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50 Municipal Climate Partnerships by 2015

Documentation
of the third phase of the project

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ENGAGEMENT GLOBAL gGmbH
Service für Entwicklungsinitiativen
Tulpenfeld 7
53113 Bonn
Phone +49 228 20 717-0
Fax +49 228 20 717-150
info@engagement-global.de
www.engagement-global.de

Service Agency Communities in One World (SKEW)
Tulpenfeld 7
53113 Bonn
Phone +49 228 20 717-0
Fax +49 228 20 717-389
info@service-eine-welt.de
www.service-eine-welt.de

Responsible: SKEW, Dr. Stefan Wilhelmy
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Project management: Jessica Baier und Kurt-Michael Baudach
Text: Jessica Baier, Dr. Klaus Reuter, Moritz Schmidt
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50 Municipal Climate Partnerships by 2015

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1. Foreword

Dear readers,

'If you want to go quickly, go alone. If you want to go far, go together.' At the kick-off workshop in 2014, the participants in the third phase of the project were given this African proverb to accompany them along the way. Following eighteen months of intensive cooperation, we can now rightly claim that all actors – policymakers, administrators and civil society – have come a long way together.

The actors in the individual climate partnerships have established operational working structures for cooperation, and have motivated many other people to get actively involved. They have studied closely the causes and impacts of climate change in their specific local context, and gained a deeper understanding of the situation in their partner municipalities. Finally, building on these structures and findings the individual climate partnerships have developed sound programmes of action for climate change mitigation and adaptation, and in some cases already begun implementing specific activities. In other words, a great deal has been achieved. At the same time, valuable foundations have been laid for future cooperation.

Further progress has also been made in the project as a whole. The fourth phase of the project is now already ongoing. At this point, a total of forty-three German municipalities and their partner municipalities in the Global South have decided to design joint programmes of action and implement specific projects to protect the climate and adapt to the impacts of climate change. Moreover, the fifth phase will begin at the end of 2015, which means that we will reach our joint target of 50 climate partnerships.

During the three project phases now completed, we witnessed the outstanding dedication of the municipalities and civil society actors involved. This both spurs us on and obliges us to continue in the same spirit. From our dealings with the municipalities and the joint network meetings, we know that the municipalities are playing a responsible role in minimising greenhouse gas emissions. By so doing they are protecting both nature and the human population against the impacts of climate change, which are already perceptible.

In its Special Report entitled 'Climate Protection as a World Citizen Movement', the German Advisory Council on Global Change saw fit to mention our project as an initiative that successfully combines climate change mitigation with municipal development cooperation. Furthermore, the German Bundestag had adopted a resolution (printed paper 18/4425) that advocates further supporting and continuing the '50 Municipal Climate Partnerships by 2015' project.

Despite this backing from the scientific community and policymakers, and the actions taken by the municipalities, we know that the pressure to act will not lessen over the next few years. Last year – 2015 – was to become the hottest on record, and the extreme weather events which this involves will entail devastating impacts for the Global South. At the COP21 United Nations Conference on Climate Change in Paris, an agreement was adopted that defines universal goals for the world and updates the Kyoto Protocol. Once again, the local level is called upon to implement this agreement. The lessons learned in our project clearly demonstrate that municipalities around the world are willing to take on a greater role and press ahead with mutual exchange and joint action.

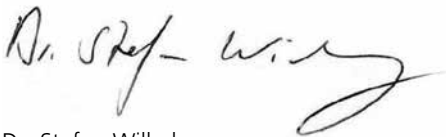
With our project '50 Municipal Climate Partnerships by 2015' we, the Service Agency Communities in One World and the North Rhine-Westphalian Working Party on Agenda 21 (LAG 21 NRW), intend to continue facilitating the expertise of municipalities and civil society actors, and channelling this into the global dialogue.

Climate partnerships are founded on mutual understanding, mutual learning processes, peer-to-peer cooperation, and last but not least the commitment of each and every individual. The third phase of the project demonstrated this once again. It was particularly pleasing for us to be part of the process of the individual climate partnerships, with all its ups and downs, challenges and success stories.

We would like to sincerely thank everyone involved for the excellent cooperation and their dedication in the individual climate partnerships. Our special thanks also go to the mayors of the participating municipalities for their political backing of the process, the local government staff for their professional, engaged and solution-oriented approach, and

the civil society actors who also contributed their dedication and expertise to the work of the individual climate partnerships. We wish the climate partnerships continued success and satisfaction in their joint work in the future.

Yours,

A handwritten signature in black ink, appearing to read 'Dr. Stefan Wilhelmy'.

Dr. Stefan Wilhelmy
Director, Service Agency Communities in One World

A handwritten signature in black ink, appearing to read 'Klaus Reuter'.

Dr. Klaus Reuter
Managing Director, LAG 21 NRW

2. Introduction

Building on the extensive experience and expertise of municipalities in climate change mitigation and adaptation, the '50 Municipal Climate Partnerships by 2015' project aims to strengthen partnerships between German municipalities and municipalities in the Global South in these fields.

To achieve this, the climate partnerships each spend a period of 18 months developing joint programmes of action for climate change mitigation and adaptation that specify targets, concrete measures and earmarked resources. Elaborating the programmes of action lays the foundation for long-term, constructive and systematic cooperation between the partner municipalities in the field of climate change mitigation and adaptation. A climate partnership can be based on an existing twinning arrangement, to which it then adds a new dimension. It can, however, be established from scratch as a theme-based partnership between two interested municipalities.

The project revolves around professional exchange between municipal experts, especially within the framework of reciprocal missions. Regular meetings are held to promote networking among the participating municipalities. As well as financial support, Engagement Global's Service Agency and LAG 21 NRW also provide the partnerships with technical and methodological advice. The project is being implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), and is officially supported by Germany's local authority associations – the German Association of Cities (with two specific board resolutions), the German Association of Towns and Municipalities, and the German County Association.

This publication documents the third phase of the '50 Municipal Climate Partnerships by 2015' project, and the key results of the work of the partnerships between German and African municipalities. A total of ten municipal climate partnerships took part in the third phase of the project. Nine of them have already completed their programmes of action. Due to significant changes in the municipality of Sfax, the climate partnership between Marburg and Sfax was unable to complete its process for developing the programme of action as planned. Nonetheless, it does plan to finalise the joint programme of action at a later date.

German municipality	African municipality
Horb am Neckar	Belo (Cameroon)
Geestland	Leribe District (Lesotho)
Ludwigsburg	Kongoussi (Burkina Faso)
Marburg	Sfax (Tunisia)
Munich	Cape Town (South Africa)
Neumarkt in der Oberpfalz	Drakenstein (South Africa)
Oldenburg	Buffalo City Metropolitan Municipality (South Africa)
Rastatt	Saint-Louis (Senegal)
Solingen	Thiès (Senegal)
Unterschleißheim	Ho (Ghana)

Figure 1: Climate partnerships involved in the third phase of the project - LAG 21 NRW / Service Agency

The various sections of the introduction explain how the project is organised and structured. The basic system for the project was jointly developed by the Service Agency and LAG 21 NRW. During the pilot phase and the second project phase, in which 9 and 14 climate partnerships between German and African, Latin American and Caribbean municipalities were established respectively, the constructive feedback we received from the municipal actors involved led us to further optimise the system.

The second section of the documentation is devoted to networking among the partner municipalities. The project aims to network the participating municipalities on various levels. The communication forums provided and supported are first of all described in general terms. This is followed by a brief summary of the key project events, namely the kick-off workshop in South Africa, the four meetings of the network of German municipalities, and the respective meetings of the network of African municipalities.

The third section contains reports on the individual climate partnerships, and includes details on their background, the process of preparing the joint programmes of action and their respective focal areas of action. The documentation is then completed with a set of conclusions from the third phase of the project, and a look at the future prospects for continued cooperation within the climate partnerships that have now been established.

2.1 General workflow of the project

Each municipal climate partnership aims to design and implement step-by-step a joint programme of action for climate change mitigation and adaptation. The programme of action is designed on the basis of abstract overarching or strategic objectives that are operationalised through specific measures for implementation. It also includes a detailed plan of resources, as well as indicators for monitoring the achievement of objectives.

Each programme of action is developed within the respective municipal climate partnership over a period of 18 months, during which time the municipalities receive intensive advice, support and promotion of bilateral exchange from the Service Agency and LAG 21 NRW. After this phase of intensive development each climate partnership assumes responsibility for self-reliantly implementing and continuously improving its programme of action in the long term. As described in the manual developed by the Service Agency and LAG 21 NRW, this implementation of the programme takes place in three broad steps:

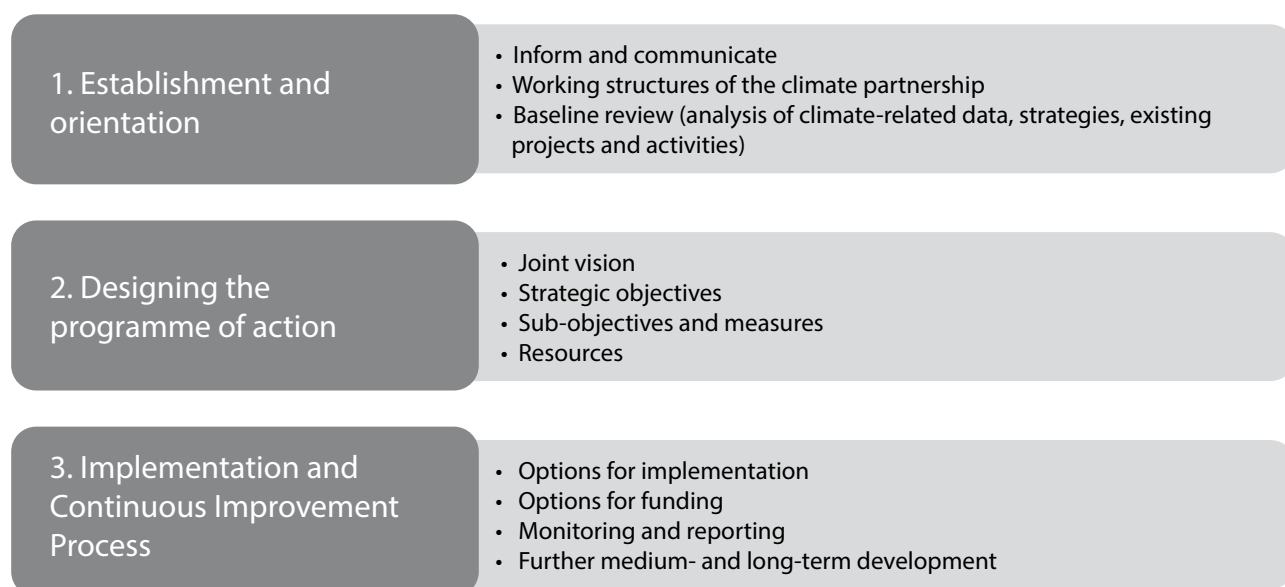


Figure 2: Steps of cooperation in the climate partnership - LAG 21 NRW / Service Agency

The first step involves establishing and orientating the climate partnership. This also means creating its organisational foundations and basic working principles. Once both partners have agreed to participate in the project, this step begins with the first meeting of the network of German municipalities and ends approximately six months later, once the working structures of the climate partnership have been formed and the two sides have conducted a baseline review of the relevant information and data. The milestones for this step comprise the international kick-off workshop and the first mission.

The second meeting of the network of German municipalities marks the beginning of the process of developing the programmes of action. This process involves the partners discussing and agreeing on the key areas of action, objectives, measures and resources in the climate partnership. During this step, the partners undertake up to two missions. This step ends with the completion of the programme of action, and the presentation thereof at the second international workshop.

The final step in the system involves launching actual implementation of the joint programmes of action. One obvious way of making this launch as smooth as possible in both municipalities, and ensuring the support of key actors, is a policy resolution concerning the programme of action. To successively implement the planned measures, it is usually necessary to obtain external funding to supplement the partnership's own resources. This means that issues of project funding play an important role. Another important component is regular monitoring and updating of the programme of action in a Continuous Improvement Process. This involves defining indicators in advance that enable the partners to measure the degree to which they have achieved their objectives.

2.2 Establishing and structuring the municipal climate partnerships

The three broad steps described above for designing and implementing the programme of action include various sub-steps, which we will now describe in more detail.

Establishing a climate partnership involves communicating with the project stakeholders, establishing the necessary working structures and sharing information, and analysing available climate-related data, information and existing strategies and activities.

Inform and communicate

As well as the climate partnership actors getting in touch with and getting to know each other, 'inform and communicate' means communicating all the information on the climate partnership schedule, its background and its benefits to the various actors within the local community (policymakers, administrators, civil society, general public) through various channels (press, Internet, presentations, information events). This is designed to ensure sustainable support for the establishment of a climate partnership within the partner municipalities, and develop a joint understanding of the problems and the new strategic approach. A further aim is to win the support of a broad range of actors who will be actively involved in the partnership.

Working structures

Defining the responsibilities and competences for the tasks within a climate partnership establishes the working structures. These working structures are designed to establish a transparent, viable and workable organisational framework comprising key administrators, policymakers and civil society actors who will each contribute their experience and expertise to the process. The working structures of the municipal climate partnership define clear responsibilities, and are intended to support cross-departmental cooperation within the municipal administration. They are also designed to integrate political and civil society actors from an early stage. To facilitate communication, the key contact persons must be appointed and clearly identified within both municipalities. At the same time, it is important to involve other actors both within and outside of the municipal administration and to clearly define their roles.

This participatory approach is designed to ensure that the programme of action for the climate partnership can be developed on a binding and professionally sound basis, and implemented sustainably.

To guarantee this, the working structures should include the following bodies:

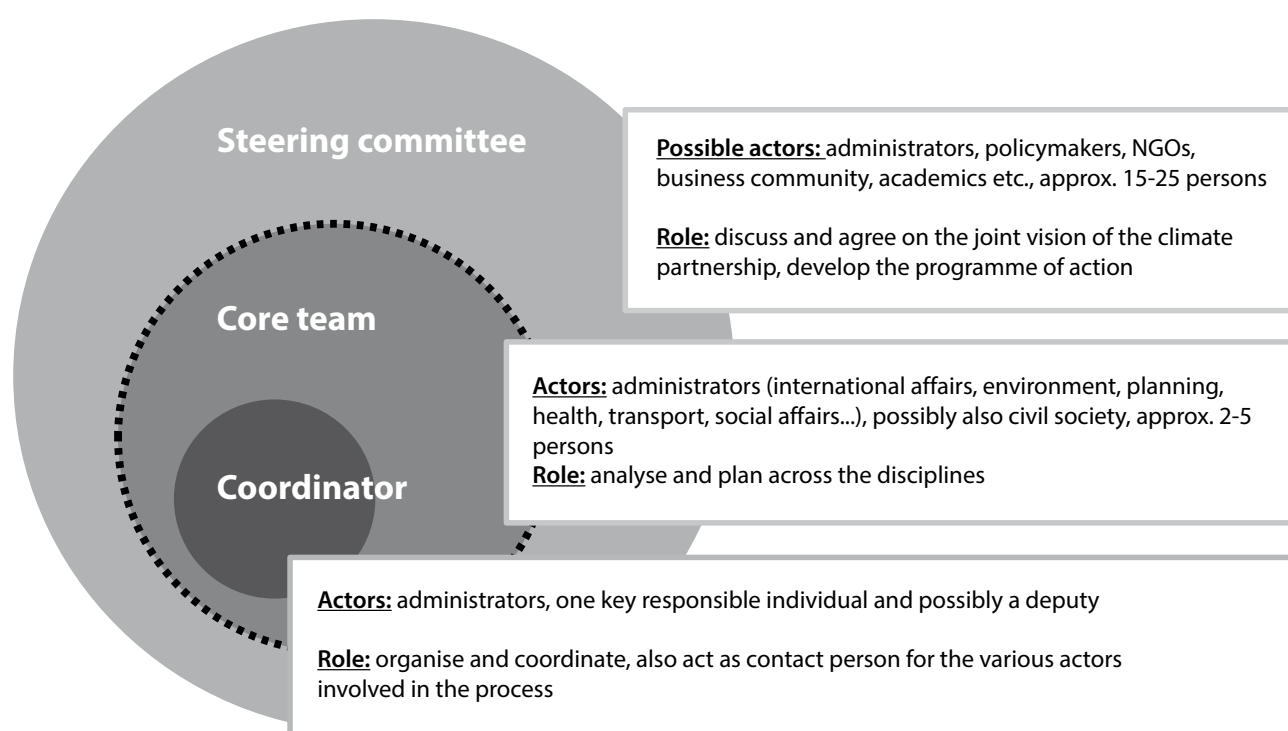


Figure 3: Working structures of the climate partnership - LAG 21 NRW / Service Agency

The coordinator plays the pivotal role within the working structures. The coordinator supports the process of launching and implementing the programme of work. The coordinator will be the key point of contact for all actors and interested parties, and will at the same time be responsible for ensuring results and for public relations work. Equally, the coordinators of the respective municipalities will provide the link in the bilateral process, and will guarantee the exchange of information and transfer of knowledge between the partner municipalities.

The core team of the administration will support the coordinator in organising and facilitating the launch and

implementation process. Furthermore, the core team will prepare the work of the steering committee. The core team will normally comprise five people. It should be constituted interdepartmentally (e.g. departments for planning, environment, international affairs, Local Agenda 21, private sector, social affairs, traffic and transport etc.), thus creating scope for integrating different approaches and solutions.

The steering committee is the body that designs the objectives and measures of the programme of action. When establishing the climate partnership, to prevent duplicate structures one option is to use existing participatory bodies already established within the municipality to perform its

work. In the course of the process, the steering committee should meet by invitation of the coordinator on at least four occasions that are synchronised with the main activities of the project (kick-off workshop, missions).



Figure 4: Performing an analysis of actors when establishing the working structures (photo: Stephen Williams)

Baseline review

The baseline review involves identifying, describing and evaluating the status quo with regard to climate change mitigation and adaptation on both sides. To this end the partners intensively exchange information on their respective strategies, experiences, projects and activities. The baseline review enables each municipality to closely examine its current status, after which the two municipalities share their findings. On this basis they will define the key thematic focuses for jointly developing the programme of action for sustainable climate change mitigation and adaptation.

The baseline review encompasses three key steps:

- analysis of qualitative and quantitative information
- SWOT analysis
- definition of the key areas of action and strategic objectives

The qualitative and quantitative information and data should be analysed on the basis of important documents and relevant resolutions that are identified and mutually exchanged within the partner municipalities. For this purpose the municipalities can use existing sources such as local, regional and national climate change mitigation

and/or adaptation master plans, urban development strategies, and natural resource management and environmental plans. The analysis can also be performed using a list of qualitative questions included in the manual.



Figure 5: Experts sharing information during the baseline review (photo: Stephen Williams)

The quantitative and qualitative information and data should be subjected to a SWOT analysis (SWOT is an acronym for strengths, weaknesses, opportunities and threats). This enables the municipalities to identify the current situation separately from the anticipated opportunities and threats, while assessing the strengths and weaknesses. The tool also analyses strengths in relation to threats, and weaknesses in relation to opportunities.

When the two partner municipalities compare the results of their respective SWOT analyses, they are able to identify key areas and overarching objectives for their programme of action, e.g. areas where both municipalities possess experience that they can exchange, or where one municipality has strengths that will meet the needs of the other. This forms the basis for the continued process of developing the joint programme of action for future climate change mitigation and adaptation measures implemented by the climate partnership. Focusing on the high-priority problems and issues of climate change mitigation and adaptation in the two municipalities will keep the programme of action on a manageable scale. This is the first joint decision taken by the climate change management partners, and will determine the direction of the process from this point on.

2.3 Designing the programmes of action

The basic aim of the project '50 Municipal Climate Partnerships by 2015' is for the partner municipalities to produce a well-designed programme of action for climate change mitigation and adaptation.

The programme of action is developed in a participatory process involving the steering committees and core teams, and is continuously harmonised within the municipalities and between the partners via the coordinators. This process is based on the results of the preceding baseline review, and the broad visions of the partners.

Each programme of action has a hierarchical structure with more abstract, strategic objectives at the top, moving down to more specific, action-oriented measures at the bottom. The strategic objectives are formulated as an output of the baseline review. These form the basis for defining the targets and measures, and reflect the areas of work and projects identified. The individual targets and measures should be selected such that they are appropriate to the specific situations in the partner municipalities, and so that implementation can be measured. The targets and measures should also be selected so that they are accepted by the actors involved, are subject to realistic planning and include deadlines for operationalisation.

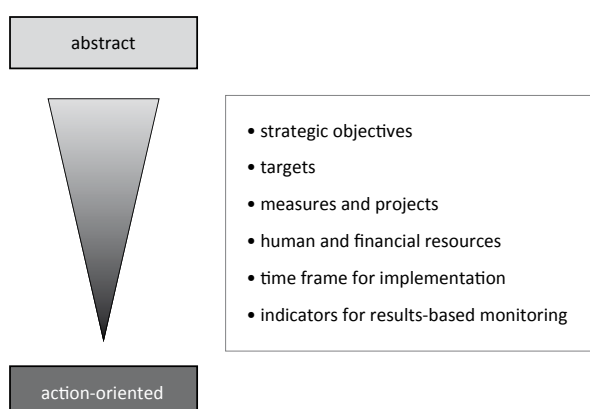


Figure 6: Designing the programme of action - LAG 21 NRW

The focal areas and objectives of the bilateral programmes of action for climate change mitigation and adaptation are as heterogeneous as the partnerships themselves. In the field of climate change mitigation, objectives can be formulated for energy efficiency, renewable energy and energy saving. It is also possible to address issues of low-emission agriculture forestry, reduction of deforestation, establishment of mobility management, or sustainable solid waste management to avoid greenhouse gas emissions. Regarding the impacts of climate change such as rising sea levels, desertification, climate change-related soil erosion or increased frequency of extreme weather events, objectives might involve measures to improve the management of these changes. Such measures could include coastal protection, reforestation, water management or the conservation of biological diversity.

The programmes of action also create scope for mainstreaming targets linked to strategic objectives such as comprehensive education work, or expanding databases on climate change through corresponding studies.

To make the programme a manageable, implementation-oriented instrument, the programme of action will include both measures that can be implemented by the two partner municipalities self-reliantly, and measures for which support will be required from third parties such as twinning associations, private investors or donor organisations. This will mean that projects of various orders of magnitude can be launched on the basis of the programme. Since the programme of action is a joint one, its objectives and measures will relate to both partner municipalities. Different measures are identified for each of the two municipalities involved, which are then implemented jointly within the climate partnership making use of the specific resources available in the two municipalities. Qualitative and quantitative indicators are assigned to the measures so that the results achieved can be measured.

As a preamble and to provide long-term orientation, the programme of action is prefaced with a joint vision. This joint vision describes the general, strategic objectives pursued by the municipalities in establishing the climate partnership. As such it provides a framework for the joint work, and describes a target situation that is to be achieved

within the next 10 to 15 years. It thus makes the cooperation more binding. This joint vision is then concretised and operationalised through the programme of action.

2.4 Implementing and continuously improving the programme of action

The joint programme of action for climate change mitigation and adaptation forms the basis for long-term cooperation within the climate partnership. The key areas of action by the climate partnership laid down in the programme are based on a sound knowledge of the situation in the respective partner municipality. The targets jointly formulated in them are based on harmonised and realistic measures for the achievement of objectives. Completion of the programmes of action marks the end of an intensive work process supported by the Service Agency and LAG 21 NRW.

The final and iterative step of work performed by the climate partnership is the responsibility of the two municipalities themselves, and begins after the international workshop for the presentation of the programmes of action. Options for implementing the measures are jointly explored and the programme of action itself is subjected to a Continuous Improvement Process.

During the preparation of the programmes of action a rough time frame should have been established by defining the duration and date of commencement of the individual measures. In principle we recommend first of all implementing a pilot measure with a manageable time frame and modest financial requirements.

Depending on the nature and scope of the measures in the programme of action, these can be implemented using the human and financial resources of various actors that are directly available within the two municipalities, or by attracting external funding. The programme of action itself (which is the outcome of a structured process of reflection and planning), plus the working and communication structures established, provide a very sound basis on which to apply for funding.

Given their medium- to long-term time frame, the programmes of action cannot be static. They must be actively further developed and adjusted. This is why the successful (or unsuccessful) achievement of the agreed objectives, and implementation of the measures, should be regularly reviewed through systematic monitoring. This involves applying the indicators. The results are discussed in the respective steering committees, where any necessary changes to the joint plans are identified and discussed and agreed on between the partners. Implementation of the programme of action is then continued on the basis of this adjusted plan. This overall approach involves a cycle repeated periodically that encompasses the following steps:

- designing the joint programme of action (plan)
- implement the measures and projects documented in the programme of action (do)
- monitor (check)
- further develop and adjust the programme of action (act)

(see Figure 7).

A climate partnership report that describes the implementation and further development of the programme of action at continuous intervals provides an important basis for this. The report also serves as a tool for providing information to the policymaking bodies and interested actors in the respective municipalities. With regard to the activities themselves and optimisation of the working process, it would make sense to link the report to the municipalities' general reporting on the topics of climate change mitigation and adaptation.

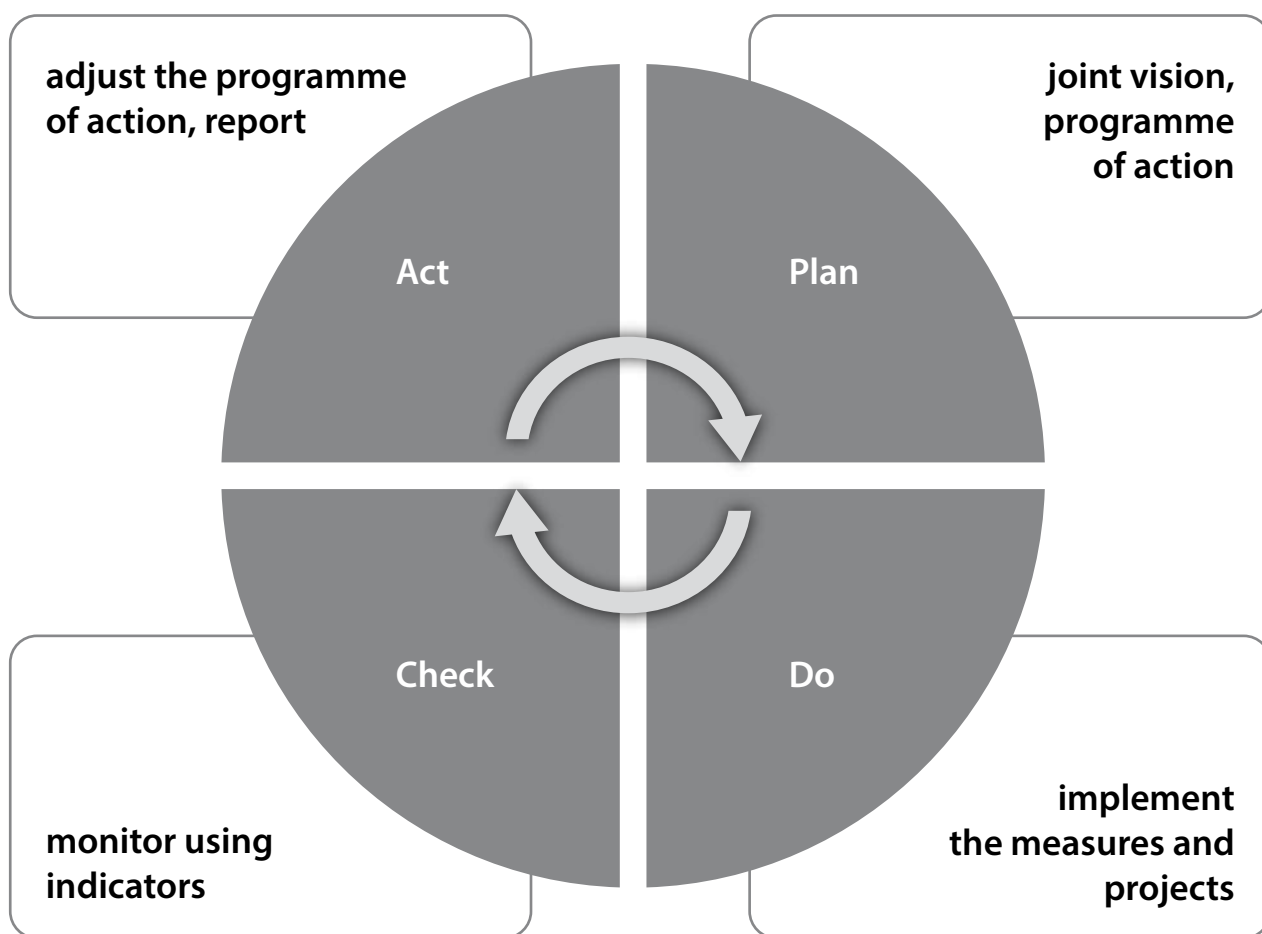


Figure 7: The Continuous Improvement Process embedded in the PDCA cycle - LAG 21 NRW

3. Networking the participating municipalities

3.1 Levels of networking in the project

The project '50 Municipal Climate Partnerships by 2015' enables all the municipalities involved in a given phase of the project to network and share experiences with each other. Here we can distinguish between three different levels of exchange (see Fig. 8).

Cooperation is based on direct bilateral contact between the two municipalities involved in the climate partnership. Sharing takes place in the form of the reciprocal exchange of experts, as well as communication by email, telephone conferences etc. The municipalities themselves decide on the location and the actors to be involved in the respective exchange. During the third phase of the project from March 2014 to October 2015, three such expert missions took place per climate partnership. The Service Agency and LAG 21 NRW provided organisational and technical support for these exchanges. In Germany the delegation visits were supported by the moderation of workshops. These were

designed primarily to survey and analyse the existing experiences and potential of the two partner municipalities, and the challenges they face, in selected thematic areas.

The second level of exchange involves the networking of the German municipalities, and the networking of the African municipalities. To support this process network meetings are held, to which the coordinators and two members of the core team/steering committee from each of the municipalities are invited. The main purpose of these network meetings is to share lessons learned from work in the individual climate partnerships. The actors involved report on the status quo in their respective climate partnership, receive feedback from the other members of the network as well as from the project team of the Service Agency and LAG 21 NRW, and plan the next steps. They also receive technical inputs and in-depth information on the progress of the project as a whole, as well as complementary support offerings for municipal partnerships. The diversity of the climate partnerships involved in this phase of the project was a distinctive feature of the process of

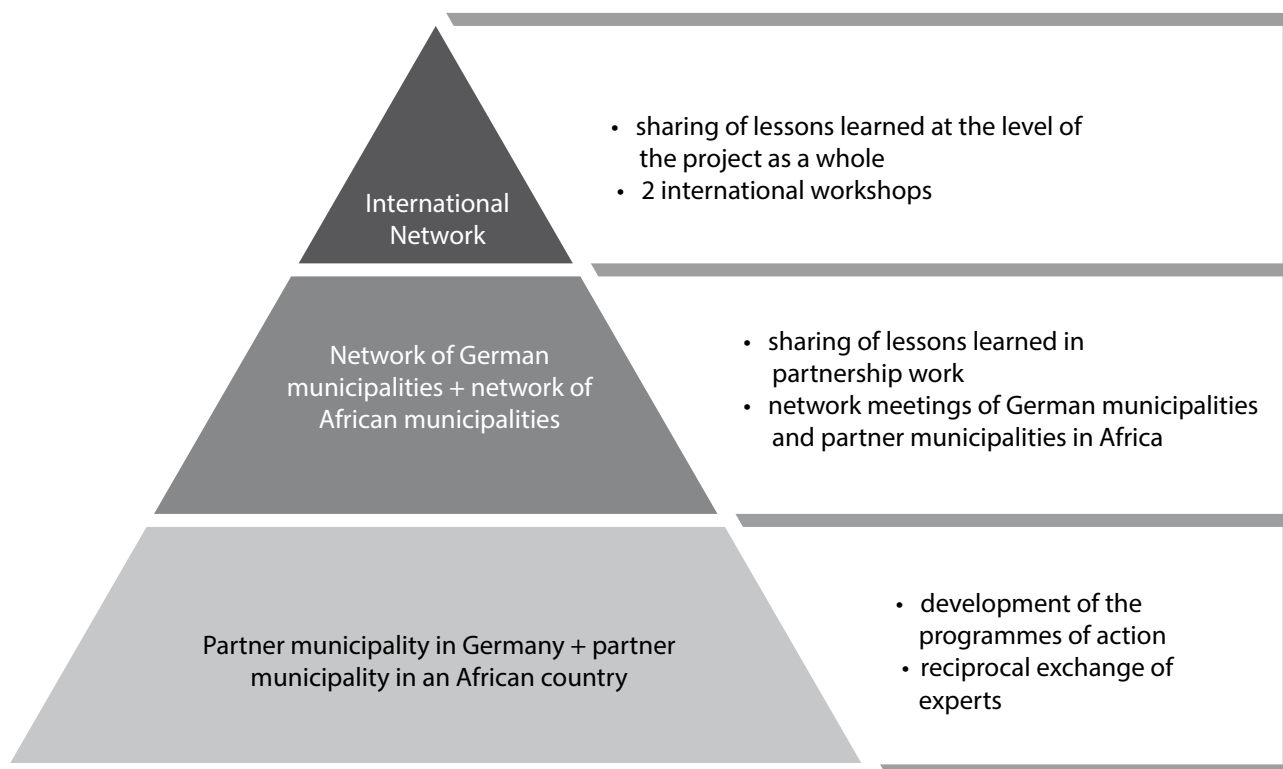


Figure 8: Levels of networking in the project - LAG 21 NRW / Service Agency

sharing at these network meetings. New partnerships were able to benefit from the lessons learned by partnerships already established. In cases where city-to-city twinning arrangements were already in place, extending cooperation to include climate change provided fresh impetus. During the third phase a total of four network meetings of the participating German municipalities and one network meeting of the participating African municipalities took place.

At the beginning and at the end of the joint work on the programmes of action, international workshops are held that are attended by representatives of all the municipalities involved. This international network of all municipalities forms the third level of networking. It focuses on sharing lessons learned at the level of the project as a whole. The purpose of the kick-off workshop is to develop a joint understanding of the structure and unfolding of the project, and to initiate expert exchange among the partners. The second international workshop at the end of the phase provides a platform for presentation of the programmes of action, and the discussion of future cooperation both within the climate partnerships and at the level of the international network.

We will now summarise and discuss the salient content and results of the kick-off workshop for the third phase of the project, and the individual network meetings.

3.2 Kick-off workshop

The international workshop to kick off the third phase of the project took place in Somerset West, South Africa, from 25 to 27 March 2014. Participants included representatives from the spheres of policymaking, administration and local civil society from each of the total of 20 municipalities taking part. They also included representatives of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Association of German Cities and the South African Local Government Association (SALGA).

The purpose of the kick-off workshop was to enable all the actors involved to develop a joint understanding of the project objectives, and the approach and structure of this particular project phase. LAG 21 NRW and the Service Agency presented the project manual. Each of the municipalities involved confirmed that they would be participating in the project by signing and ceremonially handing over a



Figure 9: Participants at the international kick-off workshop in Somerset West, South Africa (photo: Stephen Williams)

Memorandum of Understanding with the Service Agency Communities in One World. This MoU laid down in writing the objectives of the project and the framework for cooperation within it.

The participants also formulated their expectations of the project. In this context they emphasised the importance of cooperating on an equal footing within the individual climate partnerships, in a spirit of mutual learning. They also said how especially important it was to them to be shown in the course of the process ways of subsequently implementing the programmes of action, so that the project would lead to concrete results in their respective municipalities.

An inside view of implementing a joint programme of action was provided by Geoff Tooley, a representative of eThekweni Municipality (Durban), South Africa. He provided some insights into the work of the Durban-Bremen climate partnership, which had taken part in the pilot phase of the project from 2011 to 2013. Both municipalities are currently implementing their joint programme of action. One key element of that programme is a project to restore the Mhlangane watershed in Durban, which is being funded by Engagement Global using special funds of the BMZ. Participants also gained a first-hand impression of how to manage climate change during an excursion to a coastal protection project in the greater Cape Town area.

For the actors involved in the third phase of the project, work on the joint programmes of action for climate change mitigation and adaptation already commenced during the workshop. In a first session of group work, participants developed a map of actors for their climate partnership. During a second phase of group work they developed an initial overview of their situation. 'What activities for climate change mitigation and adaptation already exist in our municipality? What impacts of climate change does our municipality face? In which areas would it make sense to work together?' These were the kind of questions on which participants focused.

At the end of the workshop those present jointly identified the milestones ahead of them as they go about developing their programmes of action, and reached agreements

concerning communication on the forthcoming reciprocal exchange of experts.

3.3 Network meetings of the participating municipalities

3.3.1 First network meeting of the German municipalities

The first meeting of this network took place in Bonn, on 14 and 15 October 2013. It brought together for the first time representatives of the German municipalities that had previously submitted to the Service Agency a declaration of interest in participating in the third phase of the project. This meeting revolved around providing comprehensive information on the project as a whole. Together with the Service Agency and LAG 21 NRW, participants discussed the services that would be provided by the project executing agency, and what was expected of the municipalities. The meeting was also used to prepare for the forthcoming international kick-off workshop to be held in Somerset West, South Africa.

To explain what the project involved, the project implementing organisations held several presentations followed by question and answer sessions. Stefan Wagner, Director of the Department of International Affairs, City of Bonn, then reported on the lessons learned by his city when participating in the pilot phase of the project together with the city of Cape Coast in Ghana.

The representatives gave brief presentations on their respective municipalities. They provided an overview of the climate change mitigation activities in their municipalities, and explained the history of their respective partnerships. The participants then worked in groups to discuss the starting points for their partnerships, and to share ideas on the next steps. It emerged that with regard to information work, a number of activities had already been implemented. Elected officials, various specialised departments and associations within the municipality had already been informed about the project, and had expressed their motivation to get actively involved. First discussions with

the partner municipalities on participation in the project had already taken place.

Given the different situations of the municipalities represented, it was particularly important to facilitate communication and sharing of lessons learned between those with long-standing partnerships, and those that were just establishing new climate partnerships. Aspects such as institutionalising the partnership within the municipality, communicating with the partner municipality and options for formalising the partnership were discussed.

3.3.2 Second network meeting of the German municipalities

The second meeting of the network of German municipalities, which took place in Bad Breisig on 30 September and 1 October 2014, revolved around the expert missions that had been conducted in the preceding months. In an open round of discussion, participants were able to compare notes on the lessons learned, highlights and challenges encountered during the missions. In a subsequent phase of group work, participants compared notes in detail on their various approaches to establishing the working structures, and the baseline review conducted together with their partners. It was particularly important here to share information on approaches to publicising the project, and motivating possible actors for the steering committee..



Figure 10: Group work at the second network meeting (photo: Service Agency)

In a second phase of group work, the municipal actors jointly discussed the next steps in their respective climate partnerships that would take them toward the joint programmes

of action. Now that the basic working structures had been established on both sides, the next step was to define the actual main areas of work in the climate partnership, and elaborate the joint vision that would serve as the guiding framework. Some partnerships had already taking concrete steps in this direction, which meant that first elements of the programme of action had been discussed with the partners in the form of strategic goals and targets.

One thematic block of the network meeting was devoted to promoting the engagement of young people in the work of the partnerships. Anne Klanke of the Service Agency presented the ASA-Kommunal programme. This programme offers young people aged between 21 and 30 an opportunity to spend several months working in a project run by municipalities or twinning schemes. Municipalities may submit project proposals for this programme once a year. Here they can choose between the basic programme, under which two participants from Germany complete a work experience assignment in the partner municipality in the Global South, and the South-North programme, which allows a reciprocal exchange of participants from both municipalities. An offering for schools was presented by Julia Hämer of LAG 21 NRW. 'View from the South' is a planning game used for civic education purposes, to support the climate partnerships project in municipalities and schools in Germany. It aims to raise young people's awareness of the impacts of climate change in the Global South, and confront them with parliamentary decision-making processes. When playing the game, the youngsters simulate a decision-making process on climate change adaptation measures in a municipality of the Global South.

On the second day of the network meeting, participants received some additional ideas and suggestions on preparing and planning their projects. From a scientific perspective, Willington Ortiz of the Wuppertal Institute discussed the effectiveness of projects to promote renewable energy in countries of the Global South. In this context he referred to a recently published study by the WISIONS project, and discussed criteria used in the evaluation of such projects. As well as efficiency and effectiveness, he pointed out that an orientation toward needs was an important criterion. René Langheinrich presented the practical work of Engineers without Borders, and described the project cycle used in

his organisation. Each project begins with a fact-finding mission. This is designed to ensure that the project is geared to needs, and to develop technical solutions that are locally appropriate. Both speakers said they believed that partnership projects should always be subjected to monitoring and subsequent evaluation of the intended goals of the project.

3.3.3 Third network meeting of the German municipalities

The third meeting of the network of German municipalities took place in Bonn on 12 and 13 March 2015. It also focused on intensive exchange concerning work to prepare the joint programmes of action. By this point most of the participating municipalities had already conducted a second expert mission. The participants now reported on the progress made in the climate partnerships. Three working groups were formed that enabled participants to compare notes in detail on the concrete work to prepare their programmes of action. Based on the baseline review, by this point all of the climate partnerships had already agreed on key focuses for their programmes of action, and developed corresponding ideas for specific projects. In their groups the participants also discussed difficulties in putting their project ideas into practice, and developed possible solutions.



Figure 11: Discussing the programmes of action in detail (photo: Service Agency)

The working structures of the climate partnerships provide for continuous cooperation between municipal policy-makers and administrators, and civil society actors. This presents a challenge to the municipal climate partnerships, in that they first of all need to develop a joint understanding

of civil society and its involvement in municipal processes. The network meeting dedicated a separate unit to this issue, during which Dr. Médard Kabanda explained the history and the understanding of the concept of civil society in the African context, and together with the participants reflected on fundamental differences between this understanding and the understanding in Germany.



Figure 12: Participants at the third network meeting (photo: Service Agency)

The network meeting also took a detailed look at the prospects for implementing projects in the programmes of action. With regard to methodology, participants were familiarised with the principle of the results-based planning of development projects, which is important particularly when applying for funding from development donors. In a group work session, the participants took one example of a project idea from their own programme of action and applied this system to it. The funding of partnership projects was dealt with in a separate thematic block. The options presented included the Service Agency's financial advisory service, the advisory offering of Bengo on applying for funding from the European Union, and the opportunities to obtain funding through the Service Agency under the 'Partnership projects for sustainable local development' (Nakopa) programme and the BMZ-financed 'Programme to support municipal climate change mitigation and adaptation projects'. Participants were also familiarised with the 'Senior Expert Programme', which provides an excellent opportunity for partner municipalities to receive advice from an experienced expert for a limited period of time.

3.3.4 Fourth network meeting of the German municipalities

The fourth meeting of the network of German municipalities took place in Dortmund on 8 and 9 July 2015. By this point, all the climate partnerships had already produced first drafts of their joint programmes of action. These were now presented to the actors in the other partnerships, and jointly discussed. It was evident that the plans were already at a very advanced stage, as reflected in some cases by mature project ideas. During the feedback session on the draft programmes of action, various questions were raised: Does the programme of action also include activities in the German municipality? Are the planned measures oriented toward the needs of target groups? What information do we still need for detailed planning of the individual project? Is the envisaged time frame for implementation realistic? What actors might be involved in implementing the projects?

Participants left the discussion with a clear understanding of the work they needed to do in order to finalise their programmes of action.

One special feature of the project is the fact that joint programmes of action are developed, i.e. measures are identified and jointly implemented in both participating municipalities. Given the different settings in the two municipalities involved in a partnership, formulating measures in the German municipalities is often seen as a challenge. The meeting addressed this issue in a group work session, during which participants collected ideas and discussed the approaches they had taken so far. Various approaches emerged. The climate partnership Munich - Cape Town had identified various particularly innovative project approaches in both cities, and now planned to focus on further exchange and joint activities in these areas. Together with its partners in Saint-Louis in Senegal, the town of Rastatt had defined joint overarching themes, and identified for each theme different activities in the two municipalities. Other municipalities were working on the basis of their own objectives, as defined for instance in their master plans for municipal climate change mitigation, and were comparing these with the objectives of their partner municipalities in order to identify potential areas for cooperation. Other approaches mentioned included climate justice issues, and reflecting on patterns of consumption in the German municipalities.

This fourth network meeting was the final one prior to completion of the programmes of action and their presentation at the international workshop. For this reason the subsequent reporting and preparation of the workshop were discussed. The international workshop marks the end of the intensive phase of cooperation between the Service Agency/LAG 21 NRW and the municipalities involved in the project. All sides did, however, express an interest in continuing the process of exchange. The participants agreed to hold a network meeting together with the municipalities from the pilot phase once a year, and to set up an annual newsletter containing news from the climate partnerships.

3.3.5 Network meeting of the African municipalities

The meeting of African municipalities in the third project phase took place in Thiès in Senegal from 3 to 5 March 2015. It was held in cooperation with GIZ Senegal and the City of Thiès. Seven out of the total of nine African municipalities took part in the network meeting. The participants presented the plans for their joint programmes of action with their German partners, which at this point were already well advanced. Once again it was evident that the climate partnerships were addressing a very wide range of issues, and tackling urgent challenges by joining forces and pooling their expertise. The topics specified in the presentations included for instance reforestation, the promotion of solar power, solid waste and water management, education and awareness-raising.



Figure 13: Excursion to the Thiès Plateau in Senegal (photo: Djibril Diop)

Two scientific presentations showed the impacts of climate change in Senegal and in the region of West Africa as a whole. During an excursion, participants were able to see for themselves the already clearly noticeable impacts of climate change at the Thiès Plateau. These involve growing water scarcity and the soil erosion which this entails. At the same time, the actors from Thiès demonstrated ways of adapting to these impacts, for instance by implementing erosion control and afforestation measures. The excursion also included on-site visits to the sewage treatment plant and the landfill of the City of Thiès. Visiting the PROPLAST Company, which specialises in the recycling of plastic waste, showed participants how to combine successful economic activity with high environmental benefits.



Figure 14: Visiting the Thiès municipal sewage treatment plant in Senegal (photo: Djibril Diop)

The project managers from the Service Agency and LAG 21 NRW provided participants with information on options for implementing the programmes of action, and discussed the various offerings of Engagement Global that had also been presented during the meetings of the network of German municipalities. They focused on the joint development of project proposals geared to needs.

3.4 International Workshop for presentation of the Joint Programmes of Action

The international workshop to present the jointly developed programmes of action took place in Munich from 13 to 15 October 2015. The nine climate partnerships were represented by their coordinators, selected members of the core teams and steering committees, as well as numerous lord mayors and mayors.

The first day of the workshop was devoted entirely to the joint programmes of action. A poster exhibition provided impressions of the expert missions within the individual climate partnerships, as well as an overview of the focal themes. These were then discussed in greater detail in four expert forums on the topics of renewable energy use and energy efficiency, afforestation, water management and environmental education. Embassy representatives, civil society and development cooperation actors, and representatives of climate partnerships from other phases of the project took the opportunity to dialogue with actors involved in the third phase of the project. Prof. Dr. Manfred Fishedick, Vice-President of the Wuppertal Institute for Climate, Environment and Energy, delivered a lecture providing an overview of the latest scientific findings on climate change. Professor Fishedick described the direct sharing of lessons learned between municipalities, as practised in the climate partnerships project, as an important factor for successfully accelerating the implementation of measures to mitigate climate change. The first day was formally brought to a close by a reception held by the City of Munich.

The representatives of the climate partnerships used the other days of the workshop to discuss the various options for continuing bilateral cooperation, and possible ways of generating impetus for implementing the programmes of action. An excursion on the topics of rainwater management, natural restoration and renewable energy, organised by the City of Munich, provided participants with inspiration for their own work in the fields of climate change mitigation and adaptation.



Figure 15: Participants at the final workshop admiring the poster exhibition (photo: Andreas Grasser)



Figure 16: Participants discussing issues in working groups (photo: Andreas Grasser)

The third day focused on practical lessons learned by individual actors in the network. In five working groups, individuals from within the network acting as theme sponsors shared their knowledge and provided fresh ideas for work. Once again, the diversity of the expertise being shared was striking. While one working group based its discussion on the model of an energy-efficient stove to conserve natural resources, participants at the next table discussed options for feeding renewable energy into the power grid. The agenda of another working group involve linking work within the partnerships with education for sustainable development. The participants also reflected on the extent to which women and men are affected in different ways by climate change, and whether climate change mitigation measures could be used to create jobs.

The final workshop at the same time marked the beginning of implementation of the programmes of action by the individual climate partnerships. The actors within each of the climate partnerships agreed on a timetable for the next one to two years. They also agreed details for future meetings and visits, and the planned submission of project proposals to obtain financial support. Furthermore, the participants agreed to continue sharing information on the progress of their climate partnerships in the future through an annual newsletter, and by holding a meeting of the participating German municipalities.

4. Reports of the Municipal Climate Partnerships

This section describes the individual climate partnerships with their various characteristics, backgrounds, key steps in developing the programmes of action, and focal areas of activity and measures. These texts were supplied by the municipalities themselves. Although the Service Agency and LAG 21 NRW made some suggestions regarding occasional addenda or adjustments, and edited the entries slightly, they are not responsible for the content.

4.1 Geestland – Leribe District

	Geestland (Germany)	Leribe District (Lesotho)
Population	30,838	331,117
Area	356 km ²	2,828 km ²
Population density	approx. 87 inhabitants/km ²	approx. 117 inhabitants/km ²
Climate zone	temperate	subtropical steppe
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • higher intensity of precipitation • more frequent storms 	<ul style="list-style-type: none"> • heavy snowfalls • heavy rainfall, leading to flooding • strong winds and tornadoes • early frost • longer, colder winters • very short summers • droughts • widespread soil erosion

Profile of the climate partnership

The town of Geestland was created by the merger of the former municipalities of Langen and Bederkesa on 1 January 2015. Mitigating climate change and saving energy are maxims of the municipality of Geestland. It is with good reason that it calls itself a one hundred per cent LED City. The entire town's street lighting (approx. 4,700 lamp heads) has been converted to LED technology. The municipality of Langen had already received the European Commission's Green Light Award for this conversion. Geestland now plans to install a control system in around ninety per cent of its street lights, and build an energy park that to supply (inter alia) the street lights with electricity.

The decision to seek a climate partnership with Leribe District was based on the links that exist between the citizens of the two municipalities. The Lesotho group at St. Peter's Church in Langen has maintained very close links with Lesotho (a country that is entirely surrounded by South Africa) for many years. School partnerships also already exist between schools in Langen and schools in Leribe District. Geestland is aware of its global responsibility. Action for a sustainable future is at the top of the municipality's agenda. This is why it is continuously involved in developing measures and projects for energy efficiency. Geestland is also a Fair Trade Town.

Leribe is a district in the north-east of Lesotho that is headed by a District Administrator. The district is divided into 13 constituencies, 15 community councils, and two wards led by two principal chiefs. The two wards are Leribe and Tsikoane, with the two towns of Hlotse and Maputsoe, which have town councils. The topography of Leribe is characterised by uplands and lowlands, and valleys and rivers. The District Administration of Leribe had no hesitation in responding positively to the former town of Langen's proposal for a municipal climate partnership. Leribe District currently faces major challenges such as deforestation, water pollution caused by the lack of solid waste management, and soil erosion caused by dwindling vegetation, heavy rainfall and strong winds. It is gradually making progress toward greening, and developing alternative cooking methods designed to reduce the production of smoke and waste gases and eradicate logging.

In Leribe District, climate change is making itself felt in the form of more severe winters. The other seasons have also changed. The District must adapt to this new situation, and communicate this adaptation to its citizens. Since more knowledge is present in the municipality of Geestland concerning the causes and effects of climate change and adaptation to it, the Leribe District Administration is hoping to learn much from the sharing of expertise, and to apply what it learns. Leribe District used to be home to the best cropland in Lesotho. Our partnership therefore also aims to protect the livelihoods of the entire population, who live largely from crop and animal farming.

The process of designing the joint programme of action

Communication between the partner municipalities took place at the kick-off workshop, during the three missions and in numerous email conversations. The mutual visits were very frank and open, and everyone felt very comfortable and able to express themselves. All the meetings, including those with the relevant experts, were held in a cordial and constructive spirit and on an equal footing.

Both municipalities established steering committees and core teams comprised of administrators, policymakers, businesspersons, civil society actors, public institutions and authorities, and highly committed private individuals. To

develop the programme of action, however, it was important that both sides were first able to familiarise themselves with the status of climate change and its impacts, and the lifestyles of people, in the respective partner municipality. Using the Venn diagrams prepared at the kick-off workshop and the baseline reviews conducted in both municipalities, the two sides were able to communicate specific details to their respective partners concerning the challenges, potential, impacts and people affected.



Figure 17: Visiting the Deputy Minister of Local Government and Chieftainship in Maseru (photo: Municipality of Geestland)

At a workshop held in Langen town hall – organised with kind the support of the Service Agency and LAG 21 NRW – participants identified the differences between Geestland and Leribe District regarding administrative and policy-making processes. In Leribe District, it is unusual to come across short decision-making channels. On the one hand there is the traditional system (of chiefs); at the same time a town council with elected representatives exists. In 2016 Lesotho plans to implement a decentralisation reform, however, under which greater decision-making authority and responsibility will be transferred to the districts. The country intends to move beyond the centralised and hierarchical structures of the government apparatus, and ensure that political decision-making processes take place at the level where the problems to be solved actually exist. In the future, this will also entail an increase in the financial resources available to the districts.

During the missions, three focal areas of work emerged: soil erosion and water management, reforestation, and solid waste management. For both municipalities it is imperative to perform public awareness-raising work on climate change mitigation and adaptation. Planned measures include for instance the initiation of further school partnerships, in order to reach those generations that will be harder hit by the impacts of climate change. Through the climate partnership, schoolchildren in Geestland were able to benefit from the planning game 'View from the South' – a project of LAG 21 NRW that enables children from the ninth grade upward to learn how to switch perspectives on climate change policy issues. A grammar school in Geestland will continue to use this planning game independently in the future.

The missions and the network meetings enabled the partners to establish links with other organisations and associations (such as Engineers without Borders), with which they will be able to cooperate when implementing their programmes of action. Contact with experts and familiarity with the working structures on the ground are further key prerequisites for implementing the project, and for joint close cooperation in a spirit of trust.



Figure 18: Finalising the programme of action in Leribe (photo: Municipality of Geestland)

Description of the key measures of the programme of action

The main objective of our programme of action is to make joint progress with adaptation to the impacts of climate change, and raise people's awareness of the importance of this on the ground. Leribe District and Geestland have

agreed on the following main areas of action, which are interrelated:

- I. Introduce solid waste management to improve cleanliness and hygiene in Leribe district, and establish professional waste management involving the authorities and the population
- II. Reforestation, to regreen the District with native trees, plants and grasses
- III. Contain soil erosion and improve water management in Leribe.
- IV. Plant meadow orchards at schools in Leribe District and Geestland for purposes of environmental education and to provide schoolchildren with fresh fruit.
- V. Strengthen public awareness-raising in Leribe District and Geestland.

I. Solid waste management

There is no adequate solid waste management in the town of Leribe. Although refuse boxes do exist along public roads, these are emptied at irregular intervals only due to the lack of financial resources available to the District Administration. Consequently, large amounts of rubbish accumulate. Waste collection is farmed out to private companies. Households do not have waste bins, so people burn their rubbish. The landfills that do exist are not properly managed. Some of the dumping grounds are located along rivers, which entails increased risks of disease. Frequent strong winds spread light materials from the landfills into the surrounding areas. Community cleanup campaigns are now being used to boost public awareness of the importance of a clean environment and protection against disease. At the same time, suitable landfill sites are being sought that would meet the criteria of environmental protection. In return, the municipality of Geestland will introduce one plastic-free day per month. On these days the population of Geestland will be encouraged not to use any plastic bags, and local retailers will be asked not to supply any.

II. Reforestation

Priority will be attached to regreening Leribe District. The cutting down of the trees planted to protect against erosion is the main cause of advancing desertification in the district. The consequences of this are water shortages and soil erosion. There are plans once again to plant fruit

trees, native trees and shrubs, and grasses, especially in the mountain regions. This is where the needed wetlands are located, which also merit protection. The non-native tree species – chiefly eucalyptus trees – are already being felled even as greening proceeds. Through the fundraising campaign 'A tree for Leribe' (among other measures), the municipality of Geestland will raise money to fund the planting of native trees species.

III. Soil erosion and water management

Soil erosion can be seen throughout the country. The main causes of erosion are forest clearance, overgrazing, grazing of verges, and agricultural practices that are suboptimal in terms of climate change. The cultivation of maize, a prime agricultural practice in Leribe District, is one of the forms of crop farming most conducive to erosion. Further problems result from the manufacture and maintenance of drainage systems, the engineering of which is not yet fully mature. Events will be held with the population at large, farmers, and the relevant governmental and non-governmental agencies. A demonstration project will also be implemented along especially large erosion ditches with appropriate greening (deep-rooted grasses, fast-growing native tree or shrub species) in conjunction with construction measures, involving the aforementioned actors. The aim is to reduce the flow speed of rainwater runoff, and capture and use the water. Good approaches already exist.



Figure 19: Inspecting an erosion ditch
(photo: Municipality of Geestland)

IV. Planting meadow orchards in schools

As well as helping mitigate climate change, planting meadow orchards will also have other benefits. Schoolchildren will make a contribution toward protecting the environment and nature, and cultivating and harvesting fruit will increase their acceptance of local produce. Soil erosion in Leribe District will also be reduced by planting the trees, and the schoolchildren will be supplied with fresh fruit. The existing partnerships between schools in Leribe District and Geestland provide a solid foundation that the project intends to develop further. The municipality plans to begin planting the meadow orchards in 2015.

V. Raising awareness among citizens

To ensure that the planned activities are a success, it is important to raise the awareness of the population in Geestland and Leribe District regarding the importance of protecting the environment and the climate. This will be achieved through workshops, exhibitions, information evenings, awareness-raising campaigns and teaching units. Future generations will be harder hit by the impacts of climate change, which is why more needs to be done to involve children. Appropriate awareness-raising campaigns will be launched in 2015.

4.2 Horb am Neckar – Belo

	Horb am Neckar (Germany)	Belo (Cameroon)
Population	24,500	approx. 80,000
Area	120 km ²	346 km ²
Population density	204 inhabitants/km ²	231 inhabitants/km ²
Climate zone	temperate	tropical
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • increase in extreme precipitation involving hailstorm and rain, causing flood damage and overloading the local sewerage system • longer dry periods in spring and summer • harvest losses caused by prolonged dryness • decline in output of local hydropower plants due to lower flow rates 	<ul style="list-style-type: none"> • increase in mean temperatures • drying up of surface water • reduced river flow speeds • loss of aesthetic beauty of the urban environment • shift in the dry and rainy seasons

Profile of the climate partnership

As part of a competition organised by the federal state of Baden-Württemberg, in autumn 2010 the town of Horb am Neckar set out to become carbon neutral by the year 2050. To this end, together with committed citizens and regional institutions the municipality drew up an integrated master plan for mitigating climate change. During one of the three conferences on climate change mitigation held so far by the municipality, the topics of ‘awareness raising’ and the ‘50 Municipal Climate Partnerships by 2015’ programme were discussed, and the municipality of Belo in Cameroon was found as a partner municipality with similar structures.

Both municipalities are rural and highly decentralised. Horb comprises a core town plus 17 further town districts. Belo, which is located in the Boyo Division of the North West Region of Cameroon, is a relatively new municipality that was

only established as an administrative unit in its present form through a merger in 1993. The sub-division of Belo includes a total of 29 lower-level units (villages etc.). As in Horb, forest and agricultural areas extending across several valleys are characteristic of the region.

Climate change is creating new challenges for agriculture and forestry in both municipalities, albeit in different ways. This is why the two municipalities, Belo and Horb, established their climate partnership by officially signing the Memorandum of Understanding in March 2014. They agreed to jointly tackle the challenges of climate change mitigation and adaptation, and to mutually support each other in this regard as partners. A joint programme of action provides for cooperation in the key areas of awareness raising, sustainable water supply and forest management, and renewable power generation.



Figure 20: The Service Agency and the leaders of the municipalities of Belo and Horb signing the Memoranda of Understanding (photo: Stephen Williams)

The increasingly irregular onset of the rainy seasons in the mountainous regions around Belo is creating increasing problems for agriculture that have already led to significant harvest losses. Increasing soil erosion is another issue that is also linked to climate change.

Climate change is also evident in the town of Horb. Prolonged dry periods that sometimes already begin during the spring and also lead to harvest losses, as well as threatening the forest in its present structure, are indicators of this change. This is why the municipality of Horb wishes to make a local contribution to mitigating climate change by reducing carbon dioxide emissions. It intends to achieve this by using renewable energy, increasing energy efficiency and making savings in energy consumption. The climate partnership intends to raise awareness in both partner municipalities of the fact that climate change has many causes, does not recognise borders and calls for local action in all parts of the world.

The process of designing the joint programme of action

Representatives of the two partner municipalities first met in spring 2014 at the international kick-off workshop for the third phase of the '50 Municipal Climate Partnerships by 2015' project in Cape Town, in order to jointly identify possible key themes and local actors who could be involved. During a subsequent first mission to Horb in summer 2014 made by the Mayor of Belo, the responsible project coordinator in Belo and a representative of the civil society

organisation RUDEC, the two sides focused on the topics of energy supply, drinking water supply, and climate and environmental protection, in relation to practical examples. Another key purpose of this first mission was to enable the visitors and committed citizens and local institutions in Horb to meet each other face-to-face and to get to know each other. A further workshop was also held to elaborate in more detail the key areas for possible programmes of action. These key themes were then further developed in autumn 2014 when a delegation from Horb travelled to Belo. The delegation included the Mayor of Horb, the project coordinator and one representative of the Ecumenical Energy Association. Several meetings were held with the steering committee in Belo to define the overarching objectives of the climate partnership, identify concrete measures in connection with that and develop the programme of action. Regarding future joint projects, the two sides focused on explaining and discussing local factors that needed to be taken into account.



Figure 21: Mission to Belo (photo: Municipality of Horb am Neckar)

The steering committee in Belo included not only local administrators and representatives of civil society organisations, but also representatives of the government authorities. Particularly in the field of energy supply, but also with regard to forestry, the programme of action will need to comply with legal stipulations. This is why the two sides agreed to begin by implementing a first pilot project comprising a reforestation measure on municipal land that will involve the local population, in conjunction with awareness-raising measures.

Description of the key measures of the programme of action

The joint programme of action for the Belo – Horb climate partnership provides for activities in four different areas. The geographical focus of the measures implemented will be in Belo, as this is where the challenges associated with climate change go hand-in-hand with high vulnerability, thus bringing about an urgent need for action. Horb will synchronise the activities of the joint programme of action with the integrated municipal master plan for climate change mitigation, and will rely on the support of its partners particularly in connection with awareness-raising.

The first area of activity will involve comprehensive, low-cost renewable energy supply. The two partner municipalities will support each other in this, and share information and lessons learned with the individual measures very closely. The plan is to equip initially five municipal buildings in the various poorly supplied areas of Belo with photovoltaic systems, and train personnel in their maintenance and operation. A further overarching objective of the programme of action is to secure and develop water supply. The existing spring water chambers will be secured, and new ones provided to supply the various villages with a piping system. To monitor and maintain these drinking water facilities, water custodians will be trained and local committees established.

A further overarching objective of the joint programme of action is environmental protection, designed to ensure the sustainable development of agriculture and forestry. To achieve this in the context of the growing population, a balance needs to be struck between the quantities of firewood and timber that need to be removed from the forests in the region, and natural wood growth. A key factor in achieving this objective will be raising the population's awareness of its importance. Protecting forest stands in particular will also be a cornerstone for the sustainability of drinking water resources. The spring water chambers will also be better protected using site-appropriate trees. The fourth overarching objective comprises environmentally sound solid waste management with maximum recycling of the recyclables collected. So far, Belo has only collected waste. There is also no appropriate site for a landfill where recycling could be commenced. The joint programme of action will seek to identify an appropriate

site for this purpose. Waste prevention must also be an integral component of the waste management strategy.



Figure 22: Waste disposal in Belo
(photo: Municipality of Horb am Neckar)

During the various working meetings, participants agreed that awareness-raising must occupy a key position for all the objectives identified, and should be included in all measures as a cross-cutting task in order to facilitate a balance between environmental sustainability and the development of a good standard of living for the population.

4.3 Ludwigsburg – Kongoussi

	Ludwigsburg (Germany)	Kongoussi (Burkina Faso)
Population	91,920 (as at: July 2015)	70,840
Area	43.33 km ²	799 km ²
Population density	2,122 inhabitants/km ² (as at: July 2015)	89 inhabitants/km ²
Climate zone	temperate	subtropical climate, Sudan-Sahel zone
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • recurrent phases of higher temperatures: on average hotter summers, warmer winters • more frequent torrential rainfall, hail and storms • immigration of thermophilic insects and small animals (not just farm animals) 	<p>Health</p> <ul style="list-style-type: none"> • increase in heat-related mortality • fluctuations in the seasonal distribution and transmission of vector-borne diseases (measles, rubella, malaria, meningitis) • persistent undernourishment • increase in waterborne diseases • emergence of new diseases <p>Water resources</p> <ul style="list-style-type: none"> • contamination of freshwater (boreholes, wells) • reduction of, and adverse effects on, water resources (groundwater, lakes) • rising demand for water for drinking, irrigation and construction • silting and drying out of Lake Bam <p>Agriculture</p> <ul style="list-style-type: none"> • declining soil fertility • loss of cultivatable land • dwindling agricultural yields • changes in the species, locations and prevalence of pests and diseases associated with crop cultivation • loss of pastureland • decline in animal feeding • decline in productivity in livestock farming (meat, milk), spread of livestock epidemics • animal mortality

		Environment <ul style="list-style-type: none"> • change in the location of growth zones for specific species • disappearance of some plant and animal species • changes in the type, location or intensity of epidemics or pest infestations • changes in the functionality of ecosystems
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Profile of the climate partnership

Ludwigsburg, which has a population of 92,000, is a large city in the federal state of Baden-Württemberg that won the German Sustainability Award in 2015. Prior to that it had won second prize in the Municipality Moves the World competition and the Energy Award in Gold. These awards demonstrate that Ludwigsburg is assuming responsibility and making key contributions toward sustainable development. Ludwigsburg bases its approach on its master plan for urban development, 'Opportunities for Ludwigsburg'. With broad participation by citizens, policymakers and administrators, the municipality has set out to become a sustainable city with a continuously evolving agenda for the future.

This is also the reason why Ludwigsburg has been active in Burkina Faso for almost 10 years – making a contribution in a spirit of shared responsibility for sustainable development. Being a Fair Trade City, Ludwigsburg clearly wants to share its knowledge and experience with others. Since 2006 Ludwigsburg und Montbéliard, the first Franco-German twin cities in Europe, have initiated a broad array of projects together with Kongoussi in Burkina Faso.

Burkina Faso is one of the poorest countries in the world. A large proportion of the value creation that takes place in agriculture, livestock farming and energy is directly dependent on natural resources. The rate of illiteracy is over 70 per cent. The greatest challenges faced by the population are the shortage of water and poor water quality, in conjunction with precarious food and nutrition security, and health.

Kongoussi and the 58 villages that belong to it are located in the Centre-Nord Region, in Bam Province. It is home

to some 71,000 people, and the population is growing at a phenomenal rate. Population growth in Burkina Faso is around three per cent. The population is expected to double in 25 years. Today, almost half the entire population is below the age of 15.

In 2007 a three-class primary school was built using donations collected in Ludwigsburg. Montbéliard has set up vegetable growing projects with irrigation schemes for 160 women. In 2012 a vocational training centre for bicycle pump mechanics was opened that was financed from donations provided by the Ludwigsburg Friends of Burkina Faso Association. In 2013 a sewing studio was created at the school through a private initiative.



Figure 23: Irrigation scheme in Kongoussi
(photo: City of Ludwigsburg)

In 2014 Kongoussi and Ludwigsburg began establishing project-based cooperation at the municipal level through a climate partnership. In Burkina Faso, climate change poses a grave threat. Its impacts include water scarcity, a huge decline in crop yields (currently up to 40 per cent), livestock losses and the silting of natural bodies of water.

In Kongoussi this affects chiefly Lake Bam, a natural water resource that is used by a large part of the population for agricultural and pasture activities. These impacts are exacerbating the poverty of the population in rural areas who earn their livelihoods from natural resources. They are the ones hardest hit by climate change.

The process of designing the joint programme of action

The climate partnership between Kongoussi and Ludwigsburg was established between March 2014 and October 2015. After the two sides had submitted their declarations of interest, appropriate working structures were set up in both municipalities. These involve administrators, civil society actors and policymakers. The steering committee in Ludwigsburg, for instance, comprises the mayor, the chairman of the Friends of Burkina Faso Association, and local authority staff members with the relevant professional expertise. The steering committee in Kongoussi comprises the prefect and the secrétaire général, as well as a representative of the NGO Zood Nooma. The core team in Kongoussi also includes representatives of women's cooperatives and the local radio station, as well as employees of the relevant municipal departments.

The orientation phase included the kick-off conference in Cape Town and the first mission phase. A delegation from Kongoussi visited Ludwigsburg for the first time in July 2014. During the joint baseline review basic data were collected, challenges were identified and initial areas for action were discussed. The participants came to discover and understand new aspects and different features of climate change. In the subsequent phase from September 2014 onward, the challenges faced by both municipalities with regard to climate change were analysed in greater depth. The discussion revolved around the municipality of Kongoussi's local development plan and its master plan for adaptation to climate change, as well as topics from Ludwigsburg's integrated master plan for climate change mitigation and energy. At two further joint meetings held in Kongoussi (in January and July 2015), the two sides did some intensive work on their key themes, objectives and measures. The discussion focused on the needs of the population and their cultural values.

There is thus a verified basis for the programme of action, which defines what can be implemented, with what objective, by whom, by when, and using what resources. The objectives and the measures to achieve them were broadly discussed as the two sides worked closely together to formulate these and produce their joint programme of action.



Figure 24: Visiting a solar power plant in Ludwigsburg (photo: City of Ludwigsburg)

For Kongoussi, the visit to Ludwigsburg was an important milestone. They profited greatly from Ludwigsburg's experience in the water, energy and environmental sectors. Another key moment in the process was verifying the ideas developed in the core team regarding the needs of the population. For this purpose, during the third mission the municipality of Ludwigsburg brought in two experts from the NGO 'Engineers without Borders'. All concerned then jointly discussed the impacts and benefits of the measures for the population. Also highly informative were the visits made to various villages, as well as the contacts established among local NGOs and key civil society actors. At all the meetings, the relevant actors articulated a need for support to improve water supply, food and nutrition security, and health.

Description of the key measures of the programme of action

Both municipalities wish to design the programme of action in a way that maximises its impact. This is based on the needs articulated by the stakeholders. During the joint phases of work, the two sides repeatedly talked about improving the life circumstances of people affected by the

impacts of climate change. Finally this was defined as the overarching objective.

All stakeholders and project actors described the shortage of water as the most urgent problem. For the population, inadequate water supply also entails a major danger to health, as well as precarious food and nutrition security. Based on the needs articulated, three target areas were identified: improve water supply, food and nutrition security, and health. A further target area is energy and environmental management. This topic is also an integral component of the master plan for urban development 'Opportunities for Ludwigsburg'. Against the background of climate change, this plan aims to achieve sustainable energy use and energy supply. The energy master plan also incorporates an integrated climate change mitigation and energy strategy. This strategy summarises the basic principles and preconditions for possible energy savings, the use of renewable energy and the reduction of carbon dioxide emissions. Measures in the fields of electricity, heat, mobility, renewable energy and cross-cutting measures such as PR work have been developed that involve broad participation by citizens and interest groups. Based on these measures, scenarios were developed for Ludwigsburg's carbon footprint to 2050. A first step that can be achieved by implementing the recommended measures is reducing carbon emissions to five tons per capita per year by 2020. This represents a reduction of approximately 25 per cent relative to the figure for 1990. Ludwigsburg's long-term target is to become carbon-neutral by 2050, which means emitting a maximum of two tons per capita per year.

As well as these effects, the municipality intends to orient its development cooperation activities primarily toward the existing needs of people. In the present project, 'people' means everyone who is affected by the impacts of climate change – in other words, the entire population. Working on this basic understanding, during the visit by the expert delegations discussions were held between the core teams and with political representatives, NGOs, important figures in public life and village inhabitants. Based on these discussions, activities were then defined that were designed to generate maximum benefits.

Water scarcity was identified as the greatest challenge. Whereas in one village water is lacking chiefly for livestock farming and agriculture, villagers from other villages emphasised their lack of drinking water and the poor quality of the water they do have. The inadequate water supply has manifold consequences for the population. What little water is available is used chiefly for consumption, which means that inadequate quantities of water are then available for hygiene, livestock farming, agriculture, and for activities such as brewing millet beer (which is a source of income). The situation is made more difficult by the fact that water is usually obtained from existing open wells or waterholes. The health of users is thus directly at risk. Many villages and health posts reported cases of waterborne diseases. Poor water supply also means the population face precarious food and nutrition security, as agricultural yields are no longer sufficient to feed them properly.

Furthermore, according to the population the availability of firewood and charcoal has declined dramatically. Resource-conserving alternatives such as efficient cooking stoves have not been scaled up comprehensively. According to the people themselves, their poor income-generating opportunities combined with further income losses make it extremely difficult for them to send their children to school.

As well as water supply, people also mentioned inadequate sanitation and the poor hygiene situation that this entails. In many parts of the municipality, public defecation is a common practice. The lack of latrines leaves a large proportion of the population with no alternative. It was remarkable to see just how sensitive the population were about this. Both women and men drew attention to the lack of privacy.

Solar power was another topic discussed in various contexts. However, existing examples in Kongoussi made it clear that solar projects need to be thought through comprehensively, because they cannot be managed sustainably without a corresponding plan for operation and maintenance. This will include analysing the local value chain, to ensure that if possible all the necessary materials can be procured locally, regionally or nationally.

Everything begins with water

Based on the needs articulated and verified, priority was attached to water projects. Once the water supply improves, people's health may also improve. Sufficient water also means that people will have water not only for their own personal use, but also for use in agriculture and livestock farming. This will have a direct effect on food and nutrition security, and thus also on health. Precisely these synergy effects are reflected in the programme of action.



Figure 25: Flooding in Kongoussi (photo: City of Ludwigsburg)

In both municipalities it is important to focus on the links between the activities, to ensure that implementation is effective and sustainable. It only makes sense to implement specific projects when they are integrated into the systematic targets developed.

Since water supply is enormously important for the population, activities will begin by supplying water to those villages that are completely under-supplied. Capacity in the other villages will then be gradually increased. A further step will be to improve the distribution of existing water.

4.4 München – Kapstadt

	Munich (Germany)	Cape Town (South Africa)
Population	1,500,560 (as at: 31 May 2015)	3,740,025 (2011 census)
Area	311 km ²	2,460 km ²
Population density	4,840 inhabitants/km ²	1,520 inhabitants/km ²
Climate zone	warm temperate climate	temperate subtropical climate
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • above-average frequency of very high temperatures in summer (heat stress, increase in atmospheric particulate matter and ozone during hot spells) • reduced precipitation in the summer (damage to vegetation caused by prolonged dry spells), increase in winter • increase in torrential rainfall events (storm damage, flooding of roads and cellars) 	<ul style="list-style-type: none"> • increase in precipitation during the late summer months, reduction during the early winter months (increased water scarcity, frequent fires) • increase in torrential rainfall events (high water; flooding, blockage of drainage systems in the summer caused by debris and sand, in the winter caused by leaves) • rising sea level (coastal erosion, groundwater salinisation) •

Profile of the climate partnership

Cape Town and Munich face major challenges. Both cities are experiencing strong population growth, and must therefore address major social, economic and environmental challenges. This population growth is caused largely by immigration or inward migration.

By 2030, the population of Munich is expected to reach 1.723 million. Relative to the figure for 2015, this represents growth of around 15 per cent. At the same time there is a shortage of housing, combined with a dwindling availability of residential land and a transport system that is reaching its limits. As well as population growth and a shortage of housing, Cape Town also continues to face a huge gap between rich and poor. A further challenge is energy supply, particularly with regard to electricity. The supply situation is characterised by shortages, and rapidly

rising electricity prices. Both cities have high per capita carbon dioxide emissions. The figure for Cape Town is 7.8 tons per annum; for Munich the figure is 7.9 tons per annum. Given this situation, both Cape Town and Munich undertook to help mitigate climate change early on. They are both already long-standing members of international networks that tackle climate change and the challenges it brings at the local level (Cape Town: ICLEI, C40 Cities – Global Leadership on Climate Change; Munich: EUROCI-TIES, the Climate Alliance).

Both Munich and Cape Town have set up programmes to mitigate climate change, and launched an array of initiatives. Through its 'Moving Mountains – Cape Town's Action Plan for Energy and Climate Change', Cape Town is setting an example, and not just for Africa. The same thing can be said of Munich, with its 'Integrated Action Plan to

Mitigate Climate Change in Munich', its Building Centre and its voluntary commitment to halve its per capita carbon dioxide emissions by 2030, relative to the figure for 1990.

Both sides wish to increase the efficiency of their activities to mitigate climate change, and are convinced that they can come closer to achieving this objective by working together as equal partners. The joint programme of action will aim to tap existing potential, particularly for energy saving and efficiency, and help ensure that the growth forecast for the two cities is managed on an environmentally sound and low-carbon basis. If it succeeds in implementing a sustainable energy policy, Cape Town can not only become a leader in South Africa, but can also play a key role in the field of energy efficiency and renewable energy throughout Africa.

The process of designing the joint programme of action

The initiators and key responsible bodies for the climate partnership are the departments for environmental affairs of the two cities, which have been sharing information and lessons learned in their activities to tackle climate change for a number of years on a semi-structured basis. The desire of both sides to deepen this process of sharing and to work together in concrete projects then led to the establishment of the climate partnership. Right from the outset, this was supported on both sides by selected NGOs that also possess experience in international cooperation. Later, once the specific themes for the cooperation had been defined, other departments of the two local governments, universities and external specialist organisations and businesses also became involved, and took on lead roles for particular thematic areas.

Building on their previous sharing of information and lessons learned, at the International kick-off workshop held in Cape Town in March 2014 the two cities were able to compare very concretely their respective activities, challenges and needs. This enabled them to identify broadly the areas for future cooperation. Furthermore, the two municipalities agreed on basic principles of the partnership such as resource efficiency, gender equality, the inclusion of income generating measures, and the principle of three levels of cooperation:

Level 1: strategic approaches

Level 2: awareness-raising and civic participation

Level 3: specific projects

During the expert delegation missions that followed (November 2014 to Cape Town, June 2015 to Munich, August 2015 to Cape Town), each of which also involved representatives of the responsible departments and partner organisations, the concrete areas of cooperation were defined, ideas and projects for future cooperation were developed and the first steps for implementation were agreed. The additional visit by an NGO representative from Cape Town to Munich in October 2014 was also very helpful in enabling the partnership to integrate civil society actors more closely. One important component of the missions was liaison between the Western Cape Government and the Bavarian State Government, which have been linked through a partnership for 20 years.

Description of the key measures of the programme of action

For the partnership a joint motto was agreed, a vision was developed and five areas of activity were defined.

The motto: 'Let's face climate change together.'

The vision: 'We want our cities to be more resource-efficient, livable and inclusive.'

The areas of activity:

- Energy-efficiency and building
Objective: Support sustainable urban development through information, communication, education and networking.
- Renewable energy
Objective: Increase the share of locally generated energy, reduce energy shortages in Cape Town through sustainable and socially sound solutions.
- Transport
Objective: Promote non-motorised transport in both cities.
- Adaptation to climate change
Objective: Improve flood protection and preserve biodiversity.

- Public procurement and consumption
Objective: Make local government procurement environmentally and socially sound.

The Smart Building and Living Centre in Cape Town

The core project of the programme of action concerns the establishment of a 'Smart Building and Living Centre' in Cape Town. Cape Town has been planning a centre of this kind, which is designed to become a competence centre for sustainable living, sustainable residential development and energy-efficient building, for a long time. The discussions held with Munich have given it a new relevance. This is because the Munich Building Centre, which already offers an extensive programme for energy-efficient construction and renovation projects, would like to further develop its offering, and is very interested in cooperating with Cape Town. The first step will involve creating a joint digital information, learning and communication platform. However, the two cities do intend to work together to design the actual Smart Building and Living Centre in Cape Town, and find support to realise it. The partners envisage long-term exchange between the two centres, which will become the heart of the climate partnership.

Bike partnership Munich – Cape Town

Munich – a biking capital – would like to further increase the proportion of cyclists in the transport mix. Cape Town also aspires to become a biking capital. In particular it would like to improve the image of the bicycle as a means of transport in the city and as a means of getting to work, because so far bicycles in the Cape have been used mainly as an item of sports equipment for recreational use. In the bike partnership, the two cities are planning to conduct joint public awareness-raising activities. To set a good example, both cities also intend to expand their company bike programme. They also agreed to share information and lessons learned on cycling strategies, and on planning and designing the cycle path network.



Figure 26: Cycle path in Cape Town (photo: Bruce Sutherland)

Sustainably remodelling river systems

Remodelling a river system is a field in which Munich currently possesses a great deal of recent experience, having been involved in the natural restoration of the River Isar. In Cape Town, on the other hand, there is still a great deal to do regarding a number of rivers. A large project is in the offing. The Sand River system is to be remodelled as a recreational area and a corridor for pedestrians and cyclists, with a special focus on flood protection and the preservation of biodiversity. When implementing this complex project, Cape Town would like to make use of the specialised expertise present in Munich and the lessons learned there. The two cities also intend to raise the awareness of their populations regarding the importance of caring for their rivers.



Figure 27: Director of Planning and Building Development Management Cheryl Walters, and Transport Planner Mark Pinder, exploring the cycle path along the Isar (photo: City of Munich)

A low-carbon, diverse and secure energy supply mix

The purpose of this cooperation is to increase the overall share of renewable energy in the energy mix. Cape Town intends to establish a low-carbon, diverse and secure supply of energy that is also accessible to low-income sections of the population. To achieve this it plans to share expertise on technical issues, as well as on alternative financing approaches – such as citizens' solar power plants or cooperative models – and options for further developing legal frameworks (especially regarding feeding electricity into the grid). In the medium term it also plans to establish a plant in Cape Town for generating renewable energy as a partnership project funded by shareholdings or donations by citizens or businesses in both cities.



Figure 28: Kuyasa project for the energy-efficient renovation of 2,300 houses (photo: Sustainable Energy Africa)

Sustainable public procurement

Both Cape Town and Munich have already been looking closely at the issue of how they can make municipal procurement environmentally and socially sound. The two cities have already successfully introduced sustainable procurement criteria for various products, and in so doing have led the way in their respective countries. The specialised departments of the respective local government administrations have now agreed to regularly share lessons learned, mutually support each other in further developing their procurement criteria, and jointly develop technical guidelines for all relevant areas of procurement.

4.5 Neumarkt i.d.OPf. (in the Upper Palatinate) – Drakenstein

	Neumarkt i.d.OPf. (Germany)	Drakenstein (South Africa)
Population	39,011	251,262
Area	79 km ²	1,539 km ²
Population density	494 inhabitants/km ²	163 inhabitants/km ²
Climate zone	temperate oceanic climate	Mediterranean climate
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • increase of mean summer temperature of 1.25 to 1.5 °C and increase of mean winter temperature of 2.0 °C by 2050 • increase of dry periods in summer, at the same time increase of occurrence of heavy rains in summer. • decrease of crop yield because of dry periods as well as storm damage • increase of energy demand for cooling 	<p>Climate change projections for the Western Cape:</p> <ul style="list-style-type: none"> • Higher mean annual temperature can cause an increase in evaporation and a decreased water balance. • Higher maximum temperatures can cause stress on humans and livestock, decreased crop yields and rangeland productivity. • Higher minimum temperatures can cause an increased risk to certain crops like deciduous fruits that rely on a cooling period in autumn. • Intensification of rainfall events can cause increased flooding, increasing pressure on storm water systems, increased soil erosion.

Profile of the climate partnership

By joining the Climate Alliance in March 2008, establishing the Climate Forum in May 2008 and signing the European Covenant of Mayors in February 2009, the town of Neumarkt in der Oberpfalz placed climate change mitigation at the centre of its policy. Priority areas were defined such as raising awareness, reducing energy consumption, promoting renewable energy and stepping-up energy-efficient construction and modernisation. Alongside this the town developed its own funding programme, which is called 'Factor 10'. To support elaboration and implementation of the so called Master Plan for 100 % Climate Change Mitigation, which was prepared in the framework of a Federal Funding Programme in 2012/2013, Neumarkt established institutionalised climate change mitigation management structures within the town

administration. As a climate change mitigation target it was agreed that by 2050 the town of Neumarkt will strive to achieve an energy and carbon footprint in which CO₂ greenhouse gas emissions are reduced by 95 %, and the energy requirement by 50 %.

Western Cape Government launched the 110% Green initiative as a call for action to all organisations to link Green with the Economy. The campaign aims to be a catalyst to build a critical mass of activity that will develop the Western Cape as Africa's Green Economic Hub. The Premier of the Western Cape Government awarded Drakenstein Municipality a 110% Green Award for the proposed Waste-to-Energy Project. The Western Cape Government and the Free State of Bavaria in Germany established a two year action plan in September

2010 as part of their 20 year Cooperation Agreement to promote mutually valued and significant relations. Part of this agreement was to encourage cooperation between municipalities and other public sector organisations. The Memorandum of Understanding on the Municipal Climate Partnership between Neumarkt and Drakenstein Municipality was established with support of the broader agreement between the Western Cape Provincial Government and the Free State of Bavaria.

There was no existing partnership or twinning between Neumarkt and Drakenstein before the signing of the Memorandum of Understanding related to the Municipal Climate Partnership. The contact between Neumarkt and Drakenstein, which led to the Municipal Climate Partnership is based on a recommendation of the "One World Network Bavaria" and the coordinator of the partnership between Bavaria and Western Cape. There was a preceding informal meeting on 1st October 2013 in the Civic Centre of Paarl (Drakenstein Municipality), where representatives of both municipalities met for the first time. In the following two months until the end of December 2013, both municipalities discussed the project "Municipal Climate Partnership". Eventually, the Executive Mayor of Drakenstein, Councillor Ms Gesie van Deventer, and the Lord Mayor of Neumarkt, Mr. Thomas Thumann, signed the Memorandum of Understanding at the Kick-off-Workshop in Somerset West on 25 March 2014.

The process of designing the joint programme of action

Due to the fact that there was no contact between the two municipalities before the municipal climate partnership project, for a start it was important to get to know each other and build a basis for the partnership. So it was very fruitful that the first visit of a delegation from Neumarkt in Drakenstein took place on 28 and 29 March 2014 directly after the Kick-off-Workshop. Participants of the Neumarkt delegation were Lord Mayor Thomas Thumann, Councillor Ruth Dorner and the Head of the Office for Sustainable Development Ralf Mützel. Several excursions to various places in Drakenstein helped to get an overview related to environmental, social and economic structure. An important aim of the first meeting was also, referring to the simultaneous visit of the Bavarian State Minister Dr. Beate Merk, to integrate the climate partnership in the

Action Plan for the collaboration between the Provincial Government of the Western Cape and the Bavarian State.

During the further course of the project, the first secondment took place from 6 to 13 August 2014. A delegation from Drakenstein visited Neumarkt, comprising Deputy Mayor Conrad Poole, Planning & Economic Development Councillor Dr. Thys Smith and the Executive Manager for Planning & Economic Development Ashraf Adam. The programme included mainly excursions, which comprised infrastructure facilities and companies in the field of environmental technology (all together 12 different sites like sewage plant, municipal utilities, landfill site). Furthermore several working sessions were held to define measures for the Joint Programme of Action.



Figure 29: The partners meeting for the first time in Drakenstein in March 2014 (photo: Municipality of Neumarkt)

The participants of the 2nd delegation from 24 to 28 November 2014 from Neumarkt to Drakenstein were Franz Hunner, Technical Director of the Municipal Utilities, Werner Schütt, Head of Office for Environment and Ralf Mützel. The secondment deepened the understanding about the social, economic and ecological challenges and chances that Drakenstein is facing. The participants got to know the strategic background (e.g. Integrated Development Plan) as well as the infrastructure in the fields of energy, climate, water and environment (e.g. sewage plant, water treatment works). There were meetings with a total of 31 officials, members of the council and stakeholders. Finally a draft of the Joint Programme of Action was created in a working group.

The third secondment took place from 25 June to 5 July 2015 from Drakenstein to Neumarkt. Members of the delegation were Deputy Mayor Conrad Poole and Environmental Affairs, Open Spaces and Parks Councillor Dr. Lourens Du Toit. Related to the key areas of action, which were defined in the process so far, there were several expert meetings, supplemented by some excursions. Eventually the presentation of the Climate Partnership at the One World Festival and in the Citizens House of Neumarkt as well as the participation at the Climate Conference of the Metropolitan Region of Nuremberg deepened the agreement on the Climate Partnership.



Figure 30: The partners on an e-bike tour in Neumarkt (photo: Municipality of Neumarkt)

Description of the key measures of the programme of action

Although the Joint Programme of action was developed in line with the main focus on climate change, it has to be placed in the socio-economic context. For this reason the Joint Programme of Action includes not only measures in the fields of e.g. energy and water, but also in fields like education, job creation and Fairtrade.

Furthermore the objective is to build up a general partnership between the two municipalities in the framework of the official partnership between the Bavarian State and the Western Cape Government.

The main areas of activity respectively objectives are Education for Sustainable Development, the improvement of the vocational education of young people, the support of Fairtrade and Job Creation projects, the use of renewable

energies and the support of energy efficiency and last but not least the Bergriver Improvement Project as a “vehicle” for climate change awareness of the people.

The Joint Programme of Action includes 6 main areas of activity. These particularly compilation reflects the overarching goals of firstly defining short-term realisable measures, secondly putting the climate mitigation and adaptation issue in the context of the socio-economic framework and thirdly continue the partnership on a broader level.

The main areas of activity are:

1. Development of a long-term partnership on the municipal level in the framework of the partnership between Western Cape and Bavaria

In a long-term perspective, the partnership must not be restricted on an “administration level”, but has to involve the citizens. There was already a presentation of the partnership at the One World Festival in Neumarkt. Furthermore it is planned to present Drakenstein as a “green and responsible” tourist destination at the trade fair “FREIZEIT” in Nuremberg. A first educational trip from Neumarkt to Drakenstein will take place in March 2016. Finally it is intended to establish a partnership association.

2. Engagement in the UNESCO Global Action Programme on “Education for Sustainable Development (ESD)”:

Both municipalities are already very active in the field of ESD and this is a contribution for the UNESCO “Global Action Programme on ESD”. Already existing measures like the “Water week” at schools in Drakenstein or the “Action days for Fairtrade” at schools in Neumarkt, could get a higher value, when placed in the UNESCO context. But also new measures like the establishment of “Water friends”, who will communicate via New Media e.g. about saving water, are planned. Furthermore the project “Climate Change Youth Challenge Team – keystones for sustainable development” is ready for implementation for 2016 (ASA-funded).

3. “Learning for Life” - Support and improvement of the education for young people:

“Learning for Life” is tended to offer additional possibilities for gaining skills for working life. For young people in Drakenstein, preferably apprentices, companies in Neumarkt are addressed to offer traineeships. For young people in Neumarkt, preferably students, social projects of NGOs shall be chosen, where they could work as a volunteer. Therefore programmes like WELTWÄRTS shall be used. A long-term project could be to set up a learning centre as a social business in Drakenstein by the BOOKBRIDGE foundation, which is based in Neumarkt.

4. Improvement of the quality of life for communities in Drakenstein by Fairtrade as well as by the support of “Job Creation projects”:

The main focus of implementation is to export Fairtrade products like wine or arts and crafts products from Drakenstein to Neumarkt. The aim is to support the production of Fairtrade products as well as initiatives, which care for the people in matters of education and employment (e.g. ENZA – Empowering Women). The selling of products from Drakenstein in Neumarkt has already started in the One World Shop.

5. Expose the Bergriver as the lifeline of Drakenstein and use the improvement process as a “vehicle” for climate change awareness of the people:

The “Bergriver improvement project” comprises several measures. The aims are the upgrade of the water quality, pushing back the alien species on the river banks, planting of indigenous vegetation (Fynbos), minimising the impacts of flooding and last but not least the education of the people. Furthermore it is intended to develop spaces at the Berg River banks for new nature-related leisure opportunities. There is already a prepared concept “Re-vegetating the banks of the Berg River”, which will be submitted as an application for the NAKOPA-funding programme.



Figure 31: The Berg River in Drakenstein
(photo: Municipality of Neumarkt)

6. Increase of the use of renewable energies and energy efficiency in both municipalities:

The common objective to increase the use of renewable energies and energy efficiency shall be supported by the exchange of experiences, know-how transfer and the exchange among experts. Focal themes are currently amongst others Waste to Energy, E-Mobility and energy-saving street lighting.

4.6 Oldenburg – Buffalo City Metropol

	Oldenburg (Germany)	Buffalo City Metropolitan Municipality (South Africa)
Population	159,610 (31 December 2013)	1 million
Size	103 km ²	2,200 km ²
Population density	1,549 inhabitants/km ²	454 inhabitants/km ²
Climate zone	temperate	average temperature summer: 25 degrees , winter: 20 degrees; rainfall 16 mm in winter and 79 mm in summer; rainy season in summer
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • heavy rainfall and flooding in the city of Oldenburg • increasing demand for drinking water • increasing competition for water resources (field irrigation!) • decreasing ground water and surface water levels 	<ul style="list-style-type: none"> • sea level rise • flooding in winter • increased humidity • changes in rainfall patterns; delayed rainfall with a longer and heavier dry spell •

Profile of the climate partnership

Oldenburg has 160,000 inhabitants and is the third largest city in Lower Saxony, Germany. In 1995, Lower Saxony established a partnership with Eastern Cape Province, South Africa. Buffalo City is located on South Africa's east coast and includes the city of East London, the former military town King William's Town and the legislative capital Bhisho. It is also renowned for being home to South Africa's second largest township, Mdantsane. Approximately 1 million people live within the city.

The Buffalo City Metropolitan Municipality partnership with the City of Oldenburg was initiated in 2011 following a visit by the former Premier of the Eastern Cape Province, Noxolo Kiviet to Lower Saxony. A partnership agreement for the collaboration was signed in November 2012. Both municipalities have embarked on a number of joint activities prior

to and during this period which has strengthened knowledge, exchange and partner relations.

South African Encounters

Following the visit of the former Mayor of Oldenburg, Prof Dr Gerd Schwandner, to Buffalo City in 2011, Buffalo City Metropolitan Municipality participated in the South African Encounters programme in Oldenburg in September 2012, which entailed a visit of a high profile delegation led by the former MEC (Member of the Executive Committee) for Local Government and Traditional Affairs, Mr Mlibo Qoboshiyane, from the Eastern Cape Province and the Executive Mayor of Buffalo City Metro. The activities for the week were exploratory and were used to find common areas for joint collaboration. This included:

- Knowledge sharing with Next Energy;
- Study tour to BFE (Technology Centre for Electrical Engineering and Information Engineering) vocational education;
- Visit of wind energy/biomass & solar plants;
- Participation in a business breakfast held in the Africa Fair in Bremen;
- Visit to the Jade Weser Port in Wilhelmshaven;
- Participation in the renewable energy workshop;
- Showcasing of traditional & Tshweshwe garments at the Fashion Show held in the city; and
- Participation in the Business Day with business stakeholders of Oldenburg.

Eastern Cape – European Union Renewable Energy Conference

- The City of Oldenburg has also participated in the Eastern Cape – European Union Renewable Energy Conference held in Buffalo City from 27 to 30 November 2012.
- Prof Agert from Next Energy in Oldenburg presented a paper at the conference.

NAKOPA & Climate Partnership project

- During the exchange visit of the City of Oldenburg to Buffalo City from 27 to 30 November 2013, the possibilities of the NAKOPA project were discussed and workshopped with different stakeholders in the city. Discussions on piloting an energy efficient building were held and supported by Buffalo City Metro, City of Oldenburg and other stakeholders.
- The Municipal Climate Partnership project application was also formalised and supported by all stakeholders. The Memorandum Agreement for the “50 Municipal Climate Partnerships by 2015” project was then signed in 29 November 2013 by both Mayors of Buffalo City Metro and City of Oldenburg.

Climate Change Workshop in Cape Town March 2014

- The first meeting of participants of the Municipal Climate Partnership was the kick-off workshop for the “50 Municipal Climate Partnerships by 2015” project, held from 24 to 27 March 2014. The delegation was represented by both Buffalo City and City of Oldenburg technical experts. The workshop allowed experts to get to know each other, to look at a baseline review, establish and/or broaden working structures, to discuss the focal areas of cooperation for the Municipal Climate Change Partnership programme and to work on the planning process for the Joint Programme of Action.
- At the conclusion of the Climate Workshop in Cape Town in March 2014 it was agreed that each municipality (Buffalo City and City of Oldenburg) will inform and communicate with all stakeholders, establish working structures of the Municipal Climate Partnership, and undertake a baseline review (analysis of climate-related data, strategies, existing projects and activities) within their respective municipalities. Following the kick-off workshop, a first meeting in East London ensued. Here, possible topics for the Joint Action Programme were identified during discussions among all stakeholders.

The process of designing the joint programme of action

Exchange activities October 2014, first secondment, Oldenburg

- The main purpose was to inform and communicate the objectives of the Municipal Climate Change Programme and to involve a broad range of stakeholders at the start of the project.
- Request was also made to the Buffalo City Council to establish the working structures for the climate change partnership project including the technical working teams and steering committee.
- The baseline review was also firmed up.

Exchange activities January 2015, second secondment, East London

- The situational analysis for both municipalities was completed and the key areas of action as well as first projects ideas were discussed. Further encounters with different stakeholders from both municipalities took place in order to strengthen the working relations pertaining to this programme also took effect.

Exchange activities March 2015

- A network meeting of the African Municipalities was held in Senegal.
- The objective of the meeting was to exchange among stakeholders from participating municipalities on the progress and challenges encountered by other municipal partnerships.
- New knowledge and further ideas for the development of the Joint Programme of Action in the area of mitigation and adaptation to climate change were acquired.

Exchange activities May 2015, third secondment, East London

- Projects identified
- A Joint Programme of Action was drafted and finalised in the following months.
- A climate change conference was held

Description of the key measures of the programme of action

South Africa is known as a water scarce country and this is expected to become worse, fresh water is a threatened natural resource in South Africa. In order to conserve the water for our future generations, water management has been identified as critical for mitigating the climate change impacts.

Climate change is a reality, and in Buffalo City, the municipality has seen the impacts of the phenomenon of sea level rise, hotter days, heat waves, heavier rains and the overall change in the annual precipitation levels. The impacts of climate change definitely have dire consequences for our communities today, and all future generations to come will need the municipality to look at climate change mitigation and adaptation strategies.

Germany is also already affected by climate change. In Oldenburg, flooding and heavy rainfall occur more often than in the past. At the same time, water demand is rising while ground water levels are decreasing. Thus, water management is a topic identified by both municipalities to be crucial in dealing with the impact of climate change.

The Joint Programme of Action is an action plan that will assist both cities in implementing their climate change strategies. The objective is to implement integrated projects with stakeholders in the cities in order to mitigate and/or adapt to climate change effects which would result in more preparedness as municipalities as well as reduced cost, reduced risk and increased city wide awareness. The following key areas of action have been identified:

a) Water management, taking into account that water is a scarce and threatened resource due to climate change;



Figure 32: Presentation of solar panels (photo: STOL)

b) Energy, given that the current demand is not met and that there is a need to explore greener solutions;

c) Waste management due to challenges experienced with waste management and its current negative impact on a safe and healthy environment; and

d) Environmental Education for Sustainable Development which is required for water, energy and waste management in order to change people's thinking on climate change and the environment which would result in positive action for example, separating waste so fewer recyclables end up on the landfill, less wastage of water and reduced

water losses, use of solar and wind energy so fewer fossil fuels are used.



Figure 33: A stage in the 'sun, wind & water' learning unit (photo: Makinwa Media Management, Gary Horlor)

For 2016 a project is targeted on the setup of an infrastructure for environmental education in BCMM, which includes capacity building, the construction of a boardwalk for water projects and the acquisition of teaching materials and literature.

To support the above-mentioned project for the setup of environmental education in Buffalo City, an ASA-municipal Basis application has been submitted. In context of the main project, two students, trained by the team of the Oldenburg Centre of Environmental Education will assist the members of BCMM for three months.

One key measure of the JAP has already been implemented. The "Model project energy efficient public building" is funded by the Nakopa project offered by the Service Agency.

In 2025, people will experience climate change much more than today and it will be an even bigger challenge for all countries. A special kind of empowerment is needed by everyone: "Education for sustainable development" (ESD) encourages the competence to create a sustainable future, to manage everyday life and to recognise problems, mistakes and shortages to find better solutions. The Climate Partnership has the ambition to establish and strengthen a framework for ESD both in BCMM and Oldenburg.

The cross-sectional Regional Environmental Education Centre can be included in all four main topics of the Joint Programme of Action. Educating pupils and young children will help raise awareness for climate change related problems in both South Africa and Germany. Possible funding for the establishment of a Regional Environmental Education Centre may come from Lower Saxony's environmental foundation or the government of Lower Saxony. Workshops to train teachers to use the hands-on material might be kicked-off by taking part in the ASA-municipal programme.

Lower Saxony and Eastern Cape are both increasingly subjected to heavy rainfalls which result in an overload of the drainage systems with subsequent flooding of the city centres. From a financial point of view it is not feasible to build drainage systems that can handle the maximum quantity of surface water during heavy rainfalls. This makes it important to develop forecast systems as well as to evaluate the possibility to increase surface water seepage and drainage in urban areas. The JAP lists measures that are to be implemented in Oldenburg and then transferred to East London. As the impacts of climate change will presumably be worse in South Africa than in Germany, implementing the systems developed in Oldenburg will be an endurance test for their suitability.

The need for potable water will increase during droughts, presumably more so in South Africa than in Germany. Supply systems will reach the limits of their capacity. Technical solutions will not be sufficient, the concept of saving water will have to be redefined.

4.7 Rastatt – Saint Louis

	Rastatt (Germany)	Saint-Louis (Senegal)
Population	47,110 (31 December 2013)	210,000
Area	59.02 km ²	46.50 km ²
Population density	796 inhabitants/km ²	4,516 inhabitants/km ²
Climate zone	temperate zone mean annual temperature: approx. 10°C mean precipitation: 913 mm/m ³	Sahel zone with two seasons: one rainy season (June to October with average annual precipitation of 330 mm) and a dry season (November to May with an average temperature of 26°C)
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • The mean annual temperature has risen by approx. 1°C since 1900. By mid-century, average temperature is expected to rise by a further 0.8 – 1.7°C; by the end of the century a temperature increase of 3.3 – 4.5°C is forecast. • Impacts on human health: According to the forecasts and scenarios, extreme temperature events will increase. This will inevitably lead to an increase in the heat-related health risk. • Impacts on water: Precipitation in winter is expected to increase. An increase in flooding events is to be feared. • Impacts on agriculture: • Long dry spells in summer could have perceptible adverse effects on yields and crop quality. • Impacts on forestry: • Drought stress will affect future forest development. 	<ul style="list-style-type: none"> • strong heat • rise in sea level • coastal erosion • disappearance of mangroves • increasing salinisation of water bodies • economic vulnerability • loss of cropland • decline in fish stocks • return of diseases (bilharzia and swamp fever) • high water and flooding on the Langue de Barbarie •

Profile of the climate partnership

The city of Saint-Louis was founded in 1659. In 1872 it became a fully-fledged municipality under French law, after which it became successively the capital of former French West Africa, Mauritania and Senegal.

Today it has a strong, unique identity that is based both on its manifold and original culture, and on the intensity and beauty of the magnificent landscape in which it arose. Saint-Louis is a city in the form of an archipelago, with a fragmented urban area comprising three parts.

- Sor is the part most recently urbanised. This part of the city displays all features of contemporary West African cities. The road network arose without planning in the course of uncontrolled urban expansion. Population density is low.
- The Ile Saint-Louis, which is 2.5 kilometres long and on average 300 m wide, is connected to Sor via the Faïdherbe Bridge. The island was added to the UNESCO World Heritage List on 2 December 2000. It encompasses 1,900 buildings, which are spread across 1,344 architectural units, 185 blocks of houses and 65 roads.
- The Langue de Barbarie, a sandy peninsula between the river and the Atlantic. Its largely homogeneous population comprises fishermen who live in overpopulated parts of the city, where public space has become common property.

The population of Saint-Louis is estimated to be 210,000, who live in 33 districts spread across a total of 46.59 square kilometres.

The city has a vision of sustainable development. This is embodied in the master plan for urban development – ‘Saint-Louis, Horizon 2030’ – which encompasses the following focal areas:

- management and conservation of the territory of Saint-Louis
- urban planning and living
- development of the urban economy and promotion of intermunicipal associations
- boosting of transport networks

- participatory democracy, civil rights, culture and leisure activities.

Due to the morphological conditions and sensitive ecosystem of Saint-Louis, the city is exposed to manifold and sometimes mutually contrary impacts of climate change. This is why the city includes climate change issues both in its urban planning and in its municipal development cooperation.

Its participation in the ‘50 Municipal Climate Partnerships by 2015’ project, which was made possible thanks to a cooperation arrangement with the municipality of Rastatt initiated by the Senegalese Friends of Nature organisation, thus provides an opportunity to develop projects for climate change adaptation and mitigation.

The large district town of Rastatt is located between the Black Forest and the Rhine in the heart of Mittelbaden, and has a population of around 47,000. It is characterised by baroque architectural monuments, modern buildings and unique natural landscapes. Around a quarter of the town’s territory comprises nature conservation areas, and a further 27 per cent is under landscape protection. One particular gem is the ‘Rhine floodplains of Rastatt’, which are home to abundant species. Thanks to the support provided by the municipality, these have been designated a nature reserve since 1984. And in fact they are one of the most beautiful and largest in Baden-Württemberg.

Rastatt has long been committed to protecting the climate and the environment. In 1992 Rastatt joined the Climate Alliance of European Cities, which aims to protect the world’s climate. This led to the emergence of a working group within the local authority. The group addresses the issues of mitigating carbon dioxide emissions, and energy. In 1994 a municipal master plan for climate change mitigation was produced that included an extensive list of measures. Its aim was to reduce carbon dioxide emissions. The individual measures were systematically implemented over the following years.

Rastatt has won several awards for its high level of engagement in the field of climate change mitigation.

- The Environment Prize of the Land of Baden-Württemberg for the Rastatt ecostation, a facility for environmental and nature education
- First prize in the Germany-wide competition 'Energy-saving municipality' run by German Environmental Aid, in the category for towns and cities with a population of between 20,001 and 100,000 (2005)
- First prize in the Germany-wide competition 'German Capital of Climate Change Mitigation' in the category for towns and cities with a population of between 20,001 and 100,000 (2006)
- Prize for the project 'The Rastatt Model' – a fifty-fifty energy-saving project for schools in Rastatt in the competition 'Energy-efficiency in municipalities – Good Practice Examples in 2011', which set an example for energy efficiency and the reduction of final energy consumption.

So it is no wonder that Rastatt remains committed to mitigating climate change. The idea of taking part in the '50 Municipal Climate Partnerships by 2015' project came from the Local Agenda 21 working group on energy and climate change, and the Rastatt branch of the Friends of Nature association. The Friends of Nature in Rastatt have maintained a vibrant North-South partnership with the Friends of Nature in Saint-Louis since 2009. It was therefore a logical step to enter into a climate partnership with the Senegalese city. In January 2014 the municipal council of Rastatt decided to go ahead with this idea. The climate partnership was born. Over the next eighteen months the two sides finally produced a joint programme of action.

The process of designing the joint programme of action

The process began with the kick-off conference held in March 2014 in Cape Town. This is where the future partners from Rastatt and Saint-Louis met for the first time. During the workshop they laid the foundations for the climate partnership, and defined its first milestones as they planned and organised the next steps. A coordinating group, a core team and a steering committee were set up in each of the two municipalities.

In October 2014 the first delegation of experts travelled from Saint-Louis to Rastatt. The group included a municipal

policy maker, an engineer and a representative of civil society. The actors in both municipalities use this visit to get to know each other better, as well as to improve coordination of their activities and share the lessons they learned when tackling climate change.



Figure 34: The mayor of Rastatt, Mr Pütsch, welcoming the delegation from Saint-Louis (photo: Municipality of Rastatt)

This meeting enabled the partners to discuss important issues of climate change mitigation. It also enabled them to identify possible key areas of activity for the climate partnership Rastatt – Saint-Louis.

The second mission, which took place in January 2015, involved a delegation from Rastatt travelling to Saint-Louis. During this visit the delegation members were able to gain a striking picture of the overall situation, the environmental problems, the infrastructure and the living conditions of the population. Numerous personal contacts were made, and the two sides continued working hard in workshops to further develop the joint programme of action.

Immediately following the second mission phase, communication was stepped up by email and by holding weekly Skype conferences, in order to prepare the third mission phase.

In the course of the third mission phase, the German and Senegalese partners spent an intensive working week developing highly specific measures in Saint-Louis and Rastatt, and completed their programme of action. The delegation from Rastatt and Saint-Louis held numerous discussions with responsible project actors and local civil society.

The time spent by the delegations from Rastatt in Senegal gave them an opportunity to hold talks with the Minister of Energy, the German Embassy, GIZ and SENELEC, which is responsible for power supply and distribution.



Figure 35: Members of the delegation to Saint-Louis
(photo: Municipality of Rastatt)

The key aim of these meetings was to find out more in advance about the conditions under which the various projects of the partnership would be implemented, and their sustainability.

Description of the key measures of the programme of action

The joint programme of action focuses on three areas:

1. greening and reforestation,
2. promoting and developing renewable energy,
3. awareness-raising, information and environmental education.

The specific measures considered are as follows:

1) Greening the city axes

The roads and squares of Saint-Louis are currently adorned by only few trees. This is due to heat, dryness and the condition of the soil, which at some points is sandy and saline. To improve the bioclimate in Saint-Louis, more trees need to be planted urgently. Trees increase the relative atmospheric humidity, lower the ambient temperature and absorb the greenhouse gas carbon dioxide. The first step will involve planting trees along selected roads. To ensure sustainability, tree sponsors will be initiated. Secondly, the

population will be made more aware of how important plants are for human beings, nature and the climate.

2) Reforesting mangroves

Mangroves are salt-tolerant tidal forests. They are among the world's most productive ecosystems. They are especially important for coastal protection, because they reduce the force of waves and protect coasts and estuaries against erosion. Many mangroves along the coasts of Saint-Louis have fallen victim to logging by the population. This has caused a dramatic reduction in fish and marine animal stocks. People who live from fishing are now barely able to eke out a living. Furthermore, the city is no longer protected against high water and flooding. This is why Saint-Louis plans to replant a mangrove forest in Sor Diagne. The sustainability of this measure will be guaranteed by intensive public awareness-raising work, and communication with the population through the district councils and the regional forestry agency.

3) Installing photovoltaic systems on public buildings



Figure 36: Inspecting a PV system in Rastatt
(photo: Municipality of Rastatt)

Saint-Louis suffers frequent power outages. Photovoltaic systems are already in place on some municipal buildings – three to be precise. However, no trained personnel are available to guarantee maintenance. These systems are subject to breakdowns, as members of the delegation from Rastatt were able to confirm by the tests they carried out during their last visit to Saint-Louis. Calculations performed locally clearly indicate that photovoltaic systems are particularly

well-suited to the production of solar power, due to the local climatic conditions. This would also reduce carbon dioxide emissions. The plan now is to test the potential by installing a pilot plant on the roof of the town hall, and restoring the functionality of the system already in place. If this test project produces convincing results, the partners can then look into the option of installing further systems.

4) Providing solar-powered LED lamps

In conjunction with solar power, LED lamps deliver crucial advantages. They reduce electricity consumption, offer a low-cost and long-lasting supply of power and do not require any complicated work to connect them to the grid because they operate autonomously. Based on the wishes expressed by the women at the Guet Ndar fish processing plant, who work under difficult conditions due to the lack of public lighting at their workplace, there are now plans to replace the conventional lamps, which stopped working some time ago, with solar-powered LED lamps that will guarantee an uninterrupted power supply. This will enable the women at the fish processing centre, who currently only work during daylight hours, to extend their working day. This in turn would increase their income.

5) School partnerships

School partnerships are a nice way of learning from each other and sharing experiences. Some schools in Saint-Louis teach German as a subject, and two schools in Saint-Louis already maintain partnerships with schools in Germany. Currently three schools in Saint-Louis and two schools in Rastatt are interested in a partnership. Contacts have been initiated. Further schools will follow.

6) Environmental education

Saint-Louis is a young city with many children and teenagers. This is where education and training must begin. To ensure that the measures to mitigate climate change are implemented sustainably, it is important and indeed essential to provide environmental education both for children and adults. A pilot project for environmental education in the districts has already taken place in Saint-Louis, and should be extended to other areas. As part of the measures to be implemented, annual public information events are planned in each of the 20 districts of the city of Saint-Louis. These will address topics such as an environmental protection,

climate change and adaptation to climate change. Above all, they will attempt to change the way people think and act. To support this, materials such as flyers, advertising boards or radio broadcasts for environmental education will be produced.

As well as raising the awareness of district councils and the municipal council for children and youth, the Friends of Nature in Saint-Louis will develop environmental education projects for public schools in the city.

The climate partnership is a mutual undertaking, which is why each measure in Saint-Louis is also matched by an appropriate measure in Rastatt. For example, the greening of the inner city of Saint-Louis will be matched in Rastatt by a climate analysis designed to identify the fresh air corridors and cold air production points that will help ventilate the town.

4.8 Solingen – Thiès

	Solingen (Deutschland)	Thiès (Senegal)
Population	approx. 160,800	approx. 285,300 Thiès is broken down into the municipalities of Thiès Ville, Thiès Nord, Thiès East, Thiès West
Area	89.45 km ²	68.82 km ²
Population density	1,798 inhabitants/km ²	4,145 inhabitants/km ²
Climate zone	temperate	subtropical climate with semi-arid climate
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • increase in extreme weather events (torrential rainfall, storms, heat waves) and their impacts • insidious changes in flora and fauna • increase in pests 	<ul style="list-style-type: none"> • decline in average amount of precipitation by approximately one third since 1960; during the same period increase in average temperature (which was already high) by 1.7°C • increase in torrential rainfall events -> causing flooding and soil erosion • drying out and salinisation of soils (exacerbated by chemical fertilisers) • loss of agricultural and forest land-> making living conditions more difficult • loss of natural habitats with their protective functions (e.g. forests)

Profile of the climate partnership

Solingen is located in the centre of West Germany in the temperate climate zone. With a population of 160,800, it is a rather small city known internationally for its cutlery industry.

Thiès has a population of around 285,300. It is the second-largest city in Senegal, located 70 km east of the capital Dakar. It is an important industrial and business centre, and a transport hub, though outside the city centre it is rather agricultural.

Solingen and Thiès have been officially linked through a friendship scheme since 1990/1991. In 1985 the 'Friendship with Thiès Association' was founded in Solingen, and the Amitié Solingen – Thiès association was set up in Thiès. Since then, numerous school exchange activities

and mutual visits by citizens have taken place. A range of humanitarian projects have also been supported.

In December 2013 a council delegation visited Thiès. On this occasion the two sides reaffirmed the friendship between the two cities, and for the first time included cooperation to mitigate climate change in their joint basic agreement. Thereafter the '50 Municipal Climate Partnerships by 2015' project created a sound basis for specific cooperation in this field on an equal footing.

In Solingen extreme weather events are becoming more frequent, and there are also many other insidious changes that indicate climate change. As in all industrialised countries, people's lifestyles and the way the economy is structured involve a heavy consumption of resources

and greenhouse gas emissions. This is why reducing greenhouse gases has been the focus of Solingen's long-standing engagement and activities to mitigate climate change. Right now this engagement is manifested in the implementation of Solingen's integrated master plan for mitigating climate change, which includes a large number of separate measures. It is also manifested in the city's application of the European Energy Award procedure for energy management and certification. And it is evident in steps to develop renewable energy and adapt to climate change. Solingen's sustainability process (its Plan of Action for 'Sustainable Development'), and its activities as a 'City of the UN Decade of Education for Sustainable Development' are further key areas of long-standing work for sustainable development.



Figure 37: Flood damage in Thiès (photo: City of Solingen)

In Thiès, the impacts of climate change can be clearly felt. Average precipitation has declined sharply, extreme rainfall events are becoming more frequent and mean temperatures have risen even higher. As a result, the difficult and often impoverished conditions under which people live (which among other things lead to the over-exploitation of forests, and thus to soil erosion and flooding etc.) are becoming more precarious. Social and environmental problems are reinforcing each other. Consequently, the city is focusing on taking steps to adapt to climate change, and in so doing improve people's living conditions. In many cases the expertise and the experience to implement locally adaptive measures is in place. The funding, however, is often lacking. Measures to tackle climate change can be successfully implemented through close cooperation between

governmental and civil society organisations with extensive citizen participation.

The process of designing the joint programme of action

To implement the project the two cities each set up working structures that were closely linked to the top echelons of local government.

The project working group in Solingen comprises the following actors: the Integration Service (project coordinator), the Mayor's Office (twinning/friendship schemes), the Nature and Environment Service (including the Office for Local Agenda 21/Sustainable Development and Climate Change Mitigation), technical services and the 'Friendship with Thiès Association'.

The project's structures are linked to the policymaking level through a cross-party committee, the Agenda Team (the steering committee for the sustainability process). The project steering committee includes representatives of the council's party-political groups, civil society and the municipal council for youth. This is the forum where progress reports on the climate partnership are presented, and where decisions are taken on further procedure.

In Thiès an *Equipe administrative* de base (a project working group) was established within the local government structures. This body comprise actors from various departments, including the mayor's office (project coordinator), urban development and planning, technical services, communication and information.

A *Groupe de pilotage* (project steering committee) was set up that includes the mayors of all the municipalities in Thiès, numerous representatives of (local and regional) authorities, institutions and the university, as well as civil society associations and initiatives (including the *Amitié Solingen-Thiès* association). The steering committee conducted a baseline analysis, identified strengths and weaknesses, and discussed objectives and measures.

Implementation of the '50 Municipal Climate Partnerships by 2015' project included the following phases of joint work:

- **Kick-off and analysing the status quo in Thiès:** Following the kick-off conference at the end of March 2014 in Cape Town, the visit made by the first delegation of experts to Thiès (August 2014) enabled the actors from Solingen to gain an impression of the needs and possible solutions in Thiès. The visits made to various locations, projects and institutions, and the discussions that ensued, changed the perspective of actors on both sides with regard to climate change and sustainable development.
- **Analysing the status quo in Solingen and international exchange:** The visit by the delegation of experts from Thiès in November 2014 was integrated into an International Bergisch Development Forum. This involved four days of dialogue on strategies and measures to tackle climate change. As well as the partners from Thiès, participants also included representatives of the city of Jinotega in Nicaragua (with which Solingen has a city-to-city friendship scheme) as well as other European municipalities (with links to either Thiès or Jinotega). The forum was also attended by associations, initiatives and individuals from Solingen. The excursions conducted in Solingen and the surrounding area (on the topics of water, agriculture and forestry, renewable energy, consumption and solid waste) inspired the participants to share ideas on possible solutions.
- **Work on the programme of action:** During the visit to Thiès made by the delegation of experts from Solingen in June 2015, the two sides worked hard on developing the programme of action. They succeeded in discussing and agreeing on the joint objectives, sub-objectives and project targets, and finalised the draft.

Description of the key measures of the programme of action

In the climate partnership's programme of action the actors agreed on joint strategic objectives and sub-objectives that form the framework for local project targets and measures. The following strategic objectives were agreed:

1. Improve the living conditions of the population through strategies and measures to mitigate climate change, conserve natural resources and adapt to climate change. This encompasses (among others) the following thematic areas as sub-objectives: promote an economical use of energy – promote appropriate building and design of open spaces – manage domestic solid waste – treat wastewater – manage rainwater – protect neighbourhoods against flooding – promote sustainable mobility – develop strategies/programmes to involve actors.
2. Increase (individual and collective) renewable energy use.
3. Increase local value creation and encourage actors to innovate by implementing measures to protect the environment and adapt to climate change.
4. Protect natural resources (including soil, water, air, flora and fauna), and enable them to regenerate.
5. Develop a better understanding of climate change among the actors.
6. Create organisational structures as well as processes of dialogue and participation for climate change mitigation and adaptation, and sustainable development.
7. Intensify the process of exchange and the partnerships for climate change mitigation and sustainable development between the two municipalities and the other partner municipalities involved.

These objectives have been assigned projects and measures – for both Thiès and Solingen.

Restore and rehabilitate green spaces in the city of Thiès

The key concerns of the city of Thiès include reducing flooding in the city by means of rainwater storage, collection and drainage. By greening areas of the city (e.g. shade trees, green axes, parks, raised-bed fruit and vegetable gardens), Thiès also intends to improve the living conditions of the population.



Figure 38: Working on the programme of action in Thiès (photo: Ville de Thiès)



Figure 39: First results of the restoration of Thiès Plateau (photo: City of Solingen)

Specifically, the city intends to: establish and maintain green spaces and axes; mitigate the impacts of heavy rainfall on residential districts (e.g. water undermining buildings) through erosion control measures (stone ramparts, planting of vegetation); transfer knowledge and methods to the population for soil control and regeneration, and for natural resources management; promote biodiversity and promote the economical use of wood (e.g. by using efficient cooking methods).

Improving the environmental and climate situation on Thiès Plateau

Thiès lies on a plateau, surrounded by hills whose trees and shrubs have been decimated by extreme overuse (e.g. by logging for firewood and livestock browsing). Extensive soil erosion (caused by damage to biotopes and an increase in heavy rainfall) in conjunction with the salinisation of soils (caused by over-fertilisation and desiccation) are destroying fertile cropland. The construction of rainwater storage tanks, targeted reforestation measures with active participation by the population, the stimulation of autoregeneration (e.g. through soil amelioration measures), and the protection of land (against free-roaming animals and logging) are key measures on the plateau and the adjacent slopes. In the medium and long-term, stabilised ecosystems will be able to reduce the impacts of flooding on cropland and on residential neighbourhoods, and will improve the local microclimate.

Other projects and measures involve

- the collection, recycling and disposal of solid waste (e.g. using local recycling centres)
- the introduction of energy- and resource-saving technologies (e.g. in construction and in households)
- the implementation of environmental standards in industrial enterprises
- the development of renewable energy
- public awareness-raising and participation by the population (education on mitigating climate change and conserving resources).

Implementing measures to mitigate climate change in Solingen

Solingen brings to the programme of action its processes, strategies and projects that are currently taking place in connection with the city's integrated strategy for mitigating climate change, the European Energy Award energy management and certification procedure, and the development of renewable energy and adaptation to climate change. By also engaging in partnership projects with municipalities in the Global South (Thiès, as well as Jinotega in Nicaragua), Solingen (thanks also to the huge dedication of the friendship associations) is responding to the global challenges with a view to learning from its partner municipalities and supporting their measures for climate change mitigation and adaptation.

Education for sustainable development in Solingen and Thiès, and establishing processes for dialogue and participation

Both municipalities wish to encourage people to adopt sustainable behaviours by helping them understand how their own actions will affect future generations and people in other regions of the world. This cooperation between the two partners offers considerable opportunities to persuade people to pursue globally responsible lifestyles. This process has already begun – in schools and youth centres, among others. Specific activities are also being implemented as part of school exchange programmes and trips made by citizens.

4.9 Unterschleißheim – Ho Municipality

	Unterschleißheim (Germany)	Ho Municipality (Ghana)
Population	28,237	177,281
Size	14.93 km ²	2,361 km ²
Population density	1,891 inhabitants/km ²	75 inhabitants/km ²
Climate zone	temperate	tropical
Possible or already noticeable impacts of climate change	<ul style="list-style-type: none"> • Seasonal shift • Higher summer temperatures • Warmer winter temperatures • Heavy rain/hail storms in summer • Increasing wind activity throughout the year • Storms are more frequent throughout the year • Harvest losses through drought and very high temperatures 	<ul style="list-style-type: none"> • High temperatures • Severe rain storms • Long droughts • Crop failure • Unpredictable farming season • Coastal erosion • Groundwater table getting lower •

Description of the municipalities

Ho Municipality

The Ho Municipality is located in the southern part of the Volta Region. The city Ho is the capital city of the Volta Region. The municipality has a total land area of 2,361 square kilometres. The general relief is made up of both mountains and lowlands. The mountainous areas are most likely to the north and north-east and the lowlands areas are to the south of the municipality.

The general drainage pattern is southward and dominated by rivers Tsawe and Kalakpa which flows into the lower Volta or the Avu Lagoon. These rivers are seasonal and therefore do not provide all year round dependable source

of water supply to the communities they serve as wells as for irrigation.

Temperatures in the municipality are generally high ranging between 16.5 and 37.8 degrees centigrade. The rainfall pattern is characterised by two rainy seasons referred to as the major and the minor seasons. The major season begins from March to June while the minor season starts from September to December. The municipality has two main types of vegetation zones. The moist semi-deciduous forest covers mostly by hills while the savannah woodland covers the rest of the municipality.

City of Unterschleißheim

Unterschleißheim municipality borders the city of Munich in the north and is amongst the 29 municipalities forming the Munich District. Unterschleißheim is the largest municipality within the district.

This special situation is a result of the fast growing Munich metropolitan area attracting highly skilled people from the whole of Germany and foreign countries. Unterschleißheim is a well sought after location for internationally operating cooperatives, commerce, industries and service providers. Munich airport is closely located to Unterschleißheim as well as major highways. Farming and forestry activities are playing a minor role.

The climate partnership between Ho and Unterschleißheim was newly established in 2013. It has come in place through the medium of GIZ Country Office in Accra. After a few negotiations on the content, the partnership entered into a Memorandum of Understanding. The first time the partners have met in person was during the kick-off workshop in Cape Town, South Africa March 2014.

The broad objective of establishing this partnership is for sustainable development. It is for creating awareness on climate change issues, mainly mitigation and adaptation. It includes the exchange of expert knowledge and technology in the context of climate change matters. In particular, Ho is interested in energy conservation, waste management, renewable energies as well as water protection, water management and environmental conservation. The cultural exchange is meant to be a knowledge transfer in both directions.

The city of Unterschleißheim has drafted an "Integrated Energy- and Climate Protection Audit" aiming to reduce the municipality's carbon dioxide footprint due to various measures. In this document, the North-South dialogue has been identified as an activity. Both municipalities have prioritised mitigation and adaptation on climate change, because there is a need for scaling it up.

The process of designing the joint programme of action

Just after the Memorandum of Understanding was signed, the working structures were established. Members of the steering committee were drawn from:

Ho Municipality	Unterschleißheim Municipality
<ul style="list-style-type: none"> • Administration • Assembly members (councillors) • Civil society • Environmental Protection Agency • Forestry Department • National Disaster Management • Ministry of Food and Agriculture • Ghana Education Service • Environmental health Education Unit • Fire Service • Traditional Authority • Religious Organisations 	<ul style="list-style-type: none"> • Administration • Assembly members (councillors) • Interested public • Team Agenda 21 • Fair Trade steering committee • Ghanaians living in Unterschleißheim •

In Ho Municipality, the municipal planning office is in charge of the climate partnership with strong linkages to the various communal departments. The administration in Ho together with the Environmental Protection Agency and the Religious Bodies Network on Climate Change are forming the core team. In Unterschleißheim, the project is being taken care of by the interdepartmental division "Kommunales Klimaschutzmanagement" and "Public Relations" within the Building and Planning Department.

In March 2014, both partnering municipalities have taken part in the international workshop of the project "50 Municipal Climate Partnerships by 2015" in South Africa. For the first time, the partners got to know each other.

From the beginning they were busy exchanging information on project relevant topics and have prioritised areas of common interest.



Figure 40: Drinking fair coffee in Unterschleißheim with the mayor, Christoph Böck, town councillors and representatives of the Fair Trade steering committee (photo: Municipality of Unterschleißheim)

In June 2014, a delegation from Ho municipality has visited Unterschleißheim. The date was chosen so that the African partners could also meet the visiting French sister town. Field trips took place to sites for renewable energies (solar, hydro, wind, geothermal), environmental education centres and a Fair Trade School in Unterschleißheim. During the stay, three major areas of interest were identified: renewable energies, waste management and awareness raising/sensitisation on climate change issues.

In October 2014 a delegation from Unterschleißheim, of which the First Mayor was part of, went to Ghana. At first, they were familiarised with the municipal structures in Ho. Unlike in German municipalities there is a strong link to the Regional Ministries. Therefore, representatives from ministries are part of the core team and steering committee.

Climate change is happening in Ghana. That could be seen at various places around Ho and along the shore. At the end of the rainy season, the Volta Dam, main source for electricity in Ghana was nearly empty causing severe power shortages over a long period of time. The rise in sea level and the increase in tropical storms are affecting the coastal areas by erasing the shore line. Costly sea defence systems had to be built along the Keta coast line.

In August 2015, the 3rd Mayor of the City of Unterschleißheim, a councillor and a member of the steering committee went for a last visit to Ho. During this visit, both partners reinforced the three areas of cooperation.

Ho Municipal Assembly, in close collaboration with the EP Church of Ghana, launched the inauguration of 12 Eco clubs in Ho Municipality. As part of the joint action plan, there is a need to form Eco-clubs in the educational institutions to create awareness on climate change issues. The aims and objectives of the clubs are helping to create awareness on environmental issues amongst school pupils or students and various communities through seminars, symposia and debates. The heads of the schools shall be the chief patrons of the clubs and two or three tutors whose interest or subjects concern environmental issues shall be the patrons of the club. An official guideline for the establishment of Eco-clubs in the educational institution was set up.

Waste management is a major topic in Ho Municipality. A new landfill site has been designed and the administration is going to start a pilot on waste separation. Once in operation, the landfill site shall recover methane and converting it into electricity which than can be used by the dump side. A new abattoir is under construction including a biogas plant converting the gas into electricity.

During a field visit to Keta the delegation was introduced to the former Municipal Chief Executive who now is running a farm operating by renewable energy sources – biogas, solar and wind.

Description of the Key Areas of the Joint Action Plan

The joint action plan between Ho Municipality and the City of Unterschleißheim concentrates on three key areas:

- renewable energies
- waste management
- awareness raising

In terms of renewable energies, the first action Ho Municipality is undertaking will be the replacement of all bulbs to energy saving bulbs (CFC bulbs). In Unterschleißheim,

the retrofitting of communal buildings to LED technology has already started and will be an ongoing process. The reduction of carbon dioxide is significant. As of today, LED-technology is not available in Ghana. Nevertheless, it is intended that Ho can profit from the lessons already learned in Unterschleißheim.

In Unterschleißheim, electricity for all municipal buildings is being purchased to 100 percent from renewable energies. The municipal energy provider has installed photovoltaic on several rooftops which yield is being fed into the grid. The future aim is to generate more electricity from renewable energy sources within the municipality demarcation for self-consumption.

Within the joint action programme the partners are initiating the procurement and installation of solar panels on selected municipal buildings and an abattoir in Ho Municipality. The use of solar panels in Ghana is currently not common. As a signs of time the climate partnership will therefore take the lead.

Another measure Ho Municipality is aiming at is the procurement and installation of solar street lights. Country-wide only a few solar operated street lights can be found along major high ways.



Figure 41: A scrap metal collection point in Ho
(photo: Municipality of Unterschleißheim)

The main area of interest in Ho Municipality is the topic of waste management where a lot of experiences from Unterschleißheim can be shared. A new landfill site for solid waste has recently been designed and the focus of the

assembly is the establishment of a waste management unit. Currently, the waste is being burned either at home or in designated areas without making use of the energy being trapped in "waste". Especially plastic waste has become a problem, littering the entire environment. In a pilot, the municipality is introducing the separation of waste and will provide bins to all households. Waste collection is not common in Ghana and a challenge will therefore be the identification of service providers from the private sector.

Sensitization of the public is of utmost importance. Setting up a proper communication strategy, including the publication of information material being provided to all private households is a key task. In terms of personnel, the technical staff, both in the administration as well as at the landfill site needs to be trained.



Figure 42: Recycling plastic bags at Adaklu Waya School in Ho.
Pupils make volleyball nets out of plastic bags for drinking water.
(Photo: Municipality of Unterschleißheim)

Awareness raising and sensitisation on climate change issues is the third major topic. Ho Municipality is concentrating its efforts mainly on students/pupils and farmers whereas Unterschleißheim is looking for awareness raising campaigns on all educational levels including Adult Education Centres (Vhs). Ho Municipality, in cooperation with the EP Church is taking a lead in establishing Eco-Clubs. Public education is taking place on local radio station and farmers are being trained on "Farmer Based Organizations (FBO)" in the field.

5. Conclusion

Ten German municipalities took part in the third phase of the climate partnerships project together with their partners in Burkina Faso, Ghana, Cameroon, Lesotho, Tunisia, Senegal and South Africa, in order to tackle the challenges of climate change through joint activities. On both the German and African sides this included both large and medium-sized towns and cities, as well as rural municipalities, which faced a very wide range of problems.

One thing that all the municipalities have in common is that they are already affected by the impacts of climate change, albeit to different degrees. Extreme weather events such as torrential rainfall, storms or unusual dry spells, higher temperatures or a shift in the annual or rainy/dry seasons, are the phenomena described most frequently. Flooding is one of the most devastating impacts. These changes also have a negative effect on agricultural production, infrastructure, water supply and the general quality of life of the population. In extreme cases even human life itself is jeopardised. We must also fear a loss of biological diversity.

Concerning the topics that prove particularly important from the perspective of the municipalities in Africa, the vegetation zones provide a first point of departure. Municipalities in arid zones such as Kongoussi, Thiès, Saint-Louis, Sfax and Ho, which are partnered with Ludwigsburg, Solingen, Rastatt, Marburg and Unterschleißheim, are particularly hard hit by increasing water scarcity. A lack of infrastructure for adapting to the impacts of climate change or developing renewable energy supply in rural regions is a distinctive feature of the work performed by the actors in Leribe in the uplands of Lesotho, and in the tropical rainforest in the municipality of Belo, together with their partners in Geestland and Horb am Neckar. Renewable energy development, energy-efficient renovation measures and sustainable mobility issues are of particular relevance to the South African municipalities of BCMM, Drakenstein and Cape Town, and their German partners Oldenburg, Neumarkt in der Oberpfalz and Munich.

Three of the municipal partnerships involved in the third phase of the project can already look back on a long history. Vibrant and long-standing twinning or friendship schemes were already in place between Kongoussi and Ludwigsburg, Thiès and Solingen, and Marburg and Sfax.

One of the distinguishing features of these partnerships was the high level of civil society engagement. Particularly worthy of mention in this connection is also the fact that seven new partnerships arose through the joint work on climate change mitigation and adaptation that also intend to continue working together in the future on a long-term basis. In many cases the municipalities involved were able to build on existing links with civil society. For instance, the Friends of Nature in Rastatt were able to build on their long-standing links with the Friends of Nature in Senegal when establishing the climate partnership between Rastatt and Saint-Louis in Senegal. A further special feature is the link between municipal partnerships and cooperation arrangements at the level of Germany's federal states. For example, the Free State of Bavaria has a partnership with Western Cape Province in South Africa. These regional partnerships were further developed and strengthened through the municipal-level cooperation in the climate partnerships Munich – Cape Town and Neumarkt in der Oberpfalz – Drakenstein. Oldenburg is also pursuing its joint activities with BCMM in the wider context of the regional partnership between Lower Saxony and Eastern Cape Province in South Africa, where BCMM is located.

One key aspect of launching a climate partnership is the establishment of working structures on both sides, which are essential for developing the joint programmes of action and implementing these in the long term. All the climate partnerships have established core teams and steering committees. The composition of these respective bodies varies according to the specific situation of each particular municipality. In almost all the municipalities, however, both bodies involve a range of actors including policymakers, administrators and civil society players, which has enriched the process of exchange and placed the cooperation on a sound and broad footing. One positive aspect we should emphasise is the fact that in many cases different departments of the administrations are involved in the core team. These include for instance units for environmental protection or climate change mitigation, international affairs, planning or Local Agenda 21. An important role is also played by civil society actors such as twinning associations and other NGOs. With their long-standing experience in climate change mitigation or international cooperation, they are able to make important contributions, and support

coordination and communication between the partners. However, here we need to remember that understandings of the term civil society differ in the various countries involved, and that different rules apply to cooperation between civil society actors and municipalities. Whereas in the German municipalities it is normally associations, schools or church-based groups that are involved, in African partner municipalities it may be that in addition to non-governmental organisations, local community-based organisations or traditional authorities for instance also play an important role. Depending on the key areas of work selected, in the course of the process several climate partnerships also included as key players municipally-owned enterprises and private enterprises – chiefly in the water and energy sectors – as well as individual experts from universities. Schools too are important actors, e.g. for school partnerships or in the context of inter-generational education work.



Figure 43: The City of Munich presenting its climate partnerships with Cape Town and the Asháninka indigenous people at the Network 21 Congress in Munich in October 2014 (photo: Stephan Rescher)

To ensure political backing for the climate partnerships the coordinators regularly updated the decision-making bodies on progress. The reciprocal visits made by the delegations from the respective municipalities provided good opportunities to do this. These mutual exchange visits and the international kick-off workshop in Somerset West were also used to inform the public about the climate partnerships and what they were all about, e.g. through press releases and publications on the websites of the municipalities. The project coordinators were able to present the project at

numerous events, including the Network 21 Conference 2014 in Munich, the Symposium on Climate Justice held in Bremerhaven in November 2014, the Resilient Cities Conference organised by the ICLEI network of local governments in May 2015, and the French Forum for Municipal Development Cooperation held in July 2015 in Paris.



Figure 44: The City of Solingen reporting on its climate partnership with Thiès at the 6th Forum for Municipal Development Cooperation in Paris in June 2015 (photo: Anne Wehkamp)

When preparing the joint programmes of action, a further important step in addition to establishing the working structures is the baseline review. As in the pilot phase and the second phase, it turned out that the missions played a key role here. These enabled the host municipalities to explain not only what lessons they had learned and their success stories, but also the problems they faced, by taking their visitors on field trips, discussing things with them and dialoguing directly with the key actors. Last but not least, these exchange visits also helped the two sides to get to know each other and to build a foundation of trust, which is key when working in a partnership. The climate partnerships also made intensive use of the international kick-off workshop in South Africa as an opportunity for both sides to get to know who was who in their partner municipality, and for the two sides to compare notes on their respective contexts. As well as sharing ideas during the exchange visits, the partner municipalities also further developed this process of communication by forwarding key documents, e.g. summaries of master plans for climate change mitigation and other relevant plans. The partners also began discussing the possible focal areas of cooperation right from the start. The network meetings of

the German and African municipalities helped the actors concerned to reflect on and further develop their own ideas and proposals by sharing them with the other municipalities and their project coordinators. It also gave them some fresh ideas to consider.

The short reports on the individual climate partnerships contained in the present document clearly indicate that the actors involved on both sides gained a significant amount of knowledge in relation to the causes and impacts of climate change. In the African municipalities in particular, the links between climate change and development are clearly evident. Improving the living conditions of the local population is the overriding priority in this setting. The existing challenges with regard to the delivery of public services are being severely exacerbated and made more complex by the impacts of climate change. This is particularly evident with regard to water. Several climate partnerships have placed the protection of this resource at the centre of their activities. In the German municipalities the impacts of climate change are often less visible. Here there is a need to raise public awareness of the urgent need to mitigate climate change, and to help citizens understand how their actions impact on people in regions more severely affected. Several municipalities are using their climate partnership to jointly call into question patterns of consumption and change them, e.g. by reducing the use of plastic or promoting Fair Trade.

One of the challenges of cooperation in the partnerships is maintaining fluent communication between the partners. During the third phase of the project communication took place in the working languages of the climate partnerships, which were English and French. In the Francophone climate partnerships, the Service Agency in some cases supported the process by hiring interpreters. Above all, though, civil society actors made very important contributions. This was also the case in the African municipalities, when it came to translating between the official working language and the respective local languages. This will also be of major importance for continuation of the exchange. A further issue is personnel changes at the point of contact, or political upheavals. This affected activities in Burkina Faso and Tunisia, for example. We also need to bear in mind that the time available to the municipal staff and civil society actors involved is very limited, due to their manifold tasks.

It seems all the more important to distribute responsibility across several pairs of shoulders within the core team, and beyond that to involve various actors in the climate partnership's steering committee.

The programmes of action produced as outputs of this intensive process, which were presented for each of the climate partnerships in the previous section, are characterised by a hierarchical structure (strategic objective – target – measure), and are clearly structured by specifying responsible individuals, time frames, resources required and indicators. This provides an excellent basis for implementation. One factor contributing to this is the fact that the programmes of action sometimes include both larger-scale, resource-intensive projects, and measures that can be tackled independently of external funding using the existing human, material and financial resources available to various actors. As well as measures that are planned to be implemented over the next one to 2 years, there are some medium-term targets. In all cases various actors are to be involved in implementing the measures, which also improves the prospects for implementation and will benefit the sustainability of the process. In some cases the planned resources and indicators are still worded in very general terms, and will no doubt be fine-tuned when detailed project plans are required for the measures in question.

Each programme of action contains several focal areas of activity. Their composition reflects the specific situation and needs of the two partner municipalities. During the third phase of the project, the topics included most frequently were:

- renewable energy
- energy efficiency
- flood and coastal protection
- awareness-raising and environmental education
- sustainable agriculture and forestry, reforestation
- water supply and sanitation
- solid waste management.

The majority of the targets and measures that involve the construction or expansion of infrastructure or the use of specific technologies will be implemented in the African municipalities, with the German municipalities providing

support to their partners in the form of technical advice and joint project management (including applying for funding). Measures in the German municipalities will usually involve awareness-raising, education and information work. For instance, German municipalities intend to use the massive impacts of climate change in their partner municipalities to raise awareness of global interdependencies, and to boost the engagement of their own citizens. Areas for learning are certainly identified, e.g. concerning how to deal with the impacts of climate change. In some climate partnerships Fair Trade plays an important role and is already being practised.

In several climate partnerships first measures are already being implemented even as the programmes of action are still being further developed. These partnerships are already making use of the support offered by Engagement Global's Service Agency in the form of human and financial resources. For example, in 2014 Oldenburg together with BCMM launched an energy efficiency project that is being funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the Service Agency's 'Partnership Projects for Sustainable Local Development' (Nakopa) programme. Two other climate partnerships involved in the third phase of the project had projects approved in 2015. Several climate partnerships have already submitted declarations of interest for the ASA-Kommunal programme, which is jointly implemented by the Service Agency and ASA. This instrument enables students from both municipalities to each spend three months in their partner municipalities implementing small projects. Launching the implementation of concrete activities early on in this way will increase the visibility of the climate partnership and help motivate all the actors. This is why the municipal actors attached major importance to it from the outset. The Service Agency and ASA consider it important that these small projects be placed in the wider context of the programmes of action. The longer time frame and broader framework of the programmes of action will enable the municipalities to build on these individual measures through follow-on projects and complementary measures in the same area of activity or other areas. This will lay the foundations for a sustainable continuation of the climate partnership.

6. Outlook

The successful elaboration of the bilateral programmes of action for the climate partnerships is a first and essential milestone for joint cooperation between the municipalities from Germany and the various countries in Africa. The municipalities involved have ambitious goals. Some wish to become carbon-neutral in the long term, while others wish to guarantee sustainable local development even as population figures continue growing. All of them wish to make their local authority fit for the future, while at the same time acting with global responsibility. In the climate partnerships new, strong cooperation partners have joined forces to support each other in coming closer to achieving these goals. Over the last 18 months, the systematic work performed, the process of exchange and the support provided by the Service Agency and LAG 21 NRW have created the thematic and organisational foundations for future cooperation, both in the long-standing city-to-city twinning arrangements and in the newly established climate partnerships. On this basis, the aim going forward is now to make the climate partnerships sustainable and enable them to implement the targets and measures that they have set themselves. In this context it seems important that the programmes of action should be integrated into the daily routine of the municipalities concerned, and that the municipalities should regularly review the implementation status, report on the programmes of action, and update them. To guarantee this we recommend that the programmes of action be linked to or even integrated into existing municipal planning instruments such as municipal master plans for climate change mitigation or local development plans. Both within the administration and at the meetings of the policymaking bodies, the relevant actors should continuously report on the progress of implementation and any obstacles encountered. Appropriate tools for this purpose would include the progress reports on the municipal master plans for climate change mitigation, or reports prepared by twinning associations. The programmes of action should be seen as dynamic documents, and should therefore be adjusted and further developed in the course of reporting.

Both municipalities share equal responsibility for short-, medium- and long-term implementation of the planned measures and projects. To ensure that these responsibilities are met, a process of regular communication between the partner municipalities should be guaranteed so that the

programmes of action can be updated, and continuously supplemented with fresh knowledge and expertise. Wherever possible this process of communication should take place independently of external funding, in order to ensure the sustainability of the cooperation. As well as the activities of the programme of action itself, it seems appropriate to also plan a number of overarching activities to jointly manage the partnership, such as regular telephone conferences or delegation visits.

Numerous measures of the programmes of action elaborated are also vitally dependent on the involvement of external actors. This is why one or several such actors are specified in each programme of action. In the future it will be important to continue viewing civil society groups, research institutions and commercial enterprises as partners for success. It will also be important to manage liaison with these actors transparently, and to continuously widen the circle of actors involved to suit the nature of the measures. And it will be important to share the findings and the knowledge acquired within the climate partnerships in order to make as many people as possible more aware of the global connections and the local impacts of climate change. One way of achieving this will be by cooperating with educational institutions, which is something that several climate partnerships hope to do. Other suitable ways of making the broadest possible section of the local population aware of the climate partnership include PR activities such as special lectures during visits made by the partner municipality, photo exhibitions or tree planting actions. These can also be timed to coincide with regular events in the municipality such as days of action for climate change mitigation or One World work.

Another option is to address climate change in other twinning schemes, or to link the climate partnership directly with other municipal partnerships. In November 2014, Solingen organised its own conference that was attended by several twin cities from various countries. Other municipalities have for example invited actors from their twin cities in France to come and meet the climate partnership actors.

When realising the joint objectives in the climate partnerships, the question of available resources will always crop up. A large number of the projects described in the programmes of action are ambitious and cost-intensive, whereas others

can implemented by mobilising engagement within the municipality and involving partners in innovative ways. The present time frame for the measures represents a first set of priorities, and provides important guidance for step by step implementation. In some cases implementation has already commenced. Since many of the activities focus on the next one to two years, the two sides should continue communicating on the priorities and the time available for implementation of the individual projects, so that neither side ends up becoming overstretched.

The high-quality proposals for climate change mitigation, the preventive measures to avert the impacts of climate change and the education projects developed with considerable expertise and documented in the programmes of action, all provide an excellent platform on which to apply for financial support from public and non-governmental funding bodies. They are based on a joint analysis, a profile of strengths and weaknesses, and specific joint objectives. Ever since the project was launched the Service Agency and LAG 21 NRW have been providing information on funding opportunities, and will be glad to continue supporting municipalities seeking sources of funding to implement their measures in the future.

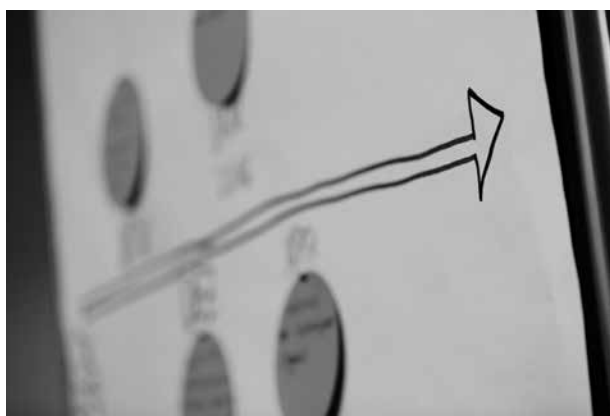


Figure 45: Looking ahead to the future (photo: Andreas Grasser)

The Service Agency and LAG 21 NRW would like to support the engagement of the actors taking part, and encourage other actors to also get involved. We will be monitoring the continuation of the municipal climate partnerships with keen interest, and supporting it not only by facilitating financing but also by providing advice and other assistance. Thanks to the comprehensive support and funding provided

by the BMZ, inter alia under the budget item for municipal development cooperation, the Service Agency as a competence centre and Engagement Global as an umbrella organisation are able to offer municipal and civil society actors an array of advisory and support services through numerous other relevant programmes. The climate partnerships can also benefit from this. The participating German municipalities were familiarised with the various offerings at the network meetings, and can now use these to further develop their municipal climate partnerships. Financial support is available for instance through the Partnership Projects for Sustainable Local Development (Nakopa) and Local Climate Change Mitigation and Adaptation Projects (FKKP) programmes. Bengo can also advise on EU funding programmes. Regarding human resources exchange it is appropriate to mention among others the ASA Kommunal programme, and the Integrated Experts for Municipalities Worldwide (IFKW) cooperation project between the Centre for International Migration (CIM), the Service Agency and the Senior Expert Service (SES). In 2016 the Service Agency will also be launching several new offerings to strengthen municipal development cooperation in German municipalities. For example, it will be possible to obtain support from the new small projects fund for municipal development cooperation activities in German municipalities. Another project will offer to boost human capacities for development cooperation. Important potential for synergy and concrete links also exist regarding the Service Agency's themes for the future – Fair Trade/fair procurement, migration and development, and Municipalities for Global Sustainability. As was the case when developing the programmes of action, sharing and exchange within the climate partnerships network can also make important contributions to the implementation and further design of the partnerships. The Service Agency and LAG 21 NRW will therefore continue to support networking among the municipalities, to the extent that we are able to do so.

The '50 Municipal Climate Partnerships by 2015' project has set itself the target of enabling a total of 50 German municipalities to establish climate partnerships with municipalities in the Global South by 2015. To achieve this, the project is being extended phase by phase. In 2014 the fourth phase of the project was launched with ten German and Latin American municipalities from Brazil, Costa Rica, Colombia,

Ecuador and Nicaragua. The fifth phase of the project was launched in December 2015 with a first meeting of the network of interested German municipalities. This phase of the project will focus on partnerships with municipalities in South and Southeast Asia. As the fifth phase of the project began, the project had around 50 municipal climate partnerships. Interested municipalities are also welcome to contact the Service Agency or LAG 21 NRW at any time to find out more about the opportunities for establishing a climate partnership.

Publications of the Service Agency Communities in One World

All publications and information leaflets of the Service Agency Communities in One World can be ordered free of charge (if not yet out of print) or downloaded on its homepage under www.service-eine-welt.de.

Please find below the list of publications available in English.

Dialog Global-Series of the Service Agency:

- No. 32: 50 Municipal Climate Partnerships by 2015. Documentation of the second phase of the project.
Bonn, December 2014
- No. 29: 50 Municipal Climate Partnerships by 2015. Documentation of the Pilot Phase.
Bonn, May 2013 [German/English version]
- No. 25: Participatory Budgeting Worldwide – Updated Version. Study.
Bonn, November 2013.
- No. 24: International Congress on Models of Participatory Budgeting. Documentation.
Bonn, November 2010 [Also available in German]
- No. 22: Migration and Development at the Local Level. An excerpt from the best practice guidelines.
Bonn, November 2012

Material-Series of the Service Agency:

- No. 70: International Workshop of the Municipal Climate Partnerships. Presentation of the Programmes of Action July 1 – 3, 2014. Bonn, February 2015
- No. 54: International Kick-off Workshop “50 Municipal Climate Partnerships by 2015” 14th - 16th November 2011. Documentation. Bonn, May 2012

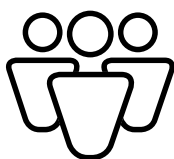
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Service für Entwicklungsinitiativen



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The services we offer interested citizens, organisations and non-governmental organisations, firms, communities, teachers and pupils include:

- Information
- Advising
- Continuing education
- Financial assistance
- Networks

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ENGAGEMENT GLOBAL gGmbH
Service für Entwicklungsinitiativen
(GLOBAL CIVIC ENGAGEMENT
Service for Development Initiatives)

Tulpenfeld 7

53113 Bonn

Phone +49 228 20 717-0

Fax +49 228 20 717-150

info@engagement-global.de

www.engagement-global.de

www.facebook.com/engagement-global

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ENGAGEMENT GLOBAL gGmbH
Service für Entwicklungsinitiativen
Service Agency Communities in One World
Tulpenfeld 7, 53113 Bonn • +49 228 20717-0

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In our One World, people's lives are interconnected in manifold ways. Learning from each other, seeking joint solutions and following the same paths together – these are the imperatives of our age for promoting sustainable global development. Your decisions and your engagement in your municipality affect the lives of people elsewhere. When you become involved in development work, your social, ecological and economic future will be able to unfold in ways that are not only more diverse and inventive, but also more successful.

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We are

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- a competence centre and service provider for municipalities in Germany with an interest in development issues
- a partner for municipal development cooperation geared to achieving international development goals and sustainable and participatory urban development – here and among our partners in the South
- a promoter of the exchange of international expertise with local authority experts in developing countries and emerging economies
- experts in professionalising municipal project partnerships and twinning arrangements
- consultants for effective information and education work performed by German municipalities.

We work

on behalf of the Federal Ministry for Economic Cooperation and Development, to address the themes of the future for municipalities:

- This is why we help build municipal partnerships with developing countries and emerging economies – currently focusing on climate change, participatory budgeting and sustainable urban development.
- It is also why we support the networking of actors in the field of migration and development at the local level, and strengthen local development work by involving migrants.
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- an extensive website – www.service-eine-welt.de – and Internet portals such as our website for participatory budgeting www.buergerhaushalt.org
- the monthly 'One World Newsletter' (German only)
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Do you have some ideas, and are you seeking solutions? We'll help you achieve your goals. Municipal engagement for development means helping shape the future of our One World responsibly and sustainably. Be a part of it!



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