most important part of the project; the management system. Thus on average the projects seems to be a bit behind, but this should not really be a problem according to the partners.

In the project Energiequelle Wallhecke all activities, except 3C, are being implemented. Looking at the planning there are considerable delays. On the one hand there are problems with starting up, appointing the hedgerow managers, with Wallis and with the logistical concept. This caused the partners to prolong the project with eight months. On the other hand the planning is bad. According to the lead partner the planning was based on the German situation, but many tasks will have to continue in the Netherlands. Next to that the character of some activities means that they have to continue until the end of the project. Overall almost all activities are being implemented, there are considerable delays, a bad planning and more time is needed. It does however seem, also given the never ending character of some activities and the bad planning, that there are not really obstacles hindering the further and (almost) complete execution of the project within the new time frame.

Also in the project Future oriented building in the Euregio the partners seem to be implementing the planned activities. The implementation however takes much more time than planned and there are many significant delays. The main reason for this is according to the lead partner the underestimation of the time needed and the complexity of the activities. Additional reasons for delays are the differing situations in both countries and the fact that certain delays cause other delays. The different situations cause that certain activities can only to a small extent be implemented in one of the two countries. Overall we can see that much has been done. There is however an overall delay of a few months and in the remaining time there is also much that still has

to be done, and without prolonging the project finishing this all is likely to be very difficult, as is mentioned by the lead partner.

Also in the project Micro-CHP all the activities are being implemented or awaiting this. The big problem is that two installations are not yet in use, while this would substantially contribute to the results. Looking at the planning practically all planned activities are implemented on time. The only noteworthy delay is the one of 1D. Thus overall the activities are being implemented, however only partially since not all installations are available yet, and it is not certain they will become which means completion of the project like intended is not certain. At this moment the partners are hoping all will become available by the end of 2011, and a prolonging of the project with two months is being considered since quite some catching up will then have to be done.

5.3 Comments

Some comments need to be made with regard to what has been done above. A first one is the risk that is present due to the use of the official means as criteria. The problem is that these means are quite abstract. It is not into detail described what is exactly going to happen. This brings along the danger that it is assumed that something was done, while actually it was not or only partially. On the other hand this danger might not be that imminent since no reasons have been found to assume that partners were not doing what they were supposed to do, or that they were doing other things than the official means since in documents many things have been found that verify statements of the lead partners about the implementation, even in 'Future oriented building in the Euregio'.

Another risk is the use of the rank-order in this and also the following chapter. With regard to this rank-order some threats need to be mentioned. A first problem is that certain means are more important than other means. This implies that when two projects are ranked which have a quite similar degree of implementation and progress these differences between the importance of means can make the difference. It is however not possible to assign values to all the means since probably even the partners would not be able to agree on this. This problem can be traced back on what in the methodology is called the chance on too little variation.

A second problem is the obligatory planning that is made in every project. When this planning is made many things are often not certain yet and 'mistakes' are made. This means that the reality often deviates from the planning once a project is on its way. Some lead partners have also indicated that they are not always really focused on the planning, something that could be due to the planning being obligatory. Since in all the projects all the means seem to be implemented, the ranking will for a great part be based on the progress with regard to the planning. This might however negatively influence the ranking since the planning is sometimes bad, and comparing the reality with the planning might therefore display a wrong view of the success or failure of the implementation.

A third problem is that some delays are caused by external parties. Often these delays have their effect throughout a big part of the project. This research is however about examining what factors have an influence on the cooperation and therefore indirectly on the implementation. When we therefore also include external causes it is less clear to what extent the investigated factors play a role and to what extent external causes. The external causes will anyway be included since it is not possible to examine the precise effect of external causes and in that way exclude these effects.

A final problem that makes ranking the projects more difficult is the fact that the projects are in different phases. For example, two projects with both three months of delay, but with a different amount of time left might be difficult to compare. Partners also seem to be more confident with regard to staying on schedule with future implementation than you would actually expect on the basis of past implementation. This contributes to the incomparability.

5.4 Goal achievement

The likely goal achievement of the projects is assessed indirectly by looking at the implementation. In principle in all the projects the planned activities were being implemented. Based on these findings we can make an estimation of the current and likely goal achievement after the end of a project. This kind of causality between implementation and goal achievement was assumed in our theoretical and methodological framework. When we however look at the actual implementation and at the goals that need to be achieved some comments need to be made on each project. Although this is not a full assessment of the causality some obvious things need to be mentioned. Overall it can be said that the implementation is happening, but it is not always sure if this is at this point or in the future also leading to goal achievement. For example there might be a failure of theory, additional steps are needed to link the implementation with the goals or the projects only marginally contribute to achieving the goals. In addition we need to be aware that we mainly talk about goal attainment/achievement. Since the goal achievement and other contributions to the goal achievement have not been measured directly we cannot talk about effectiveness, and also not about efficiency since we neither looked at the finances of the projects.

Warm-up

The main goal of this project is: *a systematic development of strategies and management tools for the implementation and realization of energy and environment management systems in municipalities.* Given the fact that all activities are being implemented achieving this goal is likely. This is due to the fact that the goal seems to be nothing more than the actual execution of the activities. Tools in the form of measures and a system are being developed, and for example a guide is written which can be seen as a strategy written down. Since not all activities are yet implemented the full realization of this goal has to wait until the end of the project. Especially the identification and implementation of energy saving measures still has to begin, and therefore these tools have not yet been developed.

A second goal that should be reached with achieving the first goal is *to reach a state that is closest to a self-care or climate-neutral municipality, and in this way contribute to the European goals.* With regard to the participating municipalities also this can be achieved with a proper implementation of the activities. Proper meaning here that the system and measures make saving enough energy possible. Also here the goal is not achieved yet on the basis of the current implementation. Measures still have to be implemented which would help making the municipalities climate-neutral and contribute to the European goals of less emissions. Since this is an indirect evaluation of the goal achievement it is of course true that the extent to which this really is the case will have to be measured. This is the case in every project in this research. Next to that the partners also want to help non-participating municipalities with the project. To what extent this is also the case cannot be predicted since the effect of the project on other municipalities is unknown, and at this moment there is no contact yet with interested municipalities. This is however expected to happen according to the lead partner as soon as more results become known.

Overall with regard to the participating municipalities goal achievement can be expected on the basis of the implementation, but given the current state of the implementation probably only after the end of the project.

Micro-CHP

In this project all the planned activities are or will be implemented according to the lead partner, and there are almost no delays. On the basis of this goal achievement can be expected. There also seems to be a direct link between the goals and means. The goal of this project is: *accelerate the market introduction of micro-CHP on both sides of the border*. The lead partner adds to this that the goal is about making micro-CHP more attractive for the target groups. By offering all sorts of information, showing that micro-chp is technically possible and offering help in the form of plans, workshops and

training, an acceleration of the market introduction can be expected if the means have their effect. Although information developed in the project does not directly lead to achieving the acceleration, convincing companies by showing them the advantages does. Next to that there is for example partner GEAS Energiewacht which is a company that wants to use micro-CHP installations which also means the project directly leads to goal achievement. Finally there is already also concrete interest from at least one organization, namely Alliander, a Dutch network company.

The only (big) problem is that two installations are not ready yet. If they do not become available this would mean that the project is going to deliver less information about micro-chp installations than the partners want to. This might have its effect on the extent to which the goal can be achieved. The goal is however to contribute to the acceleration of the market introduction. If the two installations do not become available the project cannot be finished as it was supposed to. This does not mean that the goal is not likely to be achieved, the question is than only to what extent the market introduction is less accelerated than when all installations would have been available.

To conclude; acceleration of the market introduction can be expected, also during the project. The question is to what extent this project contributes to this acceleration, what is the effectiveness. This might be lower due to the fact that not all installations might become available, and also other factors outside the project might contribute to the acceleration. The actual question is therefore from what point we can speak of goal achievement since no strict goals have been set. It will be very difficult to measure the projects contribution to the acceleration.

Energiequelle Wallhecke

The main goal of this project is: *by using the energetic value of wood, making the maintenance and development of hedgerows economically attractive*. Just on the basis of the implementation achievement of this goal can be expected since almost everything is being implemented, despite some reasonable problems in the execution that cause delays. The project is however also prolonged and it that respect the partners expect full implementation.

The main activities which the partners use to reach the goals are the management system, increasing demand and supply, and promotion. With the management system the partners develop a tool that if used, and when there is demand for the wood, can make the maintenance and development of hedgerows economically attractive. Since the partners are also using the system in the project there is a direct link with the goal. For the participating parties goal achievement can therefore be expected already partially during the project. In addition goal achievement can also be expected after the project since the partners will then start to try making a success of their own system based on Wallis.

This level of goal achievement is only the case in Germany. In the Netherlands the phase reached in Germany will probably not be achieved during the project since the partners will have to continue during the entire project increasing the demand in the Netherlands. This demand is not yet present and the question is when this demand arises in the Netherlands. It for example depends on the gas price which cannot be controlled. To what extent the main goal is therefore achieved, how economically attractive the maintenance can be made, is also depending on external factors. Looking at non-participating parties, there is already one German municipality who has promised to start using the system. According to the lead partner there are also already a lot of interested municipalities, however only German. Thus also outside the domain of the project the main goal might be achieved if municipalities successfully implement the system.

Overall the main goal is being achieved during the project due to the fact that the system is not just being developed, but also used. This is however mainly the case in Germany. In the Netherlands the

greatest profit will probably be more attention for the use of wood from hedgerows and creating somewhat more demand.

Energieland Biores

All the six subprojects are being implemented in Energieland Biores, and the prediction is that all will be finished before or by the end of the project, which was prolonged with 4.5 months. The main goal of the project is: *to provide an increase in energy output and energy efficiency in relation to biomass in the form of biogas.* The link of this goal with the means is somewhat more problematic for this project than for the other projects. The activities are all about gathering knowlegde, developing knowledge, and distributing this knowledge. This knowledge should lead to an increase in the energy output and energy efficiency. The missing link however is the application or use of the knowlegde. The knowledge in itself is important for increasing the output and energy efficiency, but it also has to be applied. Although this might be done by people in the network like exploitants of bio-energy techniques who receive the knowlegde, the execution of the project in itself does not lead to goal achievement, only indirectly this might be the case. Noticing this weak link is important for understanding that when the goal is not being achieved a failure of the program would be assumed while there for a part is then also a failure of theory due to the indirect link.

When asking the lead partner if he knows whether or not there is concrete evidence that people are also using the knowledge, and in that way increase the energy output and efficiency, he explains that the partners do not know this and no measurements have been done on this. He however expects the main goal will be achieved because the interest in biogas is increasing both in Germany and in the Netherlands.

Overall we could say that the activities displayed in this project lead to important information, and by disseminating this knowlegde it should also be applied. This is however not sure and application is not officially part of the project. So although the activities are important for achieving the main goal, technically seen the activities do not directly lead to goal achievement, but they do contribute to it. To what extent this is also the case at this moment is not clear since there is no available information on this.

Future oriented building in the Euregio

Also in the fifth project the partners are implementing all the planned activities and therefore goal achievement could be expected. There are however some considerable delays and it is not certain to what extent this has its effect on the goal achievement. The main activities are developing and disseminating knowledge on passive construction and realizing a demand. This means that there is a strong, but not a direct link with the main goal, which is: *accelerate the uniform passive construction throughout Euregio and enable companies to do this using technology transfer and marketing support.* It can be expected that if the SMEs know how to work with passive techniques and when there is also a demand that the goal will be achieved, but some dependency on third parties remains.

A point to take into account is to what extent the activities implemented to increase the demand also really lead to an increased demand. This is more important than the fact that perhaps not all activities can be fully implemented. Since information is disseminated throughout the entire project, and means on the demand are also implemented throughout the project goal achievement can also happen during the project.

Overall goal achievement can be expected if the activities really have their effect. Do enough companies become acquinted with passsive construction and is there an increase in the demand? According to the lead partner many companies have already shown their interest. To what extent (more) passive houses have also been build as a result of this project is not known, and will be

necessary to see what the actual goal achievement is, and if it is therefore possible to really speak of goal achievement.

5.5 Concluding remarks

In this chapter the implementation of the projects and the goal achievement has been discussed; the second sub question has been answered. In the first paragraph the main findings on implementation were discussed for every project separately. More detailed information can be found in appendix E. In general it can be stated that in all the five projects the planned activities are being implemented, although there are some differences between the projects regarding delays and other problems. In the second paragraph the most important findings were summarized and on the basis of this the projects were ranked. Important for this ranking is to understand that all projects are doing rather well and a fifth place therefore is not bad. In paragraph 5.3 some comments were placed on the analysis and on the rank-order which should be kept in mind. In the fourth paragraph the current goal achievement and that after the project have been discussed on the basis of the implementation. On the basis of the implementation goal achievement can most of the time be expected in the projects, although some remarks were placed, for example regarding the link between the goals and means. In the following chapter the analysis of the influencing factors and comparison with the implementation will be given to see if the factors can explain the quality of the implementation or differences among projects. Finally the fourth sub question is answered in chapter six by looking at if goal achievement is still realistic on the basis of the implementation ánd the influencing factors.

6. Explaining implementation

In this chapter the facilitating and hindering factors are discussed. These are the factors that are supposed to have an influence on the cooperation and implementation in the projects, and therefore might help to explain the quality of the implementation. The first paragraph starts with three tables in which the average scores on the factors in all projects are listed. Per project then the most important findings are mentioned, and at the end of the paragraph a short overview of the most striking factors is given. In the second paragraph the hindering factors are compared with the implementation to explain the latter. Together these two paragraphs form an answer on the third sub question. The third paragraph will discuss for each project to what extent the achievement of goals is still realistic. In the previous chapter the goal achievement of the projects has already been mentioned, but to answer the fourth sub question the influencing factors also need to be included instead of only looking at the implementation. Also this chapter will end with some concluding remarks.

After this chapter an overall conclusion will follow to give a recap on all the information given in this report and answer the two main research questions. Next to that some recommendations are given.

Overall 23 partners filled in the questionnaire (total 32 partners, 72% response). Luckily every lead partner filled in the questionnaire, and there is no project in which only one or two partners filled in the questionnaire. On every project the image given below is therefore considered to be quite representative.

6.1 Facilitating and hindering factors

Below for each of the three main theories used a table is given with the scores on the factors per project. After this each project is discussed separately. The link of certain factors with the implementation that might explain problems in and the quality of the implementation is discussed in the second paragraph. Before the scores are given some remarks have to be made. Overall many scores or answers are given by the respondents. For the sake of clarity not all these scores are given. Firstly the answers from the different partners on a certain question have been averaged. Only in this way the overall picture remains clear. If there are a lot of deviations from the average this is mentioned, if nothing is said about it then there are not really or many deviations.

Secondly for some factors multiple questions and thus indicators have been used in the questionnaire. These indicators are compiled into one score per factor per project and every indicator gets an equal weight. Also if the answer categories were not the same for each question they have been put together so that one score was obtained. These compiled scores allow the reader to directly see how the project scores on a certain factor instead of translating scores on questions/indicators to the actual factors.

Thirdly, the partners sometimes answer on a question for every partner if that particular question is about the other partners. In case there are also multiple indicators/questions per factor the number of scores is skyrocketing. Therefore also answers on different partners are combined in order to get one score per factor per project. If it turns out that the distribution of the scores over the different partners is big, this is mentioned. For example; if the average trust is four on a five-point scale, but the trust in the lead partner is much lower than in the other partners this is mentioned.

A fourth remark with regard to the scores that are averaged are the kind of variables they are. Most of the variables in the questionnaire are ordinal. This means that the possible answers can be ranked, but the distances between the answers cannot be objectively determined. The consequence of this is that calculating an average is theoretically not possible. This is still done for a clear analysis by assigning values to the different answers and averaging these. The variables are therefore practically considered ratio variables. It should be kept in mind that the actual scores might deviate slightly due

to this. This deviation is however not expected to be very large since there do not seem to be big differences in the distances between answers used in the questionnaire. Next to that some questions were open questions of which the answers are not translated into a score. If necessary, they are mentioned in the explanation per project.

Below now the tables are given with the scores per factor. After each table a short explanation will follow on how to interpret the scores. Once this is done each project is discussed separately. For the exact questions asked or explanations on the precise content of the factors, please see the theoretical/methodological framework and the questionnaire in appendix D.

Figure 21: scores on the contingency factors

	Energieland Biores	Warm-up	Energiequelle Wallhecke	Future oriented building	Micro-CHP
Contingency factors - governance form					
Trust (1-5)	3.9	4.0	4.4	4.3	4.1
Number of partners (-)	9	6	8	3	6
Goal consensus (1-5)	4.5	4.2	4.8	4.4	4.1
Need for network level competencies (1-4)*	3.2	2.7	2.9	3.5	2.9

The numbers in brackets indicate the scale that was used for that score. If there is no number in brackets this is because there is no scale. A * means that (also) an additional open question belongs to that factor, or that some additional explanation is needed.

Trust: a 1 means on average a very low trust in the other partners, a 5 a very high trust.
Number of partners: this simply is the number of organizations participating in the project.
Goal consensus: a 1 is on average a very low goal consensus among the partners, a 5 a very high goal consensus.
Need for network level competencies: a 1 means the partners do not need the other partners for the execution of their tasks and therefore the need for network level competencies is low. A 4 means the partners do very much need the other partners and therefore there is a considerable need for network level competencies. Next to this an open question has also been asked regarding external demands, this is discussed in the explanation per project, and needs to be taken into account to determine the total need for network level competencies.

Figure 22: scores on factors influencing network level effectiveness

	Energieland Biores	Warm-up	Energiequelle Wallhecke	Future oriented building	Micro-CHP
Factors influencing network level effectiveness					
Commitment to network goals (1-5)	4.2	3.6	4.3	4.6	3.7
Role of the network broker (1-5)	4.4	4.0	4.8	4.5	4.3
Strenght of relationships (0-4)*	2.3	1.6	2.2	2.8	1.7

Commitment to network goals: a 1 means on average a very low commitment to network goals, a 5 a very high commitment to network goals.
Role of the network broker: several tasks of the network broker have been distinguished. A 1 means that on average the partners very much believe the network broker is not properly handling these tasks, a 5 means they very much believe the network broker is properly handling these tasks.
Strength of relationships: this has been measured by the number of different sorts of contact between the partners (multiplexity) of which the average is indicated in the table. The minimum is 0 which indicates no relationship, the maximum is 4 sorts of contact which indicates very strong relationships. Next to that it has been asked with which partners a certain partner has cooperated earlier, before the project. This is mentioned in the explanation per project.

Figure 23: scores on the factors regarding cross-border cooperation

	Energieland Biores	Warm-up	Energiequelle Wallhecke	Future oriented building	Micro-CHP
Factors influencing CBC					
Size of the cooperation area (1-3)	3.0	2.2	3.0	3.0	3.0
Partners competences and human resources (1-5)	4.3	4.2	5.0	3.8	4.8
Need for cooperation (1-4)*	2.3	1.7	2.5	2.3	2.3
Transnational organizations and legal frameworks (1-5)	3.4	3.8	3.6	4.2	4.0
Transaction costs/subsidies (1-5)	4.0	4.0	4.1	3.8	3.3
Language barriers and cultural differences*	see text	see text	see text	see text	see text
Design of the CBC process (1-5)	4.1	4.0	4.1	3.7	3.3
Density of rules and administration (1-5)	1.4	2.4	1.9	1.8	2.1
Structure of cooperating public administrations*	x	see text	x	x	x

Size of the cooperation area: a 1 means the distance to other partners is way too large. A 2 means somewhat too large distances, a 3 means the distances are not too big.
Partners, their competences and human resources: a 1 means that there is a huge lack of skills and cooperating properly is not good possible, a 5 means there is no lack and cooperation is good possible.
Need for cooperation: this factor is about the need for cross-border cooperation. A 1 means no need for this, a 4 a very high need. Next to that the importance of certain partners for completion of the project has been researched and is mentioned in the explanation.
Transnational organizations and legal frameworks: a 1 means the partners are negative regarding the different roles of the Euregio, a 5 means they are positive.
Transaction costs/subsidies: a 1 means the Interreg subsidy is not important or crucial for the project, a 5 means it is.
Language barriers and cultural differences: the scores on these factors have not been put in the table because they are about differences between Dutch and German partners. One average score would not be able to distinguish properly between these two groups. The factor will therefore be discussed in the explanations per project.
Design of the CBC process: this factor is an umbrella of some other factors. The factor about how the network broker is steering the project is left out because all answers can work in the projects, and no answer is always bad. Next to that the answers are always 'as much as consultation as hierarchy', or 'mainly in consultation' which would have made the comparison with the implementation in the project also superfluous. A 1 means the design (consisting of the factors in it) is bad, a 5 means good.
Density of rules and administration: a 1 means that the partners do have to comply with many rules and have many administrative obligations. A 5 means they do not.
Structure of cooperating public administrations: this is an open question which is only used in the project Warm-up. The answers are discussed in the explanation on that project.

Energieland Biores

In this project nine partners are participating. Seven of them have also filled in the questionnaire. Also the answers on partners that did not fill in a questionnaire are taken into account. As for every project anonymity was promised to the respondents, which means that it will not be mentioned who gave the answers.

Governance form

In principle the governance form of this project is a lead organization form of governance. The only way in which it differs somewhat from the other projects is that due to the role of DNL-contact there are two network brokers, albeit with some differing roles. For this governance form to work effectively there should be a low density trust with a high centralization. A moderate number of participants, a moderately low goal consensus and a moderate need for network level competencies. Although the authors do not explicitly say that higher scores on the contingency factors are also good

or sufficient to let the governance form govern effectively, this is assumed as has been mentioned in the theoretical framework. It would make no sense to say for example that there is too much trust and the governance form might therefore not function properly.

Overall the scores on the contingency factors should allow the governance form to work effectively. Trust in all partners is average to pretty high (3.9) and there is some small variation between the partners. The two network brokers are however among the partners who are trusted the most. Thus there is somewhat small centralization of trust in the direction of the network brokers. The amount of nine project partners should also not be a problem. A shared governance form can handle up to eight partners, and since this is a lead organization form of governance one extra partner should be no problem. The goal consensus is also very high and no there is no real variation between these scores. The FH Munster and DNL-contact are needed the most for carrying out project tasks, the other partners somewhat less. The interdependency between the partners is thus quite high. With respect to the external demands no demands are being mentioned, except the administrative demands from the Interreg program by some partners what causes overall a low to moderate need for network level competencies. Overall the scores on the contingency factors meet the minima and the governance form should be able to govern effectively.

Factors influencing network level effectiveness

The average goal commitment is very high with 4.2 and at the same time none of the respondents is not committed at all, although there are some variations. With regard to the question on the chance that goals might have to be lowered there is the most variation among the respondents. Some think this change is 'quite large', while others think the chance is 'very small'. Regarding the role of the network broker, for the finances and administration the LWK NRW is responsible, and according to the other respondents the LWK is doing this properly. DNL-contact is responsible for the coordination of the substantive activities, and also on this the partners are satisfied. The average score on the roles of the network broker is also 4.4 on a five point scale. With regard to the strength of relationships in general it can be stated that there is multiplexity, although with 2.3 on average the strength of the relationships could be stronger. One noteworthy pattern is that the German partners seem to have somewhat more strong relationships with each other although this is not really confirmed by the Dutch partners. Overall there is contact with every partner in one or multiple ways. Next to that almost all partners have in the past cooperated with one or more of the other partners.

Factors influencing cross-border cooperation

Regarding the scores on the factors about cross-border cooperation, not every factor and its score are explained here and at the other projects. Only if the score in the table gives rise to some questions, if it contains interesting information or if a certain factor needs some explanation it is discussed. Of factors which are not mentioned here it can be assumed that everything seems alright with this factor, there is not much variation among the answers and the factor contributes to the cooperation in a positive way.

In principle everything seems alright with the partners and their competences. The only thing that should be mentioned is that in most projects the partners are more positive with regard to their own skills, competences, etcetera than with regard to those of the other partners. Often, as in this project, it is said that there is no lack of skills among their own organization. At the same time it is often said that there is a lack (to a small extent) of skills among the other partners.

Most of the partners indicate that in the other country there are to a small extent/to a fairly large extent skills, knowledge and other competencies present which are not present in their own country, therefore the score of 2.3 and a certain need for cross-border cooperation, although this need is not very high. Looking at the importance of certain partners for the completion of the project the LWKs,

FH Munster and DNL-contact seem very important. The five other partners seem less important for the success of the project.

Regarding the role of the Euregio the respondents are not extremely positive, but the answers on the statements are still quite good with 3.6. The score does however raise some doubts about the role of the Euregio. Especially on the statement that the involvement of the Euregio would raise boundaries and/or prevent innovation the answers are diverse.

The chance that replacing subsidies would have been found if there were no Interreg funds is small. This is also the case for the chance that partners would have participated if they had to invest more. The Interreg funds therefore seem again very important for making the project possible. The chance that the partners will continue with the project is for most of them 'quite small' or 'neither large nor small'. It is therefore likely that the project will not continue in its present form.

Regarding the language, the German partners do not speak Dutch, but communication should be no problem since the Dutch partners do speak German. On the cultural factors no real differences have been found. Dutch partners only seem to slightly quicker deviate from project plans.

The final factor to mention is the density of rules and administration. The score of 1.4 indicates that the partners have to meet many rules and also have many administrative obligations.

Warm-up

For this project the results are based on answers from four of the six partners.

Governance form

Also in this project there is a lead organization form of governance. The average trust is pretty high (4.0). There are also no outliers with respect to a particular partner. So yes, the lead partner is trusted by all the other partners (centralization towards the lead partner), the other partners are however also trusted. The number of partners is with six not too high. The goal consensus is with 4.4 on a five points scale very high, and therefore meets the minimum. The fourth contingency factor is the need for network level competencies. A lead organization form of governance can according to the theory deal with a moderate need for these competencies. According to the partners they need each other on average to a fairly large extent (2.9). They do not indicate that there are any external demands. The need for network level competencies is therefore not higher than moderate. Overall the lead organization form of governance is likely to be effective since also here the minimum or maximum levels regarding the contingency factors are met.

Factors influencing network level effectiveness

Of the four respondents one has a very high goal commitment on the basis of the three questions. The other three respondents are somewhat more reserved. Overall this leads to a score of 3.6 on a five point scale which still means that there is quite some goal commitment. Regarding the role of the network broker the tasks of doing the finances, the administration and steering with regard to the content are all the responsibility of the lead partner. The other three respondents positively rate the way in which the lead partner is doing these tasks since the score is 4.0. Looking at the individual scores there are also no partners who disagree with one of the statements. The strength of the relationships is not very high in Warm-up. When assuming that relations are reciprocal, then the average number of sorts of contact is 1.6 from one partner to another. This number is mainly caused by one partner who indicates many sorts of contact with the other partners, while the other partners indicate one sort of contact per other partner. The German partners also seem to work mainly together with German partners in the execution of tasks. There has not been cooperation in the past according to the respondents.

Factors influencing cross-border cooperation

In this project three of the four respondents think the geographical distances to the other partners are a bit too big, hence the score of 2.2. It is therefore possible that the distances have an influence on the success of the cooperation.

Looking at the need for cooperation the partners indicate that the cross-border partners do not or only 'to a small extent' have competencies that are not present in organizations from their own country. This means that the need for cross-border cooperation is quite low with a score of 1.7. Looking at the importance of a certain partner for the success of the project it turns out that there are diverse opinions. Some partners do not indicate a certain partner at all being very important, one partner indicates that all partners are crucial for the success, and one other partner indicates that INFA and Saxion are the most important partners for the success of the project.

About the role of the Euregio the partners are quite positive, although they do not agree on every aspect. They do not all agree that without the Euregio the project would not have been possible. Next to that two partners do not think that the involvement of the Euregio raises boundaries and/or prevents innovation, but two other partners answer neutral on this statement.

Also here the Interreg funds were very important for making the project possible. The chance that the partners will continue, also financially, after the end of the project differs from partner to partner. Some think this chance is 'quite large', others are less positive. So the Interreg funds seem to have played a big role in making the project possible, but it is not certain if the end of the funds also mean the end of the project.

The language in the project might be a problem. The German partners do not speak Dutch at all, and the Dutch respondent only speaks a little bit German. This problem might be reduced by documents that are translated most of the time, and DNL who might facilitate good communication.

The partners in general agree that they all have to meet many rules and have many administrative obligations in the project, although they are less firm in their answers than in the previous project resulting in the score of 2.4. Especially on the statement that the partners have many administrative obligations the answers are somewhat diverse. Some agree on this, but some also disagree.

In this project an additional factor was included in the questionnaire, namely the one on differences in the structure of cooperating public administrations as project partners. The partners did not indicate any differences between the Dutch and German partner municipalities. This is a bit of a surprise since the lead partner did mention during the interview that information in Dutch municipalities is more decentralized than in German municipalities causing a delay in the implementation. According to the Euregio this was especially the case for the partner Hardenberg.

Energiequelle Wallhecke

In this project the response was relatively the worst, only four of the eight partners filled in and returned the questionnaire.

Governance form

The governance form of this project is between a lead organization and shared governance in. For the contingency factors this means that the trust can be centralized a bit, but there also has to be a certain density. There should be no more than about eight partners. The goal consensus should be a bit higher than moderately to low, and since there is only a limited capacity to deal with interdependency and external demands these together should be quite low.

The trust is very high among all the partners, on average 4.4 on a five point scale. Often the partners 'strongly agree' with the first two statements (see appendix C), and some of them are a bit more reticent with regard to the third statement. Overall the trust is high, there is no centralization, but this should not be a problem since a high centralization is not necessary and the lead partner is trusted. The number of partners and the goal consensus is also fine. Goal consensus is with 4.8 even the highest of all projects. Regarding the need for network level competencies the partners on average say they need (all) other partners 'to a fairly large extent' (2.9). Next to that one partner indicates that there are financial administrative demands from the Euregio, but it can be a point of discussion to what extent the demands of the Euregio are really external. Overall the conditions seem favourable for the governance form to be effective.

Factors influencing network level effectiveness

It should be kept in mind that only four of the eight partners filled in the questionnaire. The goal commitment in this project is pretty high with a score of 4.3. With regard to the role of the network broker two organizations play a role. Kreis Steinfurt is coordinating the substantive activities. With respect to this the respondents are quite positive. For the finances and administration DNL-contact is responsible as an external organization. All respondents 'strongly agree' with the statements that DNL is properly handling both. Overall the score is very high with a 4.8. The multiplexity in this project is with 2.2 a bit higher than in the previous project. As in the previous project it however seems that the question has been interpreted in different ways by the partners. One partner for example says that it has multiplex relations with every other partner, while another partner says that it sees most of the partners only during project meetings. The partners thus all have a relationship with each other, and there might therefore be some multiplexity, this is however not certain given the differences in the answers. Finally there has been some past cooperation among the German partners separately, and the Dutch partners separately.

Factors influencing cross-border cooperation

Regarding the question on need for cross-border cooperation every possible answer has been given. On the one hand this means that it is not sure how high the need for cross-border cooperation is. On the other hand it means that there seems to be at least some need for cross-border cooperation, on average even the highest of all projects with a score of 2.5. When looking at which specific partner is essential for the project the answers are quite different. Two respondents think the project can absolutely not be completed without (the resources of) any partner. Another respondent thinks that the project can probably be completed without one of the partners no matter which partner is excluded. Probably the question has therefore been interpreted wrongly, because given the roles and tasks of the partners it seems very likely that completion is possible without certain partners, only the scope or certain characteristics would of course change.

On the role of the Euregio in the project some comments can be placed. Especially with regard to the monitoring role of the Euregio, and whether or not the Euregio made the project possible the answers are somewhat reserved. In particular for the monitoring this is important since it means that Euregio might have to look at how they are doing this. Overall the partners are still quite satisfied with a score of 3.6.

Also in this project the Interreg funds seem to have made the project possible. The chance on finding replacing subsidies is small, and also the chance that the partners would have participated if they had to invest more is small. With regard to continuing after the project one partner thinks the chance on this is 'very large', others think this chance is 'quite small'. These differences might be due to the difference in continuing with the management system of the project, or continuing with an own system that emerges from the project. On the latter the partners have expressed their intentions to do this, meaning that they will sort of continue with the project once it has finished.

It is not really possible to assess to what extent the partners speak the language of the other partners since only four partners filled in the questionnaire. Since already on the basis of the four respondents there does not seem to be a language fluently spoken by all partners this might be a problem in the communication. Important documents are however translated, although there are some small differences in the view on how often this is done. Next to that DNL is present what might also facilitate a good communication.

The answers on the statements regarding rules and administrative obligations indicate that also in this project these are present to a high extent. Thus also in this project this is something that might negatively influence the cooperation and implementation.

Future oriented building in the Euregio

Only three partners participate in this project. All filled in the questionnaire.

Governance form

This project might be characterized as having the most strong lead organization form of governance of all five projects. Although decisions are made in consensus, the lead partner is really steering the project. The average trust between all partners is very high with a score of 4.3. Every partner also trusts the other two partners meaning there is no centralization. This is no problem since the lead partner is trusted very much. With three partners the amount of partners obviously is something that is also fine. With the goal consensus it is the same story as with the trust. On the three questions/statements measuring goal consensus the best and second best answers are given, meaning that the goal consensus is very high (4.4). Also the fourth contingency factor seems to be no problem. The interdependency between the three partners is high; they need each other in the execution of their tasks. There are no external demands, except that one partner mentions the (financial) administrative demands from the Interreg program. A need for network level competencies is therefore present, but does not seem higher than moderate. Overall it seems that the conditions in this project are very good for the lead organization form of governance to be effective, and it seems that another form of governance might also be possible given the contingency factors.

Factors influencing network level effectiveness

The goal commitment is in this project the highest of all with 4.6, and also no deviant scores of a certain partner on a certain statement have been found. Regarding the role of the network broker (HWK) the other two partners also seem very satisfied with the way the HWK is handling the finances, the administration and coordinating the substantive activities. With regard to the strength of the relationships between the partners also here like in all other projects the answers between the different partners do not completely match. Where partner x for example says that he has three sorts of contact with partner y, the latter partner for example says there are only two sorts of contact. Overall the differences in this project are quite small and all partners are connected to each other in at least two to three ways which means the multiplexity is the highest in this project and relationships seem quite strong. This is strengthened by the fact that there has been cooperation in the past between the Saxion and the separate German partners.

Factors influencing cross-border cooperation

With regard to the lack of skills in their own organization and among the other partners the partners think the same. In general they believe there is a lack of skills ‘to a small extent’, although one partner thinks there is a lack of skills ‘to a fairly large extent’. The score on this factor is still 3.8 which also means that it is possible to cooperate good with the contact persons of the other partners.

According to the partners there is a small need for cooperation with the cross-border partners. This is what at least the German partners indicate. The Dutch partner indicates a higher need for

cooperation with the German partners which probably means that the German partners have certain 'resources' that are not present in the Netherlands. With regard to the need that a certain partner cooperates in the project for the success of a project there is some disagreement. One partner thinks that without the other two partner's success in the project is not possible. The other two partners think that success would probably be possible without one of the two other partners.

As in the other projects the Interreg funds seem to have been crucial for starting up the project since the chances on replacing subsidies and more investments from partners are small. In comparison with most of the other projects the partners are more positive with regard to continuing with the project (also financially) after the end of the Interreg funds. They say the chance on this is quite large. This means that the Interreg funds are crucial for starting up the project, and that the end of the funds does probably not mean the end of the project.

The German partners indicate they do not or only speak Dutch to a small extent. The Dutch partner speaks German fluently. It is not certain what language is being used, but it is logical to expect that the partners speak German since they are all capable of doing this.

Regarding the design of the cross-border cooperation process the only less good point is that important documents are not that often translated. The question is however to what extent this is a problem since all partners are fluent in German.

Also in this project the density of rules and administration is one of the few factors that might have a negative influence on the cooperation and therefore implementation. The partners on average 'agree' with the statement that they have to meet many rules and administrative obligations. One partner also indicates, when asked for the external demands, that they are being confronted with many administrative (financial) obligations of which some cannot even be executed.

Micro-CHP

The results for this project are based on five respondents out of the six partners. One of the five respondents refused to fill in a considerable number of questions which means that for some factors or questions there are only four respondents.

Governance form

Also in this project the governance form is one of a lead organization. The trust in this project is high. Only a few times the answer neutral is given on statements, but in general it can be stated that the trust is pretty high among and between all partners, thus also in the lead partner who should at least be trusted. The number of six partners is not too high. The goal consensus is on average high with a score of 4.1. On the question how important achieving the project goal for the organization is one partner answers 'very unimportant'. Given the other answers of this partner it is not assumed that this partner does not agree on the goals, but it is more likely that the partner somewhat differently interpreted that particular question. The need for network level competencies is moderate. Although there are some differences with regard to who needs who more, overall all partners are needed about even. The score of 2.9 can easily be expressed as 'to a fairly large extent' since the score is based on only one indicator. Regarding the external demands two partners indicate a certain demand; namely the so called 'Minimis regelung', and the fact that German regulations are being released on Dutch companies. To what extent this is a problem will have to be further judged by the Euregio since there is no further information on this. Overall there are indeed some network level competencies needed, but the network form should be able to handle these. Also in this project the overall image is that the governance form should be able to work effectively.

Factors influencing network level effectiveness

In this project there is a reasonable amount of goal commitment. The partners in general disagree with the statement that achieving the goals is unrealistic, and most of the partners believe that achieving the goal is 'quite important' for their organization. The partners are however a bit more reticent regarding the question whether project goals need to be lowered during the project. This might be caused by the fact that the partners know that it is not certain that all micro-chp installations become available. With regard to the financial, administrative and coordinating role of the network broker the partners are positive about ECOS. Looking at the strength of relationships a score of 1.7 means there are overall not many sorts of contact between all partners. It however seems that there is multiplexity between ECOS, HWK, HOMA and Stadtwerke Osnabruck; these partners have two to three sorts of relations with each other. The other partners seem to be somewhat less connected since most of them indicate they only have contact with other partners during the meetings. This causes the overall score of 1.7. There has been some cooperation between different partners before the project. This however does not relate to the two groups distinguished here.

Factors influencing cross-border cooperation

From a Dutch point of view there seems to be no need for cross-border cooperation since one of the Dutch respondents (the other did not answer the question) indicates that the German partners do not have knowledge, skills, etcetera that are not present in the Netherlands. It should however be kept in mind that there is only one respondent on this point. The German partners on the other hand indicate that the Dutch partners do have knowledge, skills, etcetera that are not present in their own country to 'a small extent' or to 'a fairly large extent', meaning that for the German partners there is a certain need for cross-border cooperation. Overall the need is still not very high. When looking at a certain partner all partners are seen as quite essential for the success of a project. This does not mean that there are no other organizations that could take the role of a certain partner, but it does mean that the resources of a certain partner are quite essential for the success of the project.

The chance on finding replacing subsidies for the Interreg funds is quite small. The chance that partners would have participated if they had to invest more is 'neither large nor small'. The chance that the partners continue with the project is according to the partners 'quite large'. Overall the Interreg funds are therefore important for making this project possible, but less crucial than in the other projects since partners might have invested more and they say they will probably also financially continue after the project.

The German partners indicate that they practically do not speak Dutch. The Dutch partners fluently speak German. Assuming this is also the case for the sixth (Dutch) partner who did not fill in the questionnaire, and assuming German is the language being used, the communication should not be a problem. It can however be a problem when the sixth (Dutch) partner does not speak German. Looking at the cultural characteristics no real differences emerge. The German partners only seem slightly more formal.

The points from the 'design of the CBC process' seem to pose no problems either. Only documents are not translated very often according to the respondents. This does not necessarily have to be a problem since all partners seem to speak German.

The final factor is the density of rules and administration. With both statements the partners tend to agree; they have to meet many rules and administrative obligations resulting in a score of 2.1. Before the questionnaires and interviews the Euregio already mentioned the high density of rules and administration emerging from the Interreg program. Although the statements from the Euregio were not specifically for the Interreg program, it does indeed seem that in all the projects the Euregio was right and the density of rules and administration is very high.

Conclusion

Above the factors in every project have been discussed. Now some general remarks on certain factors or patterns are made. Which factors do stand out in all projects and have a very positive or negative influence on the implementation?

The governance form in all five projects seems appropriate. In all five projects the contingency factors have values that should allow the governance form, the configuration of the network, to work effectively. Most of the time the trust and goal consensus are even higher than the minimum level that is needed which allow the governance form to work effectively. With a lead organization form of governance that most projects have it is for example important that there is some centralization of trust towards the lead partners. The other partners are however also trusted very much in the projects. The only negative remark with regard to the governance form is that in the project Energieland Biores one partner indicated that the number of partners has a very negative influence on the cooperation. The governance form should however in principle be able to handle the nine partners. This comment is however an indicator that this might not be totally the case. Conclusions cannot be drawn from this since only one partner has indicated this.

On the factors from network level effectiveness theory one remark should be made. The answers on the strength of the relationships are most of the time not unambiguous. The answers even make you think that the relationships are not always strong. It seems that the question on this has been interpreted different by the differing partners since often relations did not seem reciprocal. Although the partners all seemed to be connected to each other, and sometimes multiplexity did seem present, the latter cannot be said with certainty since relations where not always confirmed from both sides. On the other hand no real indications have been found that the relationships are indeed not strong. So although confirmed multiplexity has not always been found, it is still assumed that relationships are quite strong in the projects. Next to that it was sometimes seen that certain partners have better or more contact with particular partners than with others. Sometimes there for example seemed to be a thin dividing line between the Dutch and German partners. Overall however no indications have been found that make you really doubt the good relations between the partners.

From the factors influencing cross-border cooperation most of the hindering factors seem to emerge. First in all projects the need for cross-border cooperation does not seem to be very high. Sometimes it does not seem present at all, sometimes only for partners from one of the two countries, and sometimes only to a small extent for partners from both countries. If this is combined with the fact that the Interreg funds seem to make every project possible, the thought arises that the partners work across the border because otherwise no funding would have been found. Secondly, in all projects the respondents indicate that they have to comply with many rules and have many administrative obligations. Although there is not much information on the origin of the rules and administrative obligations it seems that most is emerging from the Interreg program. This has also been indicated by the Euregio who say they have due to administrative obligations only a very limited amount of time left to monitor the projects, while they actually need more time.

Next to these two factors on cross-border cooperation some other factors are negatively present in certain projects. In Energieland Biores there are some small doubts with regard to the role of the Euregio although overall they are still quite positive. In Warm-up and Wallhecke the communication might be a problem since not all partners seem to speak the same language. In Warm-up the geographical distances to the other partners are being perceived as a bit too big, and in the project Future oriented building in the Euregio there seems to be some lack of skills, knowledge and other competences which seems to relate to the complexity of tasks. Finally, in Warm-up there seem to be some differences between municipalities that are participating in the project.

6.2 Explaining the quality of the implementation

In the previous paragraph the promoting and hindering factors have been discussed for every project. In this paragraph we will determine whether these factors can also explain the quality of the implementation in the projects. First we have to look at the overall picture. In all projects the partners are in principle implementing the planned activities. Of course there are differences with regard to the extent this is happening, the timing and possible problems. Overall the implementation is however going well and the projects are close to each other. When then looking at the factors that have been researched also not many hindering factors have been found. This means that on the one hand the implementation is going well, and on the other hand not many problems regarding the factors emerged. The factors that turn out good thus seem to have their influence and seem to explain the good implementation. It is unrealistic to expect an implementation just as good when there is for example low trust, no commitment and much less money. It can therefore be stated that most factors are facilitating a proper implementation, and given the way the implementation is going, these facilitating factors are much more important than the few hindering factors.

Of the hindering factors most seem to emerge from the cross-border characteristic of the projects, and not the network character of the projects which means that the cross-border characteristic seems to cause more problems than the network character. Below it will shortly per project be discussed whether or not these factors with negative values can explain certain delays or other problems in the projects. Do the theories also explain differences in the implementation among projects? Below the rank order from chapter five in which one column has been added in which the factors negatively influencing the cooperation and implementation are added.

Figure 24: rank order of the projects including the hindering factors

Rank	Project	Main criteria	Factors
1	Energieland Biores	Full implementation, positive judgement of first two sub-projects, within new time frame on schedule	Low need for CBC, rules and administrative obligations, (Euregio perhaps raising boundaries/preventing innovation)
2	Warm-up	Full implementation, small lead with most important mean, on average a delay of a few months	Low need for CBC, rules and administrative obligations, geographical distances, language, differences between municipalities
3	Energiequelle Wallhecke	Almost full implementation, considerable delays mainly due to appointment of hedgerow managers and bad planning/differing situation in GE/NL. Due to prolonging (full) implementation however expected	Low need for CBC, rules and administrative obligations, language
4	Future oriented building in the Euregio	Almost full implementation until now. Huge delays and extra time needed due to underestimation of tasks and differing situations in GE/NL. Further and full implementation will be slightly difficult	Low need for CBC, rules and administrative obligations, small lack of skills, knowledge and other competences
5	Micro-CHP	Full implementation, however to a much smaller extent. This leads to considerable less value of the projects results, and availability of other two installations in the future is not certain	Low need for CBC, rules and administrative obligations

In the project Energieland Biores the low need for cross-border cooperation, and the high density of rules and administration might negatively influence the cooperation and implementation. Next to that there are some small doubts about the role of the Euregio, but in general the partners are still satisfied about the Euregio. Of none of these factors it seems that they can be directly linked to delays or other problems. Problems in the data acquisition that the partners were encountering is something that did not have anything to do with the factors, and neither do financial difficulties at one of the partners. According to the lead partner however, the high density of rules and administration does have a very negative influence on the cooperation. This does therefore seem to be the most hindering factor, although the extent to which it is hindering is not known since everything is going well. Overall the hindering factors are not able to explain the problems encountered in the implementation.

Warm-up is het project with the most hindering factors. At the same time it is occupying the second place in the rank-order. The low need for cross-border cooperation, not all properly speaking at least one common language, and the somewhat too big geographical distances between partners cannot explain a delay or other problem. The high density of rules and administration neither can, but the lead partner did indicate that this is the factor with the most negative influence on the project, although the influence is still perceived 'neutral' by the lead partner. The final hindering factor is possible differences between cooperating public administrations. Differences exist between Dutch and German partner municipalities, and they did cause a delay in the implementation of mean 1A. Overall the influence of the hindering factors does not seem to be big, and only the differences between Dutch and German municipalities are as a factor able to explain a delay in the implementation.

In the project Energiequelle Wallhecke the low need for cross-border cooperation cannot directly explain a certain problem. The high density of rules and administration might however. The fact that the partners had to appoint hedgerow managers from their own organization is a rule that did cause considerable delays. It might be that the fault still lies at the partners who did not properly understand the rules, but even then the rule did lead to delays in the beginning of the project. A third hindering factor is that the partners probably do not really speak each other's language. Although less clear, also this might have contributed to ambiguities regarding the appointment of the hedgerow managers. In addition this might have had influence on the bad planning on the basis of the German situation. When things are less clear due to bad communication this might lead to mistakes, in this case in the planning. The latter is however speculation. Overall some hindering factors help explaining the delay in the beginning of the project, but at the same time almost all planned activities are being implemented.

In the project Future oriented building in the Euregio the hindering factors are again the low need for cross-border cooperation, the high density of rules and administration, and in this project also a small lack of skills, knowledge and other competences. The first two factors cannot be directly linked to a delay or problem. The lead partner does however say that the high density of rules and administration does have a considerable negative influence on the cooperation. Looking at the implementation an important cause for the delays is the complexity of tasks and the underestimation of them. It is logical to think that this has something to do with the small lack of skills, knowledge and other competences. On the one hand this lack might explain the underestimation. On the other hand the lack of skills also means that certain tasks automatically become difficult and complex. The lack is however a small one and the underestimation of the complexity of tasks can therefore not entirely be attributed to this. Overall the partners are mainly implementing everything with significant delays, and full implementation is not certain, but the hindering factors do not fully explain the delays and problems.

In the project Micro-CHP the only two hindering factors are the low need for cross-border cooperation and the high density of rules and administration. The main reason that this project is ranked as number five, the use of three instead of five installations, is also something that seems to be caused by something else than one of the hindering factors. The two hindering factors cannot explain the main problem or other difficulties. As a result of the delays the partners do seem aware that initial goals might need to be lowered. The lead partner has also indicated that the rules and administrative obligations have a considerable negative influence on the cooperation. Overall still, everything that can be done seems to be done in the implementation.

In general the factors with positive scores seem to have a big influence on the cooperation and implementation since most activities seem to be done as planned. Most factors seem to be facilitating a good implementation and overall the amount of facilitating factors seems to correlate with the good implementation. The explanatory power of the three theories and their factors

therefore seems quite big. With regard to the differences between the projects the theories were not very much able to offer explanations. First, projects with bigger or more problems, lower on the ranking, were not seen to also have more (severe) hindering factors. Secondly, most of the time the hindering factors could not directly explain a certain delay or problem. This means that these factors have mainly been identified as hindering on the basis of the scores and the theory, but not on the basis of a link with a certain delay or other problem. That the theories are not really able to explain differences among projects in the implementation can partially be attributed to too little variation in the implementation among the projects. Overall there are only a few factors on which improvement is really possible, but if that will be done one should first think about the necessity. These factors have their influence, but the main point is that the partners are still mainly doing what they were supposed to, albeit in somewhat different paces and with different problems.

6.3 Prospects for further implementation and goal achievement

This third paragraph will shortly discuss to what extent the achievement of goals still realistic is. The goal achievement has already been discussed in § 5.4, however only on the basis of the implementation. The main difference with that paragraph is that it is below shortly discussed if and to what extent the hindering factors might change the image sketched in § 5.4 regarding goal achievement. This paragraph therefore answers the fourth sub question. In principal the factors might influence the likelihood of goal achievement, although this is not expected very much given the small role of the hindering factors.

Full implementation of Energieland Biores seems possible within the new time frame with an additional 4.5 months. In addition, the hindering factors do not seem to prevent a good implementation. The problem was that the link of the means with the goals is somewhat indirect. The means are mainly about information gathering and developing and distributing knowledge. This knowledge should however also be applied in order to reach the goal which is: *to provide an increase in energy output and energy efficiency in relation to biomass in the form of biogas.* Since the project itself does not apply the knowledge, it is mainly contributing to the achievement of the goal since the knowledge has to be applied by third partners. According to the lead partner there is however a lot of interest, and given the fact that no obstacles and no researched factors really seem to hinder further implementation further goal achievement is likely and realistic assuming the interest from third parties is real. The extent to which this project will have contributed to the goal achievement will however be very difficult, if possible at all, to determine.

In the project Warm-up the link between the means and the goals is clear since the goal is practically nothing more than the execution of the means. The goal is: *a systematic development of strategies and management tools for the implementation and realization of energy and environment management systems in municipalities.* Since the partners are overall executing the means, albeit with a small delay, the main goal is at this moment being achieved partially, and further goal achievement is realistic. Looking at the factors there are some that hinder the implementation. It could be that these might undermine the further implementation, but at the same time the partners are confident everything will be done. Also with regard to the factor that has been directly linked to a delay, the differences between cooperating public administrations, the other means do not seem receptive to this factor.

In the project Energiequelle Wallhecke almost all means are being implemented, and due to the new time-frame the partners do think that the project can be completed. This implementation does seem to lead to goal achievement since there seems to be a quite strong link between the goals and the means, both during and after the project. The goal is: *by using the energetic value of wood, making the maintenance and development of hedgerows economically attractive.* The means are mainly a management system and increasing demand and supply which make the maintenance of hedgerows possible. Both during the project with one management system, as also after the project when the

partners start using their own system. Looking at the hindering factors there are not many dangers. The only point which the partners have to look after is a good communication due to inability to all speak one common language, and especially also because of the differing situations in Germany and the Netherlands. Overall goal achievement is realistic both now and after the project, however mainly in Germany due to the lead they have there. In the Netherlands the market has yet to move.

As has been mentioned earlier on, also the project Future oriented building in the Euregio is implementing all means, although there are some doubts if everything can be finished within the project duration. The only factor that could probably influence the further implementation is the small lack of skills, knowledge and other competences. Given the fact that tasks are quite complex it needs to be seen if everything can be done (on time). At the same time however goal achievement is realistic at this moment and in the future. The goal of the project is: *accelerate the uniform passive construction throughout Euregio and enable companies to do this using technology transfer and marketing support.* Since the means are mainly about knowledge and generating a demand there seems to be quite a strong link with the implementation because as said, if SMEs have the knowledge and there is a demand, than it is realistic to expect that passive construction will be applied more. There is however still dependency on third parties. A problem with measuring goal achievement in this project remains that it cannot be traced back what the role of this project has been in a possible increase in passive construction.

In the project Micro-CHP all the means are being implemented or they will be implemented in the future. The goal of this project is: *accelerate the market introduction of micro-CHP on both sides of the border.* There is a strong link between the means and the main goal. The means are mainly about generating all kinds of information regarding micro-CHP. Technical information, but also a business plan on how to get it on the market. It seems realistic to expect that the market introcution is accelerated if companies are convinced of the advantages of micro-CHP, and especially when they are facilitated by means of a business plan and training modules for their employees. Due to the involvement of GEAS as a partner goal achievement can also be expected during the project. The hindering factors in this project do not seem to really obstruct the implementation. The only (big) problem is that the extent to which the goal is achieved might be considerable less due to the up until now unavailability of two micro-CHP installations.

6.4 Concluding remarks

In this chapter the analysis of the influencing factors has been given. In the first paragraph the scores of the facilitating and hindering factors were given per project to see which factors are facilitating and which are hindering. In the second paragraph these factors were compared with the implementation. It was seen that the explanatory power of the theories is quite big. Most factors were facilitating and the implementation was going well in all five energy projects. Regarding the differences between the projects in the implementation it was more difficult to directly link these to the influencing factors, and the theories were therefore not really able to explain these delays and problems. This also means that it was not possible to use a rank correlation test as was suggested in the methodological framework. In the third paragraph the prospects for further implementation and goal achievement were discussed on the basis of the implementation and the influencing factors, meaning that the fourth sub question is also answered. It turned out that the hindering factors do not change the image sketched in § 5.4. In the following chapter the overall conclusion of our research is given by answering the two main research questions as stated in the first chapter. In addition some recommendations for (current and) future projects are given.

7. Conclusion and recommendations

At the end of our research, this chapter will briefly summarize the major findings and will process the findings into answers to our research questions which guided the research. Based on the findings, the section makes recommendations to the Euregio office.

7.1 Summary of findings

The goal of this research was to examine the implementation and goal attainment of five Euregio energy projects, and secondly to explain the quality of the implementation with the help of factors influencing the implementation. This objective was translated into the following two main research questions.

- Given the phase of implementation what are the prospects of goal attainment of the energy projects?
- What are barriers or facilitating factors in goal attainment of the projects?

Both questions have been delineated in several sub questions which guided our research. The second chapter introduced and described the five cases of our research, the five Euregio energy projects. In chapter three we have presented theories regarding policy evaluation, networks and cross-border cooperation. In chapter four we presented and discussed our research design, methodology and data. In chapter five and six we presented the findings of our empirical research. Based on the content of these chapters, this section will answer the two main research questions.

With respect to the first question, the research has shown a relatively high quality of program implementation in all projects. This means that all projects are in principle implementing the planned activities. We came across delays and other problems in implementation, but these were mostly minor problems. In the projects Energieland Biores and Warm-up full implementation is likely, and the partners are on schedule or a bit behind. In Energiequelle Wallhecke there are considerable delays. Partially due to a hindering factor, partially due to a bad planning, but full implementation is possible. In the projects Future oriented building in the Euregio and Micro-CHP the partners are also implementing the means, but full execution of the projects is less certain here. In the first project there is probably a bit too little time due to an underestimation of the tasks. In the second one there are according to the partners external causes that prevent using all micro-CHP installations as intended until now. Overall, our research did not find any serious indication that project implementation is seriously out of track. So despite the details interfering implementation in each project, we can conclude purely on the findings of our implementation analysis that in all five projects the prospects for goal achievement at the end of the project are quite good. If the project implementations continue as it has been done till now, then all projects are likely to achieve the goals stated in the project proposal.

In the context of the second major question, we analysed factors influencing project implementation. It turned out that most of the factors seem to facilitate a good cooperation and implementation. This finding is in line with our findings on the quality of the implementation of the projects. A few hindering factors have been found. All projects, for instance suffer from the high density of rules and administration. This factor might impact the cooperation between partners, but is actually beyond their control. Rules and administrative obligations seem part of the Euregio funding conditions and can only be taken by the partners as part of the project. A second hindering factor is a low need for cross-border cooperation. A higher need might contribute to a higher motivation. All in all we did not find many factors which negatively influenced project implementation. We did find a good quality of implementation together with good scores on factors considered in literature as influencing good cooperation and implementation. Overall the theories used seem therefore able to explain the good implementation. The theories however were not able to explain differences in the implementation between the projects. Factors could most of the time not be linked directly to delays or other

problems. Based on our analysis of influencing factors we also can conclude that the prospects of goal attainment of all projects are hopeful. All projects probably will achieve the project goals, but the conditions for that and the extent to which differ for each project as has been mentioned in chapter five and chapter six.

In the project Energieland Biores goal achievement is possible, but only if the knowledge generated in the project is also used by third parties. In Warm-up the goal is being achieved for some extent already, and if the project is implemented fully than the goal will also be fully achieved. In Energiequelle Wallhecke the goal is at least being achieved to some extent during the project, and there are strong intentions from the partners to also use their system after the project meaning that goal achievement will continue. In Future oriented building in the Euregio the project is likely to contribute to the goal achievement, although it will be very difficult to estimate the extent to which this is happening. Finally in Micro-CHP goal achievement is likely during and after the project.

7.2 Recommendations

Our analysis let to the conclusion that the implementation in all five projects is well on track and in general of high quality. An overall recommendation to make therefore is that the projects should mainly continue the way they are doing now. Looking at the implementation until now the prospects for further implementation and goal achievement are after all good, especially when continuing the good work. However, this overall positive conclusion still leaves room for improvement, in particular with respect to future projects. Therefore this section makes some recommendations.

- The link between goals and means in projects could be made more explicit in project descriptions. This makes it easier for the Euregio to monitor implementation and prevents too high expectations of projects. Means which are implemented in the project could also be more concrete. In the project descriptions they are quite abstract which first makes it difficult to know what the project and the means are about, and secondly make it difficult to check if the project partners are taking the right actions during implementation. According to the Euregio they have a better understanding of the means due to the project management, but nevertheless more concrete means would mean a better understanding from the beginning, also for possible external evaluators or funders.
- A more operational description of project means could also facilitate project planning. Better planning in its turn prevents underestimation of tasks and contributes to preventing a lack of knowledge and skills. All involved in Euregio projects, might benefit from accurate project planning, since Interreg funding has strict deadlines and closing dates. For the EU contribution of project activities keeping to the deadlines is crucial, since our research has shown that project partners are not eager to put additional own funding in activities after the EU has stopped funding the project. A possibility would be to adjust the planning during the project since there is time pressure during the preparation of the project which means that a better planning at the beginning might be difficult.
- Although the goal commitment is quite high in the projects, a higher need for cross-border cooperation might make the motivation of the partners even higher. Euregio should take this point into serious consideration in future projects, since our research gives indications that quite some project partners consider the cross border cooperation as an administrative obligation instead of a constructive contribution to the achievement of the project goal. At this moment the Euregio is planning a project in which an EU-regional competence map needs to be made that might help in ensuring a higher need for cross-border cooperation.
- It is recommended to keep up closely with the progress of the projects by means of documentation on the project activities. This facilitates adequate monitoring of the projects. It means that clear agreements have to be made with regard to information provision from the projects to the Euregio. This is also important because the progress reports that are

obligatory from the Interreg program are send months after the period the reports cover. This makes steering on the basis of these reports almost impossible.

- A final recommendation is that, if possible; reduce the high density of rules and administration. Project partners as well as people at the Euregio have indicated this as a problem. It seems that most rules and administrative obligations arise from the Interreg program; therefore this could be communicated to the management of the new Interreg program. When following the other recommendations this point should also be taken into account since the other recommendations might lead to somewhat more rules and administration.

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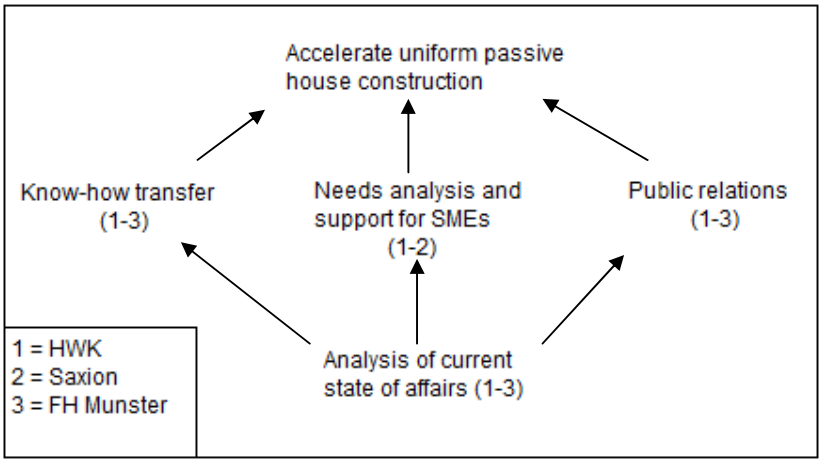
Appendices

Appendix A – Policy instruments models for the projects

Future oriented building in the Euregio

The relations between means and goals of the policy are presented below in the so called policy instruments model. In this model the four main tasks/means are displayed and not all the specific subtasks. With each task the numbers represent who are responsible for the implementation. This does not mean that each actor who is displayed is responsible for each subtask, but that actor is at least involved in one or more tasks. Ultimately the accomplishment of the four tasks has to lead to achieving the main goal.

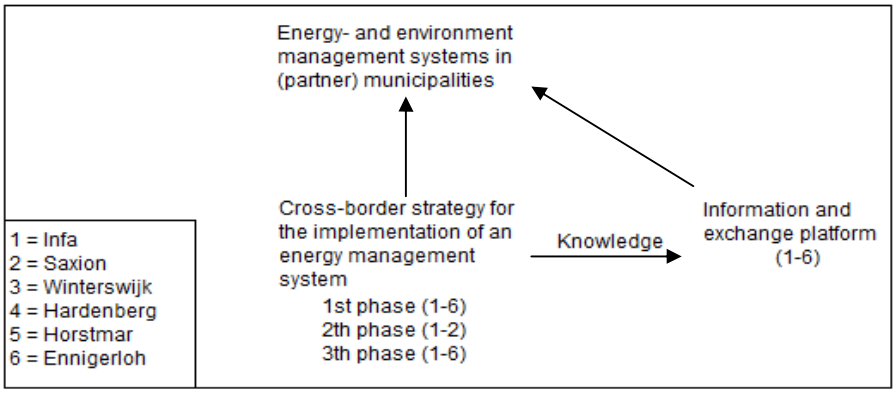
Figure 1: policy instruments model for project Future oriented building in the Euregio



Warm-up

The first mean mainly focuses on the partner municipalities. By an energy management system and a list of measures the project wants to reach the goal for the partner municipalities. The second mean, the information and exchange platform, is mainly for municipalities who are not participating in the project, but who are interested or still have to get interested.

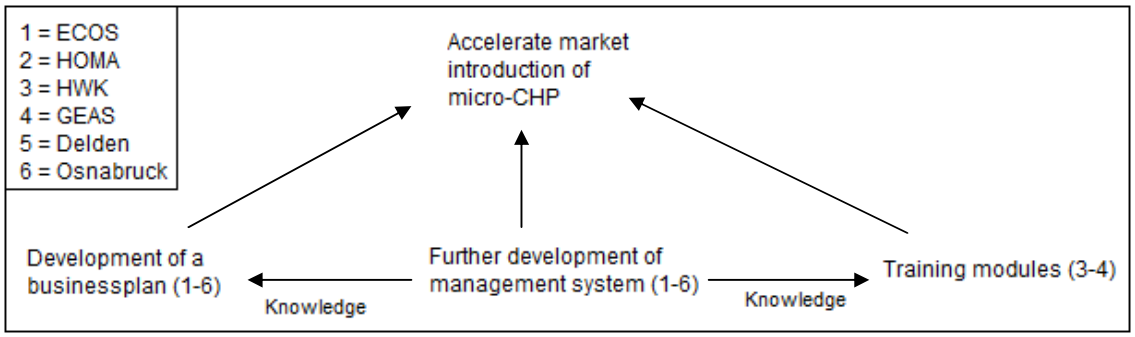
Figure 2: policy instruments model for project Warm-up



Micro-CHP

In the model it becomes clear that the management system is the most important element of the project. Without the system the use of a network of micro-CHP boilers is not possible. To also get it on the market and to let people get to know the technology the other two main means are necessary.

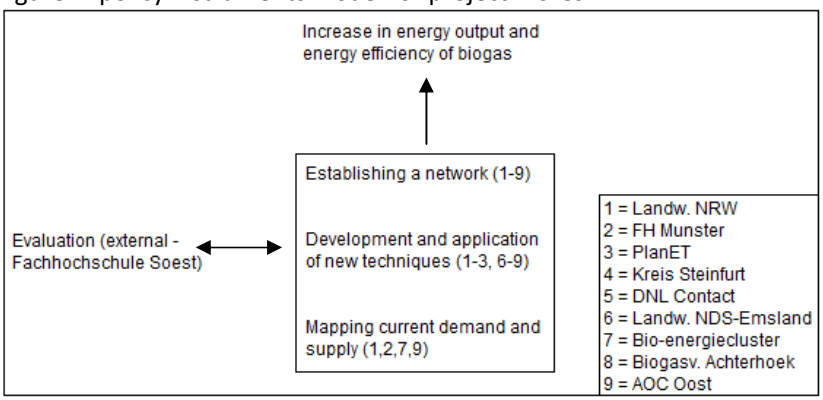
Figure 3: policy instruments model for project Micro-CHP



Energieland Biores

In the model below a distinction has been made between the tasks for the project partners, and the task performed by an external party. Next to that PR is integrated in the means, it is not displayed directly in the figure.

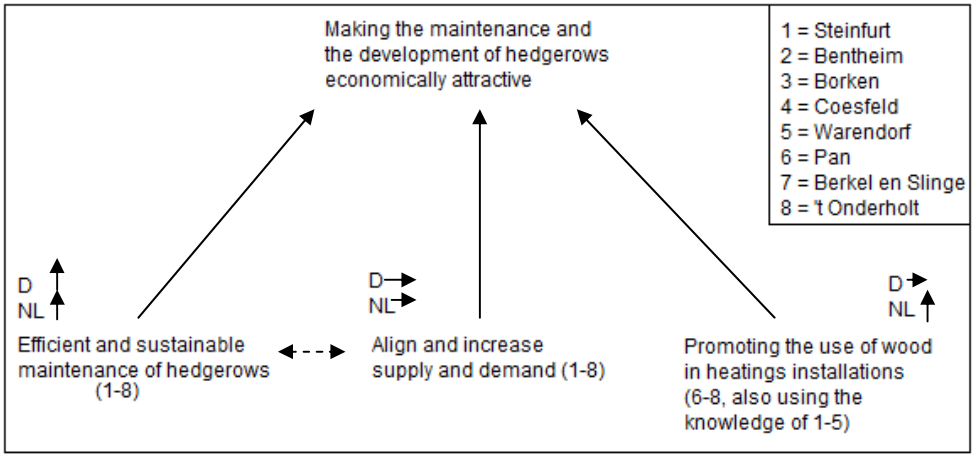
Figure 4: policy instruments model for project Biores



Energiequelle Wallhecke

In figure 5 the three main means that have to lead to achieving the project goals are displayed. The arrows behind the D's and NL's indicate the importance of every mean for Germany and the Netherlands. The first mean is very important for both countries, the second mean reasonably important for both countries, and the third mean is more important for the Netherlands than for Germany.

Figure 5: policy instruments model for project Energiequelle Wallhecke



Appendix B – Design of the interview

The interviews held with the lead partners were semi-structured. The questions below have been used as the basis, although not exactly since the interviews were mainly held in Dutch and German. During the interviews many more questions have been asked than listed below and a lot of interaction took place. The average duration of an interview was 100 minutes.

To confirm the governance form, in every project the following question was asked and build upon. Before the question it was first told to the lead partner what the role of him of her, and those of the other partners were on the basis of the governance form of the project.

- Could you tell me something about the role of you as a lead partner, and the role of the other partners? How are decisions being made? What are your responsibilities as the lead partner, and what are those of the other partners?

Since sometimes different goals, means and time-choices were given in different project descriptions it was important to also confirm what exactly the goals, means and time-choices were.

- Could you tell me if these means, goals and time-choices are indeed the ones that were approved in the project proposal?

The most important was then to get information on the implementation of the means. For every mean the following question was used as the basis.

- Could you tell me if this mean is being implemented or still supposed to, what exactly is being done and what is the progress, what the time-frame is in which it is being done or supposed to be done, and which possible problems arose during the implementation?

Finally the lead partner was asked what he or she thinks about the likelihood of goal achievement to already get an image of this.

- Looking at the means in the project, do you think the goal can be achieved? Why or why not? Looking at the implementation, to what extent is the goal already achieved or to what extent will it be achieved?

Appendix C – Detailed operationalization of the factors and governance forms

In this appendix the influencing factors that help explaining the implementation are operationalized. In paragraph 4.4 some short remarks have been made on what factors are used, what aspects to take into account, and what the governance forms are. In this appendix the precise questions used for measuring the factors are mentioned and the governance forms are discussed more extensively. In appendix D the questions can also be found, albeit there in the form of the questionnaire used for the project partners. The layout of this appendix relates to paragraph 4.4 of this report.

Most questions are closed questions which make it better possible to compare the answers. The lead partners were also asked what the most important/influencing factors are in their projects according to them. Since there are many factors, and because their relationship with the implementation might be difficult to measure, the lead partners' perception of important factors might strengthen the analysis.

Contingency factors of network governance forms

Trust: to get to know the density and distribution of trust among the project partners we follow the definition of Provan and Kenis (2007): trust is ''the willingness to accept vulnerability based on positive expectations about another's intentions or behaviours'' These intentions and behaviours must relate to the actions that are agreed on in the project. Because asking directly for trust can lead to different interpretations the following indirect statements are used.

- *I can with complete confidence rely on 'partner x' to keep its appointments made in the project (*Zaheer, McEvily, & Perrone, 1998)*.*
- *I can rely on 'partner x' to defend the common interest of the project, even at the expense of their own interest.*
- *'partner x' is capable of fulfilling its tasks in this project.*

For each partner the respondent has to answer it on a five point likert scale from strongly disagree to strongly agree.

Number of network participants: there is not really a right number of partners per governance form; the governance forms only distinguish which governance form can handle more participants than the other. The authors do say that a participant governed network can handle up to eight partners, while the other governance forms can handle more partners (Provan & Kenis, 2007, p. 11). Since the number of project partners can easily be observed no questions in the questionnaire are necessary.

Goal consensus: each of the governance forms needs a certain level of goal consensus to work properly. The following statements and question are used. Before the statements the official goals are mentioned to be sure every respondent is thinking about the same goals.

- *The (official) goal of the project is what is actually pursued in the project.*
- *How important is in the eyes of your organization achieving the (official) project goal?* Answers: very unimportant, quite unimportant, neutral, quite important, very important.
- *The official project goals are in line with the goals of my organization.*

The two statements have to be answered on a five–point likert scale from strongly disagree to strongly agree. The first statement is used to see if the partners agree with the goals being that what is actually being done. This is used as a measure of goal consensus, and not of goal commitment since agreeing on the goals does not imply a partner is also committed to achieving the goals. The last statement is added because according to Provan and Kenis (2007, pp. 11-12) the own organizational goals are also important; these also need to be addressed. The danger is that with this statements not only goal consensus, but also goal commitment is measured. The higher the importance of network goals for an organization, the more likely a higher commitment is. This goal commitment will however be measured later on. It will come as no surprise that the scores on goal consensus and commitment might show some correlation.

Need for network-level competencies: network level competencies can be related to the tasks being performed and to the external demands that the network has to face. If the tasks being performed require a high interdependence than the network-coordinating skills and task-specific skills need to be high. To measure the level of interdependency we need to ask the partners to what extent they need another partner in the execution of their tasks. In this way it becomes clear how many interdependent relations there are in the network with regard to performing tasks. Secondly, a network has to deal with external demands. To see if there are important external demands an open question is used to see if there are other demands and how important these are.

- *To what extent does your organization, for carrying out its project tasks, need the cooperation with ´partner x´?* Answers: not, to a small extent, to a fairly large extent, to a very large extent.
- *It is possible that the project your organization is participating in is being faced with external demands from organizations not participating in the project. One example is the administrative and substantive obligations associated with the Interreg subsidy, or certain requirements from other organizations that subsidize the project. Are there any other external demands the project or your organization in the context of the project has to deal with? Please name them and indicate what their influence is.*

Network governance forms

In paragraph 4.4 the governance forms of the projects have been mentioned. Below more detailed information on this is provided. In order as a project to be eligible for Interreg subsidies the project has to fulfil certain criteria. One is that the partners designate a lead partner. One of the partners in the project has to be the lead partner. Is this the same as the lead organization as described by Provan and Kenis (2007)? The lead partner in a project is the partner that has legal responsibility for the project towards the Euregio, and has financial responsibility which also includes doing the financial administration. In addition the lead partner has a leading role in organizing terms. With regard to the content related activities all partners are involved (EU, pp. 96-100). If this is compared with the theory by Provan and Kenis the lead partner as meant by Interreg is pretty much the same as the lead organization as meant by Provan and Kenis (2007). Both of their roles are to organize and coordinate the network activities, and in both cases they mean a lead partner/organization that is part of the network, so the network is participant governed. This coordination of the network by the lead partner is as well internal (coordinating network activities), as external (administrative and financial demands from Euregio/Interreg). With regard to the designation of the lead partner, this is done by the network partners. The lead partner is not assigned from above. We do see that the lead partner is the organisation with most of the time the biggest or one of the biggest financial contributions of all partners, and they are always a partner with substantive knowledge. So it seems that the projects can be categorized as a lead organization form of governance. When looking at the projects more closely and also considering the questions asked during the interviews, some comments need to be made.

Energieland Biores: the start of this project might lead to some confusion. During the preparation of the project an employee of the lead partner was busy with the project. Due to early retirement this employee stopped working for what is now the lead partner. When setting up the project the partners asked this former employee of the lead partner to coordinate the project activities. They asked this because he was involved from the beginning and therefore knew everything about the project, and he has substantive knowledge. This former employee decided to do this by becoming an employee of DNL-contact and let the project partners hire DNL-contact as the project coordinator. After that it was also decided that DNL became a full project partner both in terms of the Interreg program and in terms of Provan and Kenis (2007). Now what does this mean for the governance form? The role for DNL-contact is to coordinate and organize project activities, and also help with the administration. They also contribute and coordinate with regard to the content of the project. So although they have initially before the start of the project been asked to be a sort of NAO for the

project, they have become a full project partner who has also become the network broker partially. In addition to the leading role of DNL-contact the task that remains for the official lead partner is to do the (financial) administration (with support of DNL-contact). Next to that the legal and financial responsibility towards the Euregio also remains with the lead partner. This means that DNL is coordinating both internally (with a high substantive degree) and externally, and the lead partner only has some small external coordinating roles and final responsibility. In principle this governance form is a lead organization form of governance. The noteworthy is that the lead is actually formed by two network brokers. The one is the daily executive, the other is the one with final responsibility and some minor network broker tasks. Only if partners are not keen with decisions made by DNL or when things are going wrong, the lead partner is expected to steer the network in the right direction. Next to that, as for all the five projects, (major) decisions are made in consensus. DNL (and network brokers in other projects) coordinate decision-making, but do not have an overriding vote. This is however not in conflict with the role of a network broker; (major) decisions can be made in consensus (Provan and Kenis, 2007, p. 7-8).

Energiequelle Wallhecke: in this project the partners decided to hire DNL-contact for handling the finances and doing the administration of the project. Next to DNL has a facilitative role in the project with regard to the coordination, but DNL does not coordinate themselves and they do not have any substantive knowledge. They are an external organization. Additionally the Dutch partners get extra help in coordinating their activities from the organization Natuurlijk Platteland Oost/Rurealis that is hired. This organization is somewhat more involved with regard to the content than DNL-contact, but it is not that much involved that it is a project partner. The lead partner in this project is like in all the other projects responsible both substantively and financially for the project. Next to that the lead partner tries to coordinate and organize project activities. In this they get help from DNL-contact. During meetings (there are two sorts of meetings; the steering group who takes decisions and the 'hecken managers' who execute the decisions made by the steering group) the official lead is given to the partner at whose location the meeting is being held. During these meetings the role of the real lead partner is to steer in the direction of what most of the partners want. When looking at the governance form this means that it is between a lead organization form of governance and shared governance in. The lead partner coordinates to a certain extent and is the one who is mainly spoken to when questions arise, but also other partners sometimes get the lead. The lead partner however is the one who is responsible in the end, but most of the things are decided in consensus. In addition the lead partner gets help from DNL with the external coordination. DNL-contact has no further role in the project; they are only hired to do the finances and administration.

Warm-up: in this project the lead partner is the partner who coordinates project activities, leads project meetings, and of course has final (legal and financial) responsibility. Like in the previous project also here DNL-contact is hired to facilitate this and help with the (financial) administration, and also here DNL has no real substantive knowledge. The difference with the previous project is that the focus is more on the lead partner. The lead partner coordinates activities, leads the meetings, is spoken to when questions arise (although also Saxion for the Dutch partners) and the lead is not transferred every time. Next to that the lead partner does the administration and finances; the help of DNL-contact with this does not mean DNL-contact is also some kind of network broker in this like in Energieland Biores. In Energieland Biores the responsible partner for the finances and administration performs these activities from its responsibility as a lead partner, and not because they are hired to do so as is the case in this project. Next to that many things are of course decided in consensus; this does however not affect the role of the lead partner. This form of organization is thus a lead organization form of governance.

Future oriented building in the Euregio: this project is more in line with the criteria of the Interreg program. First of all there is no external organization to facilitate the coordination or help with other tasks. Secondly, the lead partner in this project really is a lead partner as mentioned by the Interreg

program. The task of the lead partner is to do the finances and administration, coordinate and organize project activities, and they have of course like all the other lead partners legal and financial responsibility. According to the lead partner the other two partners practically want to know from the lead partner what they have to do, and when they have questions they therefore turn to the lead partner. The decisions on what to do are still made in consensus, although the lead partner tries to steer them in a certain direction. This project can be characterized as having a lead organization form of governance.

Micro-CHP: also this project is more in line with the structure prescribed by the Interreg regulations. The project is participant governed and brokered; there is a lead partner/organization. The lead partner has to coordinate the project/network, both internally and externally. Also for substantive issues partners in first instance approach the lead partner. Like in all the other projects the lead partner also has financial and legal responsibility. It needs to be said that the lead partner, as in all five projects, does not have the task of attracting new financial resources. The amount and distribution of financial resources is in principle clear at the beginning of each project. With regard to the decisions, these are made in consensus, the lead partner is the organization who coordinates everything, and is the organization who is contacted when other partners need information on anything. This project can therefore also be characterized as having a lead organization form of governance.

Here again an overview of the governance forms which was also given in paragraph 4.4.

Overview of the governance forms

Project	Governance form
Energieland Biores	lead organization (with two parters as the network broker)
Energiequelle Wallhecke	between lead organization and shared governance in
Warm-up	lead organization
Future oriented building in the Euregio	lead organization
Micro-CHP	lead organization

Factors influencing network level effectiveness

Commitment to network goals: for measuring goal commitment three questions/statements are used. The statement can be answered on a five point likert scale from strongly disagree to strongly agree. The second question is also being used to measure goal consensus, but is also used here since it is considered to measure both. As with the goal consensus, also here the official goals are first given to be sure every respondent is thinking about the same goals.

- *It is unrealistic for my organization to expect the official joint project goals to be achieved.*
- *How big is the chance that the goals of the project need to be lowered during the project?* Answers: very large, quite large, neither large nor small, quite small, very small.
- *How important is in the eyes of your organization achieving the (official) project goal?* Answers: very unimportant, quite unimportant, neutral, quite important, very important.

Role of the network broker: looking at the governance forms of the five projects it is seen that the role of DNL or the lead partners is, depending on the project, to do the administration, handle the finances and to coordinate project activities. The network brokers themselves will not be asked to respond to the statements. If the network broker is not responsible for the task the organization that is responsible is used since it is important to know if the three tasks are being handled properly.

- *The 'network broker/responsible organization' is properly handling the finances of the project.*
- *The 'network broker/responsible organization' is properly handling the administration of the project.*

- *The 'network broker/responsible organization' is properly coordinating substantive project activities*

Answers go on a five point likert scale for strongly disagree to strongly agree.

Strength of relationships: to examine the multiplexity it is examined in how many ways the partners are connected to each other. The question therefore is:

- *Which of the following relationships does your organization have with 'partner x':* contact during project meetings, cooperation in the actual execution of project tasks, with regard to the project other contact than during project meetings or in execution of project tasks, contact on matters not related to the project.

Respondents can give multiple answers. Additionally a question is asked about with which partners an organization did already cooperate before the project on other matters. This can also be seen as an indicator for the strength of a relationship. Next to that it can also have an influence on for example the level of trust and the formation of the network.

- With which project partners did your organization in the past (before the project) already cooperate? And when was the last time this happened?

Factors influencing cross-border cooperation

Size of the cooperation area: the size of the cooperation area and the distance to other partners is assessed by looking at how the distances are being perceived. In order to do this we need to ask if the partners think the distances from their organization to the other partners are too big or not. Do they think the distances come at the expense of good cooperation?

- *Do you think the geographical distance from your organization to the other partners in the project is too large?* Answers: no, yes somewhat too large distances, yes way too large distances.

Partners, their competences and human resources: with this factor it needs to be examined if the partners have enough knowledge, human resources and other competencies to fulfil their tasks. Because partners might give too positive answers regarding their own skills and competencies, they are also asked to answer the question for the other partners in general. Next to that it is examined if the people representing the partners are doing this in a constructive way. It is possible to cooperate with them properly?

- *To what extent is there a lack of knowledge, skills and other competencies in your organization which are needed to execute the project tasks of your organization?* Answers: not, to a small extent, to a fairly large extent, to a very high extent.
- *To what extent is there a lack of knowledge, skills and other competencies among the other project partners which they need to execute their project tasks?* Answers: not, to a small extent, to a fairly large extent, to a very high extent.
- *With the contact persons of the other partners it is possible to cooperate well.* Answers go on a five point likert scale from strongly disagree to strongly agree.

Need for cooperation: the need for cooperation relates here specific to the need to cooperate with foreign partners. The question is therefore whether or not the knowledge and skills foreign partners bring is also present in the home country. So the factor is not about the need in general to cooperate with certain partners, but about the need for cross-border cooperation. Sometimes this need is present due to a lead foreign partners have in the development of certain techniques, sometimes however the project could also have been done with partners from the home country.

- *To what extent do the Dutch/German partners have knowledge, skills and other competencies in this project that are not present among Dutch/German organizations (also non-partner!)?* Answers: not, to a small extent, to a fairly large extent, to a very large extent.

In addition to the need for cross-border cooperation it is also interesting to ask about the need that certain partners cooperate in the project. Are the skills of a certain partner necessary for success in the project?

- *In the project partners bring besides financial sources also many other resources (knowledge, skills, materials). Would it also be possible to complete this project without these other resources of 'partner x'?* Answers: yes absolutely, yes probably, probably not, absolutely not, do not know.

Transnational organizations and legal frameworks: the Euregio is a transnational organization that already exists and might facilitate the projects. In order to assess the role of the Euregio questions about the tasks of the Euregio in the projects need to be asked. The main tasks of the Euregio are to monitor the progress and provide the Interreg subsidy to the partners. Monitoring might help to keep the project on schedule. Additionally the Euregio sometimes helps partners before the beginning of a project search for partners to cooperate with. It is also possible that the Euregio raises boundaries and prevents innovation (Radboud Universiteit Nijmegen, 2007). These (possible) roles of the Euregio lead to the following statements.

- *The Euregio is properly monitoring the progress of the project.*
- *Without the involvement of the Euregio starting up this project would not have been possible (do not consider the fact that the Interreg funds are managed by the Euregio).*
- *The involvement of the Euregio in this project raises boundaries and/or prevents innovation in this project.*

Answers go on a five point likert scale from strongly disagree to strongly agree.

Transaction costs/subsidies: with regard to this factor it is important to look into the effects of the subsidies. Would the project also be possible without the Interreg subsidy, would the partners also participate if they had to invest more money into the project because for example subsidies would be less or costs would be higher and will they financially continue with the project after the end of the Interreg funding?

- *How big is the chance that if the project would have no Interreg funding, that then replacing subsidies would have been found to make the project possible?*
- *How big is the chance that your organization would have participated in the project if it had to invest more money into the project?*
- *How big is the chance that your organization will continue with the project, also financially, after the end of the project and with that also after the end of the Interreg subsidies?*

Answers for all three questions: very large, quite large, neither large nor small, quite small, very small.

Language barriers and cultural differences: to examine the language barrier it is assessed how well everyone speaks the language of their cross-border partners. To examine the presence of cultural differences possible relevant differences are assessed. Some of the most commonly heard things are that Germans are assumed to be more formal, structured and goal oriented. Geert Hofstede (1984) has developed a model to distinguish between different cultures. One dimension he uses is uncertainty avoidance. This is higher in Germany and means that they have a preference for strict laws and rules, and do not like risks and uncertainty. This for example means that they are structured and do not like to deviate from the plan, and are focused on the goal they want to achieve. Another dimension he distinguishes is the power distance index. This is about the extent to which society focuses on the differences in power and wealth between citizens. Since Hofstede does not really distinguish in this between the Netherlands and Germany, it is the more interesting to see if the Germans really are more formally oriented according to the project partners. On the basis of the generally assumed differences and on Hofstede (1984) the following question and statements are used.

- *How would you rate your proficiency of the Dutch/German language?* Answers: not, beginner, advanced, far advanced, fluent.
- *The Dutch/German partners are more formal than the German/Dutch partners.*
- *The Dutch/German partners deviate quicker from the project plans than the German/Dutch partners.*
- *The Dutch/German partners are more focused on the project goal than the German/Dutch partners.*

Answers for the statements go on a five point likert scale from strongly disagree to strongly agree.

Design of the CBC process: with regard to the design of the CBC process in these five projects face-to-face contacts, professional translating**,** flat hierarchies and transparent decision-making are important. The following questions are asked.

- *How often is your organization present at meetings /consultations in the project where at least the greater part of the other partners is also present?* Answers: never, rarely, sometimes, frequently, almost always, always. Although the amount of contacts/meetings can easily be determined it is it difficult to say what a frequent number of face-to-face contacts is. It is therefore more important to examine if all the partners are also frequently present.
- *How often are important documents translated into the language of the partners on the other side of the border*? Answers: never, rarely, sometimes, frequently, almost always, always.
- *How often is the translation of these documents an adequate translation?* Answers: never, rarely, sometimes, frequently, almost always, always.
- *The 'network broker' can in his or her role as coordinator of the project coordinate the project in a more hierarchical way, or coordinate the project more in consultation with the other partners. How is this happening in this project?* Answers: mainly hierarchical, about as much hierarchy as in consultation with the other partners, mainly in consultation with the other partners, other namely…
- *To what extent do you believe there is transparent decision-making in this project?* Answers: not, to a small extent, to a fairly large extent, to a very large extent.

Density of rules and administration: the following two statements are used to see what the partners think about the amount of rules and administrative duties.

- *In my opinion, my organization has to meet many rules in this project.*
- *In my opinion, my organization has many administrative obligations in this project.*

Answers go on a five point likert scale for strongly disagree to strongly agree.

Structure of cooperating public administrations: for the project (Warm-up) in which Dutch and German municipalities participate it is examined if there are differences between the Dutch and German municipalities that have an influence on the project. There can be differences in the powers and other possibilities between municipalities.

- *Do you experience differences in the (legal) powers, possibilities and/or structures between Dutch and German municipalities that are partner in the project? If so, can you explain what these differences are and what the effects of these differences on the project are?*

Lead partners: the project coordinators (most of the time the lead partners, in Biores additionally also DNL) are asked to indicate what sort of influence certain factors have. This means that the lead partner will have to think about how a particular factor manifests itself in their project, and what kind of influence this has on the cooperation and therefore implementation. This information might help in the analysis. The lead partners will have to indicate the importance of the factors on a 7-point scale from a very negative influence to a very positive influence. Not all factors used in the

questionnaire are also presented to the lead partner for a judgement. This is because some of the factors might be too abstract and difficult to answer when presented as a factor to the lead partner, and not like a question or statement.

Appendix D - Questionnaire

Cooperation and the success of the Interreg projects

UNIVERSITY OF TWENTE.

EUREGIO

INTERREG - Grenzregionen gestalten Europa
Europäischer Fonds für Regionale Entwicklung der Europäischen Union
INTERREG - Grensregio's bouwen aan Europa
Europees Fonds voor Regionale Ontwikkeling van de Europese Unie

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Respondent

'Name'
'Organization'

Questionnaire on the cooperation in Interreg projects

You are kindly requested to answer the questions for the project 'x' where you are currently participating in. Your answers will be treated strictly confidential. No other person than Mart oude Egbrink will have access to your answers. The information you provide will be processed strictly anonymous.

The questions relate to different aspects of cooperation. Answering these questions consists mainly of checking one or more answers. Answering all the questions takes about 15 minutes.

We greatly appreciate your cooperation and thank you for your cooperation.

Date:.....

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1. How would you rate your proficiency of the Dutch/German language?
- ☐Not
- ☐Beginner
- ☐Advanced
- ☐Far advanced
- ☐Fluent

2. Do you think the geographical distance from your organization to the other partners in the project is too large?
- ☐No
- ☐Yes, somewhat too large distances
- ☐Yes, way too large distances

3. The 'network broker' can in his or her role as coordinator of the project coordinate the project in a more hierarchical way, or coordinate the project more in consultation with the other partners. How is this happening in this project?
- ☐Mainly hierarchical
- ☐About as much hierarchy as in consultation with the other partners
- ☐Mainly in consultation with the other partners
- ☐Other, namely...

4. Fill for each partner in to what extent you agree with the following statement:
I can with complete confidence rely on this partner to keep its appointments made in the project

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Partner A	☐	☐	☐	☐	☐
Partner B	☐	☐	☐	☐	☐
Partner C	☐	☐	☐	☐	☐
Partner D	☐	☐	☐	☐	☐
Partner E	☐	☐	☐	☐	☐

5. Fill for each partner in to what extent you agree with the following statement:
I can rely on this partner to defend the common interest of the project, even at the expense of their own interest.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Partner A	☐	☐	☐	☐	☐
Partner B	☐	☐	☐	☐	☐
Partner C	☐	☐	☐	☐	☐
Partner D	☐	☐	☐	☐	☐
Partner E	☐	☐	☐	☐	☐

6. Fill for each partner in to what extent you agree with the following statement:
This partner is capable of fulfilling its tasks in this project.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Partner A	☐	☐	☐	☐	☐
Partner B	☐	☐	☐	☐	☐
Partner C	☐	☐	☐	☐	☐
Partner D	☐	☐	☐	☐	☐

Partner E	☐	☐	☐	☐	☐

7. Please indicate below to what extent…

	Not	To a small extent	To a fairly large extent	To a very large extent
there is a lack of knowledge, skills and other competencies in your organization which are needed to execute the project tasks of your organization?	☐	☐	☐	☐
there is a lack of knowledge, skills and other competencies among the other project partners which they need to execute their project tasks?	☐	☐	☐	☐
the Dutch/German partners have knowledge, skills and other competencies in this project that are not present among Dutch/German organizations (also non-partner!)?	☐	☐	☐	☐
you believe there is transparent decision-making in this project?	☐	☐	☐	☐

8. In the project partners bring besides financial sources also many other resources (knowledge, skills, materials). Could you indicate per partner if it would be possible to complete the project without these (non-financial) resources of that partner?

	Absolutely not	Probably not	Yes probably	Yes absolutely	Do not know
Partner A	☐	☐	☐	☐	☐
Partner B	☐	☐	☐	☐	☐
Partner C	☐	☐	☐	☐	☐
Partner D	☐	☐	☐	☐	☐
Partner E	☐	☐	☐	☐	☐

9. Which of the following relationships does your organization have with every partner?
Multiple answers possible for each partner.

	Contact during project meetings	Cooperation in the actual execution of project tasks	With regard to the project other contact than during project meetings or in the execution of project tasks	Contact on matters not related to the project
Partner A	☐	☐	☐	☐
Partner B	☐	☐	☐	☐
Partner C	☐	☐	☐	☐
Partner D	☐	☐	☐	☐
Partner E	☐	☐	☐	☐

10. Please indicate below with which partners your organization has already cooperated in the past (before the project), and in what year the last time was this happened.

	Not previously worked with	Previously worked with in year
Partner A	☐	…
Partner B	☐	…
Partner C	☐	…
Partner D	☐	…
Partner E	☐	…

11. Please indicate below how often…

	Never	Rarely	Some-times	Frequently	Almost always	Always
your organization is present at meetings /consultations in the project where at least the greater part of the other partners is also present?	☐	☐	☐	☐	☐	☐
important documents are translated into the language	☐	☐	☐	☐	☐	☐

of the partners on the other side of the border?						
the translation of these documents an adequate translation is?	☐	☐	☐	☐	☐	☐

12. Please indicate below how big the chance is that…

	Very small	Quite small	Neither large nor small	Quite large	Very large
the goals of the project need to be lowered during the project?	☐	☐	☐	☐	☐
if the project would have no Interreg funding, then replacing subsidies would have been found to make the project possible?	☐	☐	☐	☐	☐
your organization would have participated in the project if it had to invest more money into the project?	☐	☐	☐	☐	☐
your organization will continue with the project, also financially, after the end of the project and with that also after the end of the Interreg subsidies?	☐	☐	☐	☐	☐

13. Please indicate in the table below for every partner to what extent your organization, <u>for carrying out its project tasks</u>, needs the cooperation with that partner?

	Not	To a small extent	To a fairly large extent	To a very large extent
Partner A	☐	☐	☐	☐
Partner B	☐	☐	☐	☐
Partner C	☐	☐	☐	☐
Partner D	☐	☐	☐	☐
Partner E	☐	☐	☐	☐

14. The main goal of the project in which you are participating is: 'goal x'.
How important is in the eyes of your organization achieving this project goal?
☐Very unimportant
☐Quite unimportant
☐Neutral
☐Quite important
☐Very important

15. Please indicate below to what extent you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The Dutch/German partners are more formal than the German/Dutch partners	☐	☐	☐	☐	☐
The Dutch/German partners deviate quicker from the project plans than the German/Dutch partners	☐	☐	☐	☐	☐
The Dutch/German partners are more focused on the project goal than the German/Dutch partners	☐	☐	☐	☐	☐
The 'network broker/responsible organization' is properly handling the finances of the project	☐	☐	☐	☐	☐
The 'network broker/responsible organization' is properly handling the administration of the project	☐	☐	☐	☐	☐
The 'network broker/responsible organization' is properly coordinating substantive project activities	☐	☐	☐	☐	☐
With the contact persons of the other partners it is possible to cooperate good	☐	☐	☐	☐	☐
The (official) goal of the project, as indicated at question 14, is what is actually pursued in the project	☐	☐	☐	☐	☐
The official project goals are in line with the goals of my organization	☐	☐	☐	☐	☐
It is unrealistic for my organization to expect the official joint project goals to be achieved	☐	☐	☐	☐	☐
The Euregio is properly monitoring the progress of the project	☐	☐	☐	☐	☐

Without the involvement of the Euregio starting up this project would not have been possible (do not consider the fact that the Interreg funds are managed by the Euregio)	☐	☐	☐	☐	☐
The involvement of the Euregio in this project raises boundaries and/or prevents innovation in this project	☐	☐	☐	☐	☐
In my opinion, my organization has to meet many rules in this project	☐	☐	☐	☐	☐
In my opinion, my organization has many administrative obligations in this project	☐	☐	☐	☐	☐

16. It is possible that the project or your organization is being faced with external demands from organizations not participating in the project. One example is the administrative and substantive obligations associated with the Interreg subsidy, or certain requirements from other organizations that subsidize the project. Are there according to you any other external demands the project or your organization in the context of the project has to deal with? Please name them and indicate what their influence is.

External demand(s)	Influence of the external demand(s)
Please fill in your answer here	Please fill in your answer here

17. Do you experience differences in the (legal) powers, possibilities and/or structures between Dutch and German municipalities that are partner in the project? If so, can you explain what these differences are and what the effects of these differences on the project are? *this question will only be used for the project Warm-up since this is the only project in which both Dutch and German municipalities are participating*

Differences between Dutch and German municipalities	Effects of these differences
Please fill in your answer here	Please fill in your answer here

Question 18 will only be presented to the lead partners

18. Finally, please indicate below what and how big the influence of certain factors is on the cooperation. Consider how the certain factors are present in your project. Do these factors (the degree of presence or absence of them) have a positive or negative influence on the cooperation, and to what extent? A 1 stands for a large negative impact on the cooperation, a 7 for a large positive impact on the cooperation.

	Negative influence ◄——► Positive influence						
	1	2	3	4	5	6	7
Amount of trust between partners	☐	☐	☐	☐	☐	☐	☐
The amount of partners	☐	☐	☐	☐	☐	☐	☐
Level of costs for all partners	☐	☐	☐	☐	☐	☐	☐
Degree of cultural differences between German and Dutch partners	☐	☐	☐	☐	☐	☐	☐
Proficiency of the language of the partners on the other side of the border	☐	☐	☐	☐	☐	☐	☐
Consensus among partners on what the goals of the project are	☐	☐	☐	☐	☐	☐	☐
Degree of joint execution of project tasks	☐	☐	☐	☐	☐	☐	☐
Presence of knowledge and skills among the partners	☐	☐	☐	☐	☐	☐	☐
Geographical distance between the partners	☐	☐	☐	☐	☐	☐	☐
Method of decision making among the partners	☐	☐	☐	☐	☐	☐	☐
Amount of rules and administrative obligations	☐	☐	☐	☐	☐	☐	☐
Differences between German and Dutch municipalities (partners)	☐	☐	☐	☐	☐	☐	☐

Role of the Euregio in the project	☐	☐	☐	☐	☐	☐	☐

We highly appreciate your cooperation and thank you for your time. Please return the questionnaire to:

Mart oude Egbrink
m.oudeegbrink@student.utwente.nl

Appendix E - Detailed information on the implementation

In this appendix more detailed information on the implementation can be found. In chapter five the implementation scheme and the general findings have been described, but in this chapter somewhat more detailed information can be found. Per project the findings on each mean are listed. Data sources for this analysis were the interviews. With four of the five partners (and additionally with DNL-contact in 'Energieland Biores') interviews have been held in which the implementation has been discussed. Only in the project 'Future oriented building in the Euregio' the lead partner did not want to give information on the implementation during the interview. This information was however sent to me after the interview; albeit a brief version of the information the other lead partners could give during the interviews. In addition information from progress reports, minutes of meetings and some other documents was used. For each project one to four progress reports (they appear every half year) are used depending on the phase in which a project is. For the project 'Future oriented building in the Euregio' minutes were not available. Of these information sources the interviews are the most prominent since up-to-date information was gathered here. All the progress reports are at least 6 to 8 months behind which means that they have extensively been used for a rough verification of what has happened, but they have not given much precise information on what has happened recently, or is going to happen in the future. The minutes are also mainly used for checking on consistency since in the minutes the activities and the progress are not mentioned in a structured way but only here and there. Often technical, financial and administrative matters are also mentioned in the minutes.

Warm-up

The first mean/planned activity, 1A, was about taking an inventory of the energy data and policies of the municipalities that are partners in the project. This has ended in December 2010 for the German municipalities and at the end of March 2011 for the Dutch municipalities. The reason for the delay was that (especially in the Dutch) municipalities a lot of information was decentralized. This decentralized information was also often in the hands of privatized parties in the Netherlands who were not always cooperative in sharing information.

1B to 1E are all about gathering information and using this to identify measures that municipalities can use to reduce their energy usage. The problem is that they depend on the finishing of activity 1A before they could start with 1B and further. Since 1B to 1E highly overlap with each other, depend on each other and can partially be seen as successive steps they are all delayed because of the delay of mean 1A. According to the lead partner the partners do think that there is enough time within the project, and that these activities will be done before the end of the project. At the moment of interviewing the partners however only started with 1B, and still had to start with the implementation of 1C, 1D and 1E.

1F is the implementation of the measures that have been identified with the previous means. This still has to be started with since it is depending on the activities above. Measures can only be implemented when the partners know what they have to implement. Besides the fact that they did not begin yet, the partners also expect to be ready somewhat earlier than planned. According to the lead partner there is no specific reason for this, they just think they need less time than planned.

The following activity, 1G, is about identifying long-term measures that municipalities can implement to save energy, or as said in the project descriptions; initiating sustainable optimization measures. This differs from 1F which was about short-term measures that can be easily be implemented to save energy. 1G however also depends on previous means for the information gathering just like 1F, which means that the implementation of this mean is also delayed. The partners did start with it in June 2011 and they expect to be ready by the end of December 2011.

1H en 1I are the most important points of the project. It is about finding and implementing an energy management system in the municipalities and developing a concept for the partners and for other

municipalities. When municipalities have such a system they are able to monitor their energy use. If they think this is too high they can implement measures that have been identified in the project. The partners decided to start with the implementation of these two means in April 2010 because of the delay on the other tasks. Because the implementation of the other means was not going prosperous they had the time to already start. A first concept (1H) was developed and discussed before the end of 2010. 1I was finding and implementing a system that was suitable for all the partners. Given the differences between the municipalities this was not possible. Additionally it was difficult to make appointments with all the different companies from which the software (management system) could be purchased. These two things did according to the progress report lead to significant delays. The German partners needed at least until the end of 2010 for choosing a system, the Dutch partners needed even a few months more. The lead partner also indicates that they expect to be ready with 1H and 1I by the end of October 2011. Considering the three months they started earlier with these two means they believe to need about the amount of time indicated in the planning. Given the fact there were significant delays in the beginning of 1I, they must have made up for these delays later on, or the amount of time needed according to the planning was not correct.

1J consists of developing a guide for the implementation of an energy management system in small and medium sized municipalities. The basis for this is the concept developed at 1H. The implementation of 1J is supposed to start in January 2012, and not already in October 2011. According to the lead partner this is not possible given the information they need which is not available yet at that moment. The reason why this is not available yet is the same reason as why the implementation of the previous activities is delayed. The lead partner believes the last two months are sufficient to produce the guide.

The implementation of 1K, building an EU-regional working group, is not certain yet. In September 2011 the partners are going to decide whether or not there is going to be an EU-regional working group at all. If they decide not to establish this group then this activity will not be implemented.

The means 2A to 2D form an information and exchange platform that is meant to disseminate the knowledge gathered in the project, mainly to non-participating municipalities. This 'platform' mainly consists of a website (2A). This website has already been made. The task is now to keep the website up-to-date with new information until the end of the project, and even after the project. The translation of the website into Dutch also remains to be done. 2B are newsletters that are being sent to many relevant organizations. Since this does not happen every month it is difficult to say if they are on schedule, clear is that it is happening since until now (date of interview) two newsletters have been send, and a few more are supposed to follow. 2C is the starting conference. This conference has been prepared and organized with two additional months needed. At this conference the partners gave information to all kinds of experts in the field of energy(management) and to the press. The closing conference (2D) has the same target group and is supposed to take place as planned.

Micro-CHP

1A is the construction of a demonstration installation. The execution of this task means that four micro-CHP installations need to be linked to each other through software and their performance needs to be monitored. The software is an important part of the project. In this way a virtual network arises. The partners started on time with the implementation of this. The problem was and is that until now only two installations have been linked with each other instead of the intended four. According to the lead partner this is caused by difficulties in connecting the software from the installations to the linking software from the partner HOMA. According to the lead partner the problem and the solution lies at the manufacturers of the installations and their software. 1A has therefore been implemented (two months late), however only with two of the intended four installations. The two months delay is due to the fact that some adjustments had to be made in the financing terms of the HWK Osnabruck-Emsland. Due to this they could not purchase an installation already in 2010. The intention still is to finally get five installations and not continue with only three.

1B is also about a demonstration installation. Besides the four installations at the HWK there is a fifth big installation (much higher energy production than the other four) at the Stadtwerke Osnabruck AG. This installation is however in use for energy production at the Stadtwerke Osnabruck AG, and can therefore only be used for the first phase. The means under 1 can roughly be divided in two phases. The first phase is about monitoring the performance of all installations. At this point the partners think this phase can end around November 2011 when all five installations have been monitored, meaning the other two have also been linked to the network. After that the second phase can start in which only the four installations at the HWK will be used since these are permanently available, also for energy production, for the project. The implementation of 1B thus means that the performance of the fifth installation will be tested and compared with previous gained experiences in the Netherlands and Germany, as has also been done until now with the two available installations at 1A. 1B has however been done according to the planning.

1C starts where 1B has ended. This still is the first phase. Since the first phase needs to be completed with all five installations they are not yet ready with this; at the moment of interviewing there are still only three installations. As was mentioned above the prediction is that this first phase can be completed around November 2011 when all installations can be connected. Once this phase is completed the partners want to go into the second phase from monitoring to operating the installations. This phase will only use four installations which are small installations (low energy production) specifically for this project. The second phase is supposed to start around December 2011 after completion of the first phase. With regard to the installations already in use the lead partner is satisfied with the progress and says they are on schedule. He also admits that some catching up will have to be done when all installations are available. Also given the fact that all installations should have been ready earlier you could say there is a delay in the implementation of this activity since it is not being implemented fully until now.

There is a delay in measuring the CO2 emission reduction (1D) of the individual installations and the network. The partners want to do this but they have not yet started with this since not all installations are available yet. The intention is to start with this in October 2011, also if not all installations are available yet at that moment. Ideally of course all five should be available, but because there are workshops at the end of 2011 at least some information on emission reductions needs to be available for these workshops. In both cases the data on emission reduction from all installations will also be presented at the final presentation/workshop of the project. The lead partner thinks that the remaining time is sufficient for completing the measurements.

The implementation of 1E consists of two parts. The first part is that HOMA needs to adapt the software in such a way that it is suitable for remote monitoring. Secondly they have to make the software suitable for controlling the heat buffer/storage of an installation. They started with this as planned in January 2011 once the first installations were available. The problem is again that two installations are not ready yet. According to the lead partner the service from the manufacturers of the two installations is quite bad. They are still waiting for the manufacturers to adapt their software in such a way that it can be linked to the other installations by means of the HOMA software. Although some catching up is needed when all installations are linked, the lead partner says that they do have enough time for finishing this task, and they are on schedule with regard to the installations that are available. He however also indicates that this is a risky prediction because it could also happen that the manufactures adopt their software too late.

In the beginning the partners thought they only needed September 2011 for calculating the profitability (1F). The lead partner says that they will indeed start with this in September 2011, but that they need until the end of the project to finish with the execution of this task. Reason for this is again that not all installations are available yet, and therefore calculations cannot be completed in September 2011, but will have to be made during the entire project. They will however start even

without the two other installations since they also need this information on the profitability of Micro-CHP for the workshop at the end of 2011.

The following means are about making a business development plan, promotion, workshops, etcetera. 2A, the plan, is supposed to be developed as intended in the end of 2011 and beginning of 2012. A final report (2B) about the project should be made in the last three months of the project. The lead partner thinks this is also going to happen. 2C has been postponed because the partners wanted it to coincide with 2D. The workshops of 2D are supposed to play a role in the information campaign of 2C. Both 2C and 2D are therefore now supposed to happen in the last three months of 2011.

The final mean, developing training modules, should mainly be done by GEAS and the HWK in respectively the Netherlands and Germany. Knowledge gathered in the project, by the other activities should be used in these training modules. Also this mean should according to the lead partner be implemented and also according to the time-plan.

Energiequelle Wallhecke

The partners started with the registration and identification of hedgerows (1A) in November 2009, as soon as it was possible. This registration and identification has to continue till the end of the project, as intended, but with the additional eight months because according to the lead partner you are never finished with registering hedgerows.

1B is about determining how many woodchips can be made from particular sorts and amounts of hedgerows. Woodchips have been in use for a long time already but this has not been researched yet. Although this activity has been implemented, the time frame deviates substantially from the planning. Since they could not harvest already in the winter of 2009/2010 they had to wait until the last months of 2010 for a good harvest. At the same time they were also able to finish this activity in February 2011.

1C is making a management(/measures) plan for the hedgerows. The implementation of this mean also started a bit late because of the problem with appointing the hedgerow managers at the beginning of the project. In addition to that the partners realized when they started with the implementation of this mean that they had to continue with this until the end of the project since techniques and measures are being optimized continuously, and therefore the plan also has to be updated continuously.

The introduction of quality assurance (1D), also by means of training, is for the hedgerow managers themselves. The implementation of this has been done, and it has been done according to the planning from November 2009 till December 2010.

1E is the adaptation of the management system (Wallis) for the hedgerows. The system is a very important part of the project since by means of this system (software) all the hedgerows can be registered and monitored. The problem was that the system was not ready to function when the partners wanted to start optimizing the software. Reason for this was that the manufacturer (external party) of the system went bankrupt. Former employees of the manufacturer decided after that to set up a company to finish the system. The optimizing of the system is now supposed to continue till the end of the project since the system can be optimized continuously. After the project the system should actually also be continuously optimized and maintained. It is not clear yet if and which partner will do this since there are costs associated. More likely is that every partner takes a copy of the system and continues with that.

The logistical concept for harvesting, storage and sale (1F) is being developed by an external party. This is the reason that the development is being done later than planned. The contract was put out too late to the Waldzentrum who is hired to develop this concept. This was caused by the fact that

the Kreis Warendorf did like to put out the contract because of their experience in the field. Deciding this and the extra work for Kreis Warendorf did cost time. Additionally the partners wanted larger quantities of hedgerows in the system before this point was implemented. The concept in itself should be ready by December 2011. After that it will have to be further developed until the end of the project. All in all it is therefore supposed to use the amount of time as planned, the execution is only shifted eight months.

The information distribution (1G) is about advertisements, public relations, etcetera. This is something that is happening during the entire project to inform people and make people enthusiastic. Therefore it also means that it continues during the additional months and does not stop at the initial end of July 2012.

The means under two are all about aligning and increasing demand and supply. All these means are being implemented or awaiting their implementation. What is however seen is that with some of them they started up quite slowly and need much more time than planned for mainly due to a planning based on only the German situation. A cross-border analysis of the market including a strategy for further market development (2A) has been outsourced to the University of Twente for the German area and to the University of Wageningen for the Dutch area (Achterhoek). According to the lead partner this has taken place in the period planned for it which means that it is already completed. Documents on the other hand show that the report from the University of Wageningen was ready in March 2011 which means that a bit more time was needed.

2B is bringing together and stimulating players on the market. This has practically not been done in Germany since here it was not really necessary to stimulate the market since there was already a lot of movement. One of the few worries in Germany is the fact that a few big companies out of the region buy most of the woodchips for generating electricity. The partners want to make sure that the woodchips in this project are sold to regional parties in order to keep the money, electricity and more important warmth from the woodchips in the region. For the Netherlands the partners will continue implementing this mean until the end of the project, and they did not finish with this in November 2010. Reason for this is that the planning was based on the German situation. In the Netherlands the entire market however has yet to move. Therefore the partners will have to continue with this point and stimulate local actors in the Netherlands until the end of the project.

2C is magnifying the market segment of local wood. In Germany this has been done until May 2011, they only continue with it a little bit till the end of the project. In the Netherlands they continue during the entire project because like said above there is not really a market yet in the Netherlands. Reasons for this according to the lead partner are that in the Netherlands there is still the wrong conception that heating systems using woodchips are less comfortable than normal heating. Secondly the use of woodchips as an alternative to gas is more attractive in Germany since the gas price in Germany is higher than in the Netherlands.

The next step is increasing the demand (2D) by means of public relations, promotion, etcetera. Thus by means of information and not financial or legal incentives. This did not happen at all in Germany since there is already a market in Germany, a market in which the demand is bigger than the supply. It was even so that in 2010 the companies that trim the hedgerows did not want any money for their labour like usually, but were satisfied with only the money they got from selling the woodchips. In the Netherlands the implementation of this mean started according to the planning but will continue till the end of the project since there is not yet really a market in the Netherlands. A reason for the non-market in the Netherlands is that people are not looking for alternatives for gas since gas is pretty cheap compared to the alternatives.

The final step with regard to the market is setting up a marketing platform (2E) on the internet. Although this is awaiting implementation it is only now (July 2011) being perceived as necessary, and

therefore the partners want to start with it only now and not earlier. It will have to end by April 2012. Secondly, other activities were more important and therefore no time was spend on this earlier.

The final three activities (3A-3C) are about promoting the use of wood in heating installations. At the beginning of the project the partners already realized that this is especially important in the Netherlands. 3A is an information system, the PR of the project. This mainly consists of a website with information about the maintenance of hedgerows, using woodchips, etcetera. The implementation of this did start on time, and will continue the entire project since the website is updated continuously and other ways of promotion also continue during the entire project. 3B is about two workshops/symposia on the woodchips market. This means that they are not just about technological improvements on wood-fired boilers as was intended according to the project descriptions. The first workshop took place in the Netherlands because of the non-market in the Netherlands and was visited mainly by Dutch people. The second is still supposed to take place according to the planning. 3C is not taking place at all. Reason for this is that the manufacturers of heating boilers already check their boilers on which wood can best be used in them. This means that it is not necessary anymore for the partners to control the quality of the harvested wood.

Energieland Biores

The first activity or subproject, 1A, was mainly implemented by the Landwirtschaftskammer NRW. It is about determining which substances (agricultural, animal, vegetable) can be used, are available and what their potential is in relation to biogas. This is necessary because until now corn is mainly used, but the problem of corn is that it is also being used as food which causes a tension between the market for biogas and the one for food. The implementation of this point started on time, although they even had some meetings before July 2009, but it ended too late in December 2010. Reason for this was that on the Dutch side the data acquisition took longer than planned. The sources on the Dutch side wanted money for certain data, so the partners needed to take some detours to get the data for free. If we look at the results of this point we see that there is some additional potential in Germany especially with regard to the so called ''zwischenfrüchten''. This potential was not really expected to exist since biogas is already very much in use in Germany. In the Netherlands a lot of potential in verge and manure has been found since in the Netherlands biogas is by far not as much in use as in Germany.

1B is about mapping the demand for biogas from businesses and groups of citizens. The implementation of this mean has also already finished. Until now biogas is mainly used for electricity, but not for heating. The identification of the demand for biogas therefore focuses on the demand for warmth. When this information is compared with the supply of biogas that is identified in subproject 1A it is possible to link these to each other. The reason for the delayed completion of this task was that they could do very little in the beginning since they had to wait for the results of 1A. Together the two subprojects have ended up in a geographical map in which the supply and demand for biogas and warmth per community is shown.

2A is about determining how much kilogram per hectare can be produced of a certain substance, and secondly what the output per kilogram is. The results need to be compared with the characteristics of corn since the substances need to compete with it. The difference with 1A is that 1A focuses on current available and used substances and not used potentials in this, while 2A tries to identify substances that can compete with corn at all, even substances that might not be available yet in this area. Results of this subproject show that substances like verge, ''zwischenfrüchten'', sunflowers, sugar beets and millet might be interesting as an alternative to corn. The partners started with this subproject in June 2009 (some things could already start before the official start of the project), and are supposed to end in October or November 2011. The reason for the subproject to start and finish earlier is that the project was shifted with six months, but for this subproject they needed three harvesting periods (the summers). They therefore took the first, second and third summer in the project, as was also supposed to happen according to the initial planning. This subproject was thus

shifted half a year in the planning while the nature of the sub project does not really allow this. A fourth summer is not being considered since there is no money available for this.

The following sub project -2B- is mainly about separation technology for substances, mainly manure. The problem is that there is a lot of manure in the Euregio needs to be exported, but before this can be done it has to be dried. In this way the phosphates that are in dry manure are exported. This is important since there are too much harmful phosphates in the Euregio, but at the same time natural resources of phosphates become depleted which means the available phosphates need to be recycled. In addition the dry manure can also be used in biogas installations. In this subproject techniques have to be developed to get higher levels of dry manure. Then the surplus of manure (and phosphates) can be transported at fewer costs since less additional water needs to be transported. Until know transport along larger distances is financially not possible. Besides the dry manure there is the liquid manure that remains. This is being used in the region to replace fertilizers that make use of phosphates from natural resources which are becoming depleted. The start of this subproject was July 2010, and it is supposed to be finished by the end of the project. The reason this project started about half a year late, and will need probably half a year extra is that the Biogas Vereniging Achterhoek (main responsible partner for this subproject) has some problems with regard to the internal finances and has had some procurement issues (eventually they hired DOFCO to help with this mean). Meetings have been held on this mean in the period February-June 2010 with regard to the outsourcing, but the actual execution started in July 2010. Within the newly set time-frame they are on schedule now, so it should be completed by the end of the project.

The fifth subproject –2C- is about a knowledge transfer to the main target group. This subproject is being implemented by workshops, visits to owners of biogas installations, a website, newsletters, etcetera. The partners started with this six months late because only then some results of the other subprojects became available and therefore only then this information could be transferred. The end of this subproject will coincide with the end of the entire project since knowledge generated in this project will have to be distributed during the entire project duration.

The final subproject (mean number 3) is about establishing a network. This is on the one hand about communication between all the partners during meetings, etcetera. This already started in March 2009 when the partners had their first official meeting. But much more is it about facilitating networking between all kinds of external companies and organizations involved in biogas like for example the farmers who hold installations, contractors, etcetera. This started in the end of 2009. This networking especially has to take place between Dutch and German parties. This subproject is also being facilitated by the fifth subproject (2C). According to the lead partner the networking goes well and according to plan, and will have to continue until the end of the project.

The final activity (mean number 4) is not a separate subproject but it is the evaluation of the project. This evaluation is not an evaluation just at the end, but it is an accompanying evaluation that evaluates every subproject and keeps an eye on the project, for example by being present at project meetings every two months. The evaluator is an external party (Fachhochschule Soest) with knowledge about biogas. The evaluation is supposed to continue until the end of the project to be able to evaluate the entire project. Until now the first two subprojects have been evaluated, they were judged positively.

<u>Future oriented building in the Euregio</u>

Activity number 1 is an analysis of the current situation. What are the Dutch and German situations with regard to the technology, market and conditions of passive building? The partners have indeed implemented this planned activity, they did however need double as much time than initially planned. No further information has been given on what the results are, or why more time was needed. In other documents and comments during the interview it has however become clear that the market is further in Germany and more houses have been build there with passive techniques.

All the activities under 2 are about information transfer on passive construction to SMEs. 2A is information meetings about passive building for SMEs. Saxion and the HWK organized these meetings, but needed three additional months to finish it. It turned out that the excursions (2B) actually need to take place during the summer months when there is more sun at the end of the day, much more time for it since the excursions need to be spread more, and because the excursions need to accompany other activities in the project. Next to that there is especially in the Netherlands a delay because in Germany passive construction is already happening and quite some houses have been build. In the Netherlands almost no houses have been build yet which makes it also more difficult to organize excursions to these houses. According to the progress reports and the lead partner excursions have been held to at least houses in Munster (2x), Borken and Steinfurt. 2C is the development of courses by the FH and Saxion about all sorts of techniques involved in passive construction that the people working with it will need. Since the partners in the beginning of the project realised they very much underestimated the amount of time needed for this and the complexity of the task they started much earlier, the courses had to be offered later than planned. In the beginning different courses for the different target groups were the goal, realized is however one common course with some differentiations per target group. 2D is testing the courses developed under 2C. Courses have been tested by all three partners in different conditions and at different times. The HWK was the last to do this in May/June 2011. 2E are conferences on passive construction for the target groups (SMEs) of the project. Due to the availability of speakers there has been a small delay with regard to the first two conferences which have been held in Munster and Enschede. The third is still planned to take place in Munster. It is not totally clear what the difference of these conferences is with the information sessions of 2A, (except for the timing) but it seems that 2A is more about general information sessions for interested parties, were the conferences already go more into detail and have specific subjects. 2F was initially about offering scientific and technical support to two 'sample' projects. The results from these then have to be used for future projects. There has been a delay and much more time is needed because it seemed very difficult to find passive houses that are in the construction phase, which is the phase in which the support is needed. Since they already started according to the lead partner it is assumed these houses have been found.

The activities under 3 are all about supporting and motivating SMEs and realizing a bigger demand for passive houses. Supporting SMEs in such a way that they further develop their company with regard to passive construction, and that they enter the market with the right products. 3A is the development of a scan tool for businesses who want to orientate themselves and focus more on passive building. With this tool they can see where they stand with regard to passive construction. In the Netherlands this has been done using an already existing system. In Germany this took more time due to very little interest from German SMEs in the scan tool. The partners are considering doing an additional attempt in 2011 in Germany. 3B is the use of surveys that are send to companies to identify obstacles and opportunities a company encounters with regard to passive construction. The initial response in Germany was quite low. Therefore the research was done again in Germany which means some additional time was needed. 3C is the development of innovation-action plans for individual companies that have also used the scan tool. This is being implemented much later than planned. A reason that has been given is that there is again little interest in the plans from the German SMEs. This is why the partners have finished with this mean in the Netherlands, but still have quite some work to do in Germany. 3D are the triathlons. These so called triathlons are meetings in which companies can learn from each other. In principle it was the plan to let the companies that worked with the innovation-action plans also participate in the triathlons. The implementation started later because according to the lead partner the companies would otherwise be overloaded with information and gatherings. 3E is the development of a network in which all sorts of companies and already existing networks that might have something to do with passive construction take place. Setting up this network needed some sort of opening according to the lead partner. The first conference (2E) that was held was used for this which meant that setting up this network was postponed with half a year. An additional problem in the Netherlands is that there already are some

networks with regard to construction. An additional network would therefore cause confusion and misunderstanding. The already existing networks will therefore be used to disseminate information about the project in the Netherlands.

The last activity is number four which is about stimulating the market, both the companies as the public. 4A and 4B are the development of information materials (brochures) for companies and potential users of passive houses. The partner did already start with making these, however a bit later than planned because these materials needed to be produced by the same people that developed the courses (2C), and because writing the brochures is more difficult than accounted for. 4C is the website of the project. No information was given how this implementation is going, why more time is needed and why there is a delay. 4D - lectures in the region for the public, property developers, etcetera, 4E - participation in consumer fairs where the project can be presented and information materials can be disseminated, 4F - a press campaign in which multiple subjects are mentioned and 4G - the dissemination of all the information materials by using the fairs, SMEs in the field, etcetera, all started later than planned or still have to start because the project partners have been too busy with other activities of the project so far.