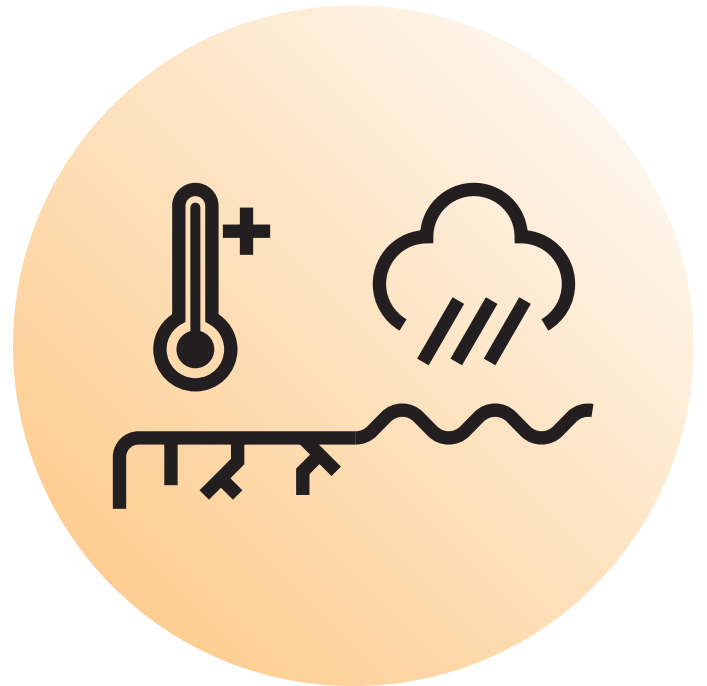


#evolvingregions



EVOLVING ROADMAPPING

**Guideline for the design of
climate adaptation processes**



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Ministerium für Umwelt,
Naturschutz und Verkehr
des Landes Nordrhein-Westfalen



IMPRINT

Evolving Roadmapping

Guideline for the design of climate adaptation processes

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Further information on the Evolving Regions project at: www.evolvingregions.com/en

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Further Information on the
Evolving Regions project at:
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1 INTRODUCTION

Extreme heat waves, increasingly long periods of drought and flooding after heavy rainfall events – climate change is already impacting us today. Adaptation to the unavoidable consequences of the changing climate is one of the greatest societal challenges of our time, along with climate protection. For effective climate adaptation, it is important to develop approaches that are adapted to the respective framework conditions. Adaptation to the impacts of climate change can only be successful if it is interdisciplinary, collaborative, coordinated and integrated.

Here, a regional perspective offers many advantages: Solutions for cross-border climate impacts can be developed on an appropriate scale, local goals and strategies can be coordinated and competences and resources can be pooled. Since climate adaptation depends on a multitude of fields of action, a cooperation of relevant actors from different thematic areas is necessary. However, designing an appropriate climate adaptation process that takes all this into account is no easy task.

Evolving Roadmapping offers a methodological framework for the design of such climate adaptation processes. The method was originally developed as part of the “dynaklim” project (2009-2014) and subsequently refined in follow-up projects that addressed rural regions. As part of the Evolving Regions project (2019 to 2023), regional climate adaptation processes were carried out in seven North Rhine-Westphalian districts on the basis of the method. Evolving Roadmapping makes it possible to involve different actors, to build and strengthen networks and to make the best possible use of existing competences and resources. The basic ideas of the method are the cooperation of people, groups and organisations for the joint development of goals, strategies and measures for climate adaptation as well as the empowerment of actors to continue climate adaptation independently (see chapter 2 Basic ideas and goals of Evolving Roadmapping).

This guide is intended to help initiators, organisers and moderators of climate adaptation processes to plan and implement integrated and collaborative processes according to the Evolving Roadmapping method. The central contents and steps of the method are explained and supplemented with illustrative examples from practice. The guide offers a practical framework for the design of climate adaptation processes. As a planning and action guide, the method is intended to be a flexible tool that can (and should) be adapted to the respective context where it is applied. As the guideline is mainly based on the experiences of the Evolving Regions project, some of the content presented below is framed within regional climate adaptation. However, this does not exclude application in other contexts, e.g. at local level or in other thematic areas.

INTERDISCIPLINARY CLIMATE ADAPTATION



As a challenge for society as a whole, effective climate adaptation depends on a large number of sectors. Many thematic areas are interdependent, both in terms of the consequences of climate change and in terms of adaptation measures. Interdisciplinary climate adaptation takes these interdependencies into account and includes them in all steps of climate adaptation.

COLLABORATIVE CLIMATE ADAPTATION

The existing interdependencies between different areas require cooperation between different actors. In this way, possible conflicts can be avoided or resolved and synergies can be used.



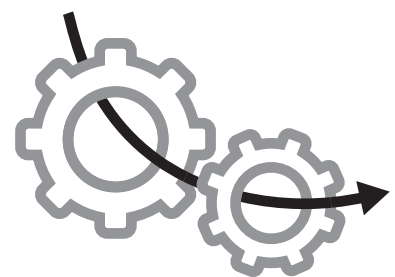
COORDINATED CLIMATE ADAPTATION



A coordinated implementation of different climate adaptation efforts can help to prevent unintended negative consequences of climate adaptation measures on other actors or sectors and contribute to a more targeted use of resources.

INTEGRATED CLIMATE ADAPTATION

The integration of climate adaptation into planning and decision-making, and the consideration of climate adaptation issues in everyday work, is just as important for its success as the consideration and address of other challenges, such as climate and environmental protection, and spatial and economic development, which often overlap with those of climate change adaptation.



2 BASIC IDEAS AND GOALS OF EVOLVING ROADMAPPING

Effective climate adaptation requires a framework of interdisciplinarity, collaboration, coordination, and integration. Evolving Roadmapping addresses this need for integrality and offers a practical framework of action for the steps of the adaptation process - analysis, planning, implementation, and evaluation - to be designed accordingly.

The method comprises six steps, which are carried out sequentially, but also in parallel: (1) Setting a framework and definition of goals, (2) Analysis of the current situation, (3) Forecasting, (4) Backcasting, (5) Preparation of the Roadmap and (6) Monitoring and evaluation (see chapter 4 The six steps of Evolving Roadmapping). This methodological sequence addresses the complex and long-term task of climate adaptation, as it offers a detailed examination of the local and regional conditions of expected climate, spatial and social changes. In addition to this forecasting, the actors utilizing Evolving Roadmapping are also able to develop a communal image of a desirable climate-adapted future. The comparison between the image of the future and the prognosis highlights the need for action, for which strategies and concrete measures are then developed together.

The basic idea of Evolving Roadmapping is that strategies and measures are not simply presented by external consultants, but are developed jointly by all relevant actors. The collaborative development of goals, strategies and measures by the people living and working in the area should, on the one hand, increase the quality of the results with regard to their adaptation to the respective local situation and, on the other hand, promote the implementation of the measures by directly involving the decision-making, planning and implementing actors in the development process. The aim is to go beyond the mere collection of ideas and to directly discuss and note down concrete work steps, responsibilities or implementation periods for the measures. In addition, known measures that are established in other places or contexts will be adapted to the respective circumstances and their implementation will be promoted.

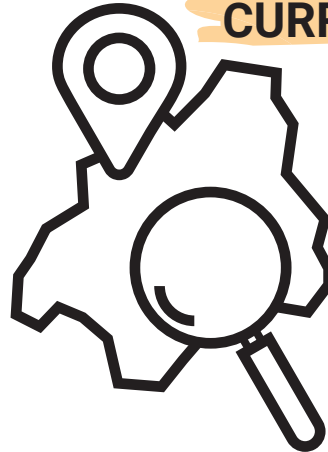
Evolving Roadmapping also aims to increase the adaptation competences and capacities of all relevant actors and to enable them to integrate the topic of climate adaptation into their daily work in a sustained way, going beyond the pure documentation of the process. This is done by integrating appropriate support services, such as climate analyses and the establishment or expansion of personnel networks. In this way, the climate adaptation efforts initiated in the course of the process can be consolidated and the cooperation between different institutions can be continued even after the process ends.

Evolving Roadmapping is an iterative process. Individual steps and their results can and should be reviewed, extended and adapted in the course of the process. The review as a whole should also be repeated at regular intervals (completely or in a shortened form) to check the progress of implementation, make corrections or integrate new topics. The basis for this is continuous evaluation and monitoring, both of the process and of the results and their implementation (see chapter 4.6 Monitoring and evaluation).

SETTING THE FRAMEWORK & DEFINITION OF GOALS



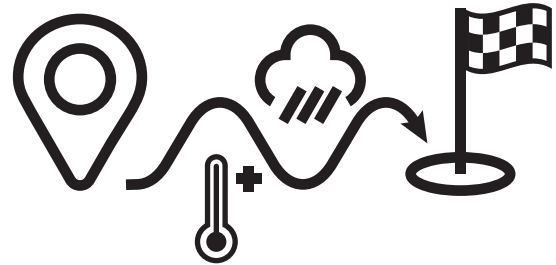
ANALYSIS OF THE CURRENT SITUATION



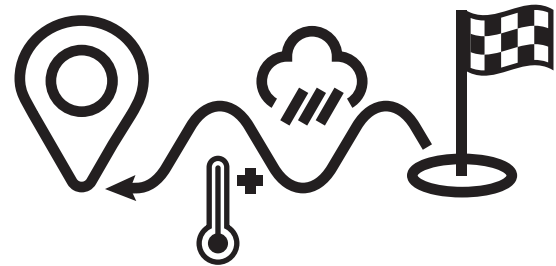
MONITORING & EVALUATION



FORECASTING



BACKCASTING



IMPLEMENTATION



CREATION OF THE ROADMAP



Figure 1: The six steps of Evolving Roadmapping

3 THE PROCESS

In order to integrate the ideas of Evolving Roadmapping into the process in the best possible way, it is necessary to think about the structure and course of the process before it begins. There is no one right way in terms of time, method and organisation. Rather, Evolving Roadmapping offers an orientational framework that provides the most important steps in terms of content, but can be flexibly adapted to the respective framework conditions.

3.1 PROCESS STRUCTURE

Evolving Roadmapping aims to address fields of action in climate change adaptation together rather than separately, in order to identify synergies and/or conflicts from the start. Nevertheless, to achieve more concrete results, it is recommended that the process is broken into corresponding thematic areas. When selecting or defining the content of these thematic areas, it is important to enable concrete discussions on content and to integrate interdependent fields of work and the relevant actors without forgetting the interfaces to other thematic areas and climate adaptation as a whole. In the process design, this can be achieved by conducting interdisciplinary workshops (e.g. at the beginning and at the end) as well as workshops separated by topic. Proposed workshop agendas can be found in the appendix of the guide.

The duration of the roadmapping process depends on various factors and can be designed flexibly. Decisive factors include the number of workshops and their distribution over time. Longer or shorter overall durations have advantages and disadvantages that need to be weighed up. In many cases, however, the length of the process will depend on the available budget anyway. The exact number of workshops is not fixed, but in principle, sufficient time should be planned for each of the six roadmapping steps (see chapter 4 The six steps of Evolving Roadmapping). This does not mean that there has to be a workshop for each step or that all steps take the same amount of time. The timing depends, among other things, on the priorities of the process and the prior knowledge of the participants.

Examples of thematic fields from the Evolving Regions processes

- climate-resilient urban planning
- landscape in climate change
- healthy living conditions
- civil protection
- tourism
- education for climate adaptation and sustainable development

3.2 ACTORS

Climate adaptation processes according to the Evolving Roadmapping method are designed to increase the adaptation capacity of a region through the cooperation of all relevant actors and the joint development of goals, strategies and measures. In order to make the best possible use of existing local knowledge and networks, various supporting roles and structures have proven helpful in practice:

- **Process moderation:** The process moderators are responsible for the design and coordination of the roadmapping process. They are responsible for the preparation and implementation of

the workshops as well as for the compilation of the results. Furthermore, they support the networking activities and contribute their expertise to the preparatory analyses and possible inputs. The process moderation can be taken over by the body that initiates the process as well as by an external consultant.

- **Local / regional contact persons / promoters:** Integrated and interdisciplinary climate adaptation needs coordination. The establishment of a corresponding position (for the process and beyond) creates the capacities for coordinated adaptation to the effects of climate change. In the process, promoters primarily serve as permanent contact persons for the participants and thus form the link between the process moderators, the commissioning parties and the participating actors. Promoters can also take over the moderation of the process; in any case, however, they should participate in all events and actively take over parts of them.
- **Core team:** Integrated climate adaptation combines many different thematic fields and their interdependencies. In order to cover as many relevant topics as possible and to make use of the existing local knowledge, it is recommended to set up a team to accompany and steer the process. This group should include experts for the selected thematic fields as well as actors working across them, so that the size is mainly determined by the selected fields and the actors identified as relevant (see chapter 4.1 Setting the framework and definition of goals). The core team's main task is to support moderators and promoters with content and organisation. In regular meetings, the members give advice on content-related points and feedback on the course of the process. For example, one meeting at the beginning and one at the end of the process as well as at least one meeting during the process are feasible. Core team members can also be involved in the acquisition of participants. Due to their tasks or competences, core team members also play an important role in the implementation of measures, so that the direct involvement of corresponding persons makes sense for several reasons.
- **Network of relevant actors:** One of the societal challenges in regards to climate adaptation is that it depends on a large number of individuals, groups, organisations and institutions. Adaptation measures can be taken in almost every area of life and work and accordingly, the range of actors that could or should be involved in this process is wide. From a practical point of view, the selection of participants depends on various factors, e.g. the thematic areas selected for the process but it is important to integrate actors who are relevant to the topic of climate adaptation. However, the role of the relevant actors can also change in the course of the process; not every person has to be involved at every step. At best, the selection (and invitation) of relevant actors is preceded by a detailed stakeholder analysis (see chapter 4.1 Setting the framework and definition of goals). The following people, groups or institutions can be relevant for the joint development of goals, strategies and measures:
 - Actors who help to move the cooperative process forward, e.g. by contributing their knowledge or work experience,
 - Actors who are responsible for the implementation of the developed strategies and measures, e.g. due to their responsibilities or properties,
 - Actors who make decisions in the field of climate adaptation, e.g. politicians or people in leadership positions, and
 - Actors who are well networked in the region or in their thematic field and can therefore act as multipliers

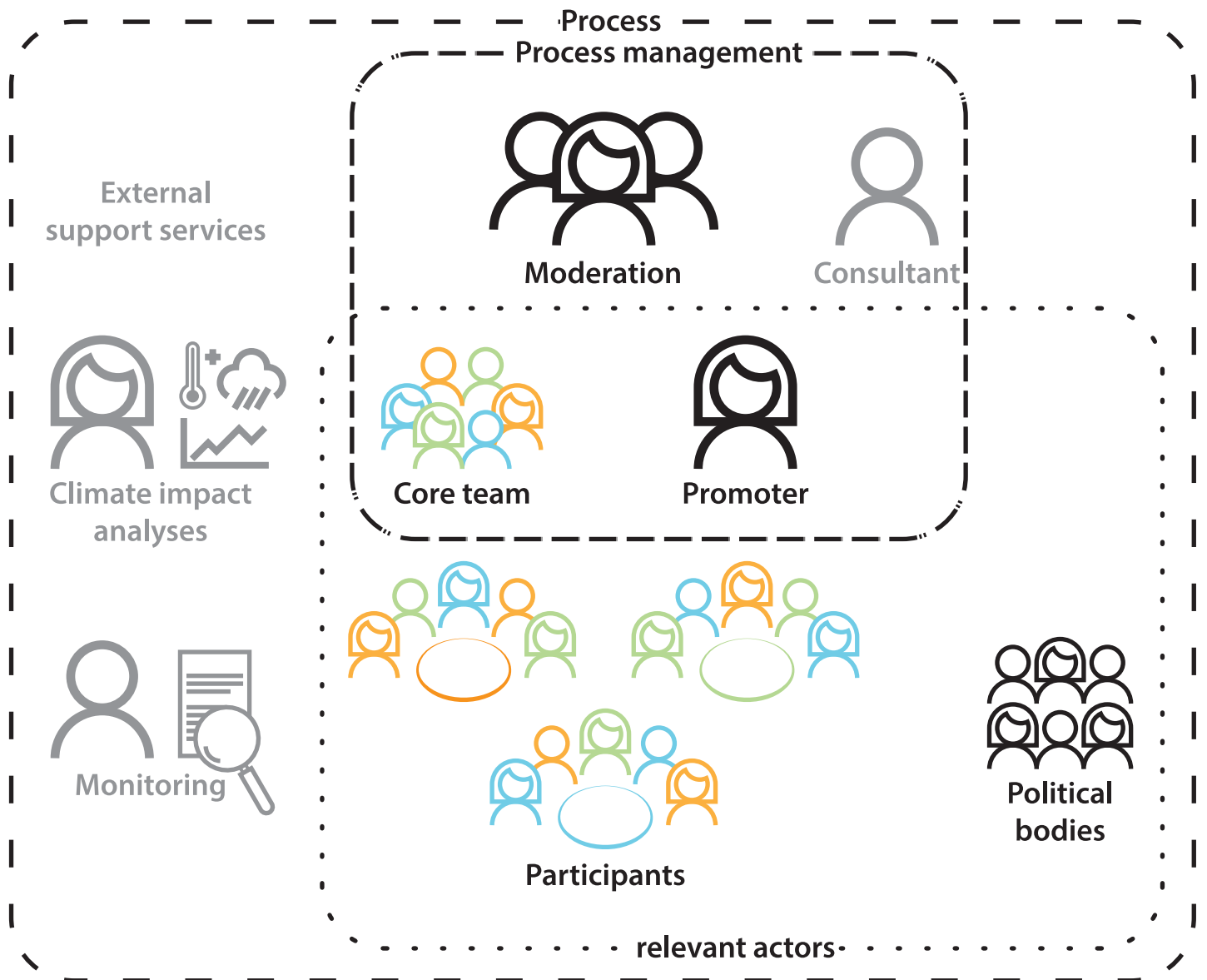


Figure 2: Personnel process structure

The collaborative approach of Evolving Roadmapping aims at the cooperation of actors relevant for climate adaptation. In the Evolving Regions project, the regional dialogue processes were aimed at the groups mentioned above, however, direct involvement of the general public should be considered in all planning and decision-making processes.

NOTES FROM THE PRACTICE

- At the beginning of the process, it is important to determine which tasks the individual groups and persons should carry out. It should always be considered what is actually feasible considering limited time capacities.
- The position of the promoter should be located in an organisation/institution that is established and accepted, works in a cross-cutting way and is at best entrusted with the topic of climate adaptation in some way. Possible options would be, for example, the city/district administration or other public bodies.
- In the course of the process, actors can take on different roles, which in turn can change in the

course of the process. For example, decision-makers should be involved in the clarification of the content-related and organisational framework conditions, but may step back during the working phase (also with regard to limited time capacities).

- Many decisions concerning climate adaptation are taken in political bodies. Depending on the current situation, it should be decided together with the relevant actors how local or regional politics will be involved in the process.
- In order to enable a stronger participation of the local people, the process steps can be extended by corresponding participation offers. In the Evolving Regions project, the citizens were continuously informed about the process via social media and in some regions they were able to comment on the results at a public event.

4 THE SIX STEPS OF EVOLVING ROADMAPPING

This chapter describes the process steps of Evolving Roadmapping. Each subsection elaborates on objectives, work steps and their design, including possible guiding questions and results. The listed experiences from practice help to identify possible success factors and challenges in advance and thereby support the implementation. The individual steps cannot always be clearly separated from each other. Depending on whether the contents are developed or defined by selected actors, e.g. the core team, or jointly with all participating actors, the process and contents of individual roadmapping steps may vary. Since Evolving Roadmapping is an iterative process, steps can also be run through several times. The guideline is based on the structure and contents of the regional climate adaptation processes in the Evolving Regions project. An adaptation of the content or methodology of the individual roadmapping steps may be useful or necessary depending on the case.





Step 1

Setting the framework and definition of goals

SETTING THE FRAMEWORK AND DEFINITION OF GOALS

OBJECTIVES

- Establishing an organisational framework and thematic foci
- Creation of personnel capacities for the implementation of the process
- Setting goals for the process and defining indicators for the monitoring of the process

CONTENT/STEPS

- Developing a concrete agreement on the goals and content of the process
- Making preliminary decisions on the content of the process
- Formulation of objectives and definition of indicators for the process monitoring

IMPLEMENTATION

Before starting the work of the roadmapping process, organisational and content-related decisions must be made in regard to the distribution of roles and tasks. The roles introduced in the previous chapter should be distributed, i.e. local/regional contact people should be selected and, if necessary, a core team should be formed before engaging in any tasks. Not all actors need to be involved in the same way in the individual steps of this preparatory phase. The specific persons to be involved are determined by the contents of the individual steps. Decisions on the members of the core team or the group of participants, for example, are closely linked to a detailed analysis of the local situation (see chapter 4.2 Analysis of the current situation). The decision on which people are involved and when is made by the process moderators together with the process initiators.

DEVELOPING A CONCRETE AGREEMENT ON THE GOALS AND CONTENT OF THE PROCESS

Before the roadmapping process can start, the organisational framework must be clarified with the responsible persons and institutions (e.g. the initiators from a district or a municipality). In a corresponding agreement or a mandate, agreements should be made on topics and contents of the workshop series, its time frame, the accompanying support services (e.g. climate analyses or inputs by experts), as well as on the financing or the distribution of tasks. This can be a contract with an external consultant as well as an internal agreement inside the administration.

POSSIBLE GUIDING QUESTIONS

- What (financial and personnel) resources are available for the process?
- Which actors should be involved in the process and in which role?
- How long should the process last, how many workshops should take place?
- Which accompanying support services should be commissioned?

OUTCOME

- Concrete agreement on tasks and objectives between the process moderation and the responsible local actors/initiators

MAKING PRELIMINARY DECISIONS ON THE CONTENT OF THE PROCESS

Processes based on the Evolving Roadmapping method aim to ensure that as much content as possible is developed jointly by all relevant actors. Nevertheless, it can be helpful to make preliminary decisions on content in a appropriate group of people (e.g. with the mandating actors and the core team) before the actual process begins. With a good selection of the people involved, this step can prepare process content and thus enable more focused cooperation, which in turn saves important workshop time. The preliminary discussion of certain contents should not lead to a situation where decisions once made cannot be changed in the course of the process. Possible points to discuss with the initiators are the selection of the thematic priorities or the actors to be involved and their role in the process (see chapter 3 The process).

POSSIBLE GUIDING QUESTIONS

- How many and which thematic areas should be addressed as a priority in the process? (see chapter 4.2 Analysis of the current situation)
- Which persons, groups or organisations should be involved at which points? (see chapter 4.2 Analysis of the current situation).
- Which persons are suited to accompany the process as part of the core team due to their position, expertise or networking in the region?

OUTCOME

- Preselection, e.g. of topics or actors to be involved, which is discussed in the process with all participants and then decided or adapted. (see chapter 4.2 Analysis of the current situation)

FORMULATION OF OBJECTIVES AND DEFINITION OF INDICATORS FOR THE PROCESS MONITORING

Before starting the discussion on content in the course of the workshop series, goals and expectations of the process should be collected, discussed and recorded together with the core team. A joint definition of goals as part of an expectation management process clarifies what the process can and should achieve. In this way, unnecessary discussions can be avoided and conflicts prevented. This step can also be carried out again with all participants at the beginning of the workshops. In order to

keep an eye on the progress of the process and the degree to which the goals have been achieved, suitable indicators for process monitoring should also be defined together. These can, for example, be introduced by the process moderation and agreed with the participants.

POSSIBLE GUIDING QUESTIONS

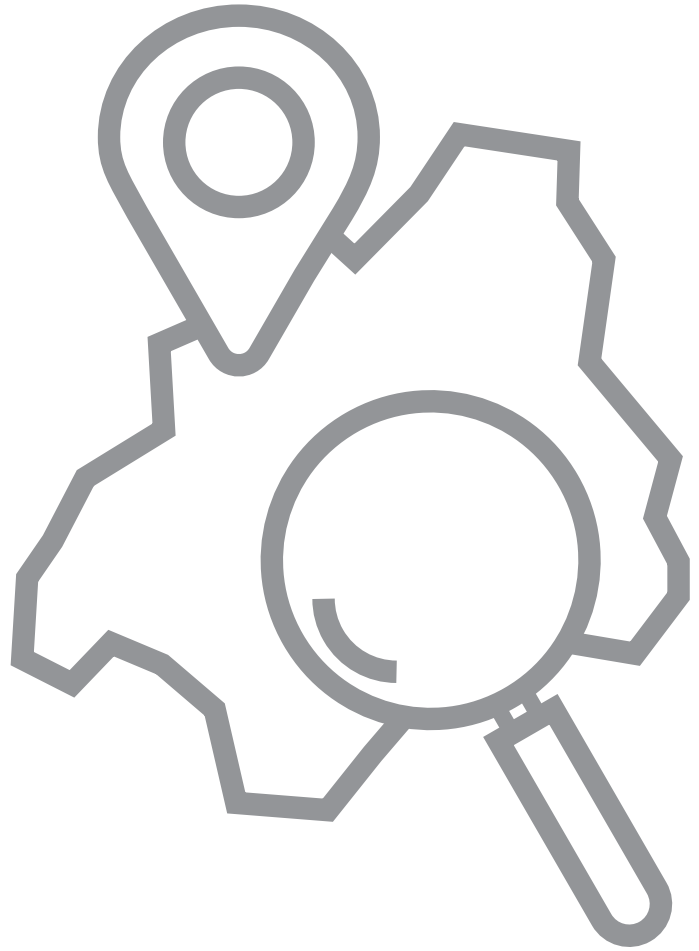
- What result/product should be produced by the end of the process?
- What expectations and requirements do the participants/core team have of the process?
- What indicators can and should be used to evaluate the progress of the process and the goals set?

OUTCOME

- Jointly developed goals including indicators to check the progress of the process and the extent to which the goals have been achieved

NOTES FROM THE PRACTICE

- The joint definition of goals should be about the process itself, not about goals related to the topic of climate adaptation or the region in general. This step follows in the course of forecasting.
- Result and monitoring criteria defined at the beginning create a common understanding of the contents and goals of the process and make it possible to critically review them at different stages. These include, for example, statements on the number and relevance of participants, on the number and type of measures to be developed, or on the procedure for political decision-making. Process monitoring thus differs from the monitoring of the concrete elaborated results, e.g. the implementation of measures.



Step 2

Analysis of the current situation

ANALYSIS OF THE CURRENT SITUATION

OBJECTIVES

- Analysis of the current situation in the area in order to define the scope of action
- Creation of a common knowledge base
- Selection of the thematic areas to be addressed in the process
- Establishment of a network of local/regional actors that can last beyond the process

CONTENT/STEPS

- Analysis of the current situation
- Actor analysis and networking
- Assessment of existing concepts, projects and activities

IMPLEMENTATION

The analysis of the current situation should contribute to obtaining an overview of the local/regional framework conditions relevant to the process. The individual steps of the analysis do not necessarily have to be carried out in the order described here, but rather in parallel. The analysis of spatial, climatic, economic or social framework conditions should also be continued and supplemented throughout the entire process. The results are incorporated both in the content-related work and in organisational and thematic decision-making (see chapter 4.1 Setting the framework and definition of goals).

ANALYSIS OF THE CURRENT SITUATION

First, it is important to get an overview of the status quo in the area. Classically, a corresponding analysis is carried out by the process moderator, processed and enriched by including local/regional experts, e.g. with the help of interviews. The content of such an analysis can include both the climate change impacts already observed in the area as well as spatial, economic or demographic factors and developments. In order to be able to orient the process to the results of the analysis, it starts before the collaborative process begins. After a first, thematically open run, possible thematic areas for the process can be defined before further analyses concentrate on these areas.

POSSIBLE GUIDING QUESTIONS

- What climate change impacts have already been observed in the past?
- What are the characteristics and developments of the area, e.g. with regard to its spatial, economic, demographic or landscape structure?
- Which topics are facing particularly big challenges compared to other sectors or areas?

OUTCOME

- Overview of the most important characteristics of the area as well as current developments and challenges

ACTOR ANALYSIS AND NETWORKING

Climate adaptation is a task for the whole of society that cannot be solved only by a few actors (e.g. the public administration) alone. It requires the cooperation of a wide range of actors who have an influence on climate robustness, for example, due to their responsibilities, their expertise or their ownership.

A central component of Evolving Roadmapping is the establishment and expansion of climate adaptation networks, which can be used beyond the process. Due to the closeness to the actors, the network work is best done by the promoter, who is supported by the process moderator. An important step in this process is a detailed analysis of the actors. This includes, for example, the identification of particularly relevant persons, groups or institutions for climate adaptation, the analysis of their attitudes and goals as well as their relationships or dependencies to and on each other.

POSSIBLE GUIDING QUESTIONS

- Which actors, groups or organisations are particularly relevant for climate adaptation?
- Which people should be involved in the process? In which steps and how can they be involved?
- What tasks or roles can these actors take on in the course of the process and beyond?
- Which existing networks can be built upon? Are there any gaps between actors or activities?

OUTCOMES

- Detailed overview of existing actor constellations including responsibilities and relevance of persons, groups and institutions for climate adaptation, predominant attitudes and goals as well as relationships and dependencies on each other
- Network of relevant actors for the process and beyond

ASSESSMENT OF EXISTING CONCEPTS, PROJECTS AND ACTIVITIES

Before starting the collaborative process, it is useful to identify existing climate adaptation activities and to get an overview of concepts and projects that may not directly address the issue of climate adaptation, but are affected by the consequences of climate change or can have an impact on it. For example, integrated development concepts, landscape plans, various local/regional advisory services or funding programmes already in place. The surveying of existing activities mainly serves to find possible links in order to establish a compatibility of the process contents and results, or to be able to consciously exclude certain aspects in the process. In this way, synergies can be used and unnecessary duplication of work can be avoided.

POSSIBLE GUIDING QUESTIONS

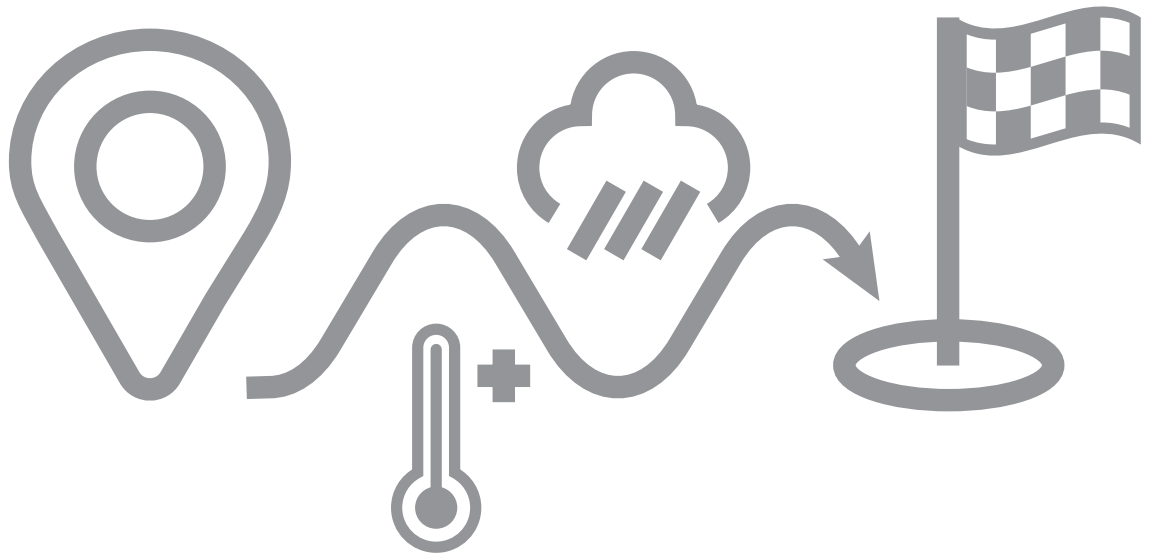
- Which concepts/plans, projects or activities with direct or indirect reference to climate adaptation have already been developed?
- Are there any intersections or links to the planned climate adaptation process?
- How can the existing activities be integrated into the process or which topics do not need to be dealt with in detail?

OUTCOME

- Overview of existing concepts/plans, projects and activities with direct or indirect reference to climate adaptation and possible links

NOTES FROM THE PRACTICE

- The results of all analyses should always be discussed and reflected back with the actors involved in order to use the knowledge of the participants and to create a common knowledge base for the process and to generate a shared picture of the current situation.
- Existing networks should be used. Regardless of whether existing or new structures are involved, it should be discussed during the process how the network can be used and continued after the end of the workshop series. Ideally, there will be no gap between the process and the implementation neither in terms of content nor in terms of organisation or personnel.
- Even if the main focus should be on the connectivity of the climate adaptation process and its results to existing activities, it may make sense to consciously keep certain aspects out of the process. For example, if detailed strategies and measures are already available in one area, the work with the participants can focus on other topics.



Step 3

Forecasting

FORECASTING

OBJECTIVES

- Negotiation of a shared vision
- Identifying needs for action for adaptation to the impacts of climate change

CONTENT/STEPS

- Development of a shared vision of the future
- Discussion of the results of the analyses with a focus on the future (climatic) development of the area
- Identification of needs for action for climate adaptation

IMPLEMENTATION

DEVELOPMENT OF A SHARED VISION OF THE FUTURE

An essential step in Evolving Roadmapping is the development of a shared vision of the future. The description of a desirable future in the form of a vision or a mission statement (for a possible distinction, see point Notes from the practice) should offer a perspective to the often abstract concept of climate adaptation and make it clear to the participants that they can pursue the same goal despite having different interests. Visions and mission statements can be used in the development of measures as well as in monitoring and thus represent both the basis and the goal of climate adaptation. Different ideas and wishes must be collected and discussed before they can be summarised and processed in one product.

POSSIBLE GUIDING QUESTIONS

- What will the climate-adapted area under consideration ideally look like in (e.g.) 20 or 30 years?
- How will urban, natural and landscape areas be designed in (e.g.) 20 or 30 years?
- What is different from today? What has been retained?

OUTCOME

- Shared vision/ mission statement as a goal for the process and beyond, which is recorded textually or graphically

DISCUSSION OF THE RESULTS OF THE ANALYSES WITH A FOCUS ON THE FUTURE (CLIMATIC) DEVELOPMENT OF THE AREA

Building on the results of the analysis of the current situation, a look into the (expected) future will be taken together with the participants. The moderator and experts provide an insight into analyses and forecasts of the climatic and other developments in the area under consideration. The results are discussed with the participants and compared with local knowledge. Due to the range of possible positive and negative developments, it is possible to work with different scenarios in this step, which are taken up in the identification and development of measures (see chapter 4.4 Backcasting).

POSSIBLE GUIDING QUESTIONS

- What climatic developments are already observed today?
- How is the climate likely to develop in the future?
- What other developments (e.g. demographic or economic) will shape the region in the future?
- Where are links between the trends and forecasts?
- What represents an opportunity, what a risk?

OUTCOME

- Description of possible scenarios for the development of the region, which is recorded textually or graphically in the roadmap

IDENTIFICATION OF NEEDS FOR ACTION FOR CLIMATE ADAPTATION

At the end of the Forecasting, the common vision of the future and prognoses are compared with each other. Together with the participants, gaps between the two scenarios are identified and the needs for action to adapt are identified. In the further course, suitable measures will be developed for these needs. In order to be able to focus further work, it makes sense to prioritise the needs for action.

POSSIBLE GUIDING QUESTIONS

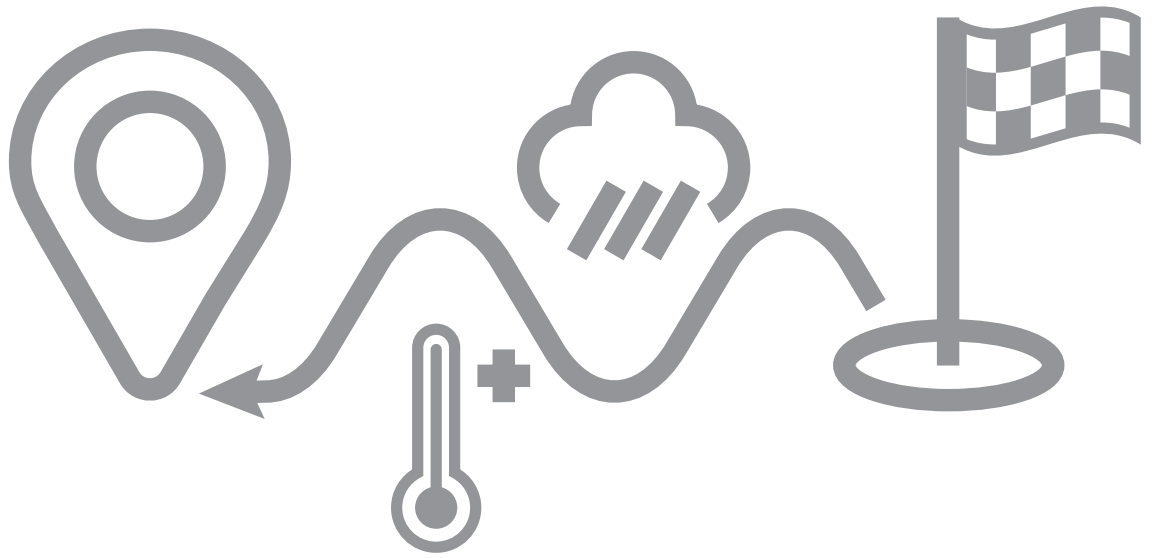
- Where are the gaps between the vision/mission statement (the desired future) and the prognoses (the expected future)?
- What needs for action/adaptation result from this?
- Where are the greatest needs? What can be neglected for the moment? In which areas would not acting have the greatest negative consequences? For which needs can a relatively uncomplicated solution or implementation be foreseen?

OUTCOME

- Collaboratively developed list of needs for action/adaptation, including a prioritisation

NOTES FROM THE PRACTICE

- When developing a vision for the climate-adapted region, existing guiding principles or objectives from other processes and concepts should also be taken into consideration in order to ensure a connection to these (see chapter 4.2 Analysis of the current situation)
- Not only the vision and/or mission statements should be developed together by the participants. The joint interpretation and assessment of the analysis results is also important for the formation of a common basis for action in the process.
- It is often difficult to distinguish between visions and mission statements. However, through different formulations and contents, visions and mission statements can complement each other in a meaningful way. For example, a vision can contain a description of a desired state, while mission statements have a stronger binding effect through the formulation of goals and work assignments. An example can be found in the roadmap of the district of Lippe (see chapter 6.3 Examples from Evolving Regions).
- Uniform time horizons should be set for both the forecast and the vision. A clear point of reference is not only necessary for the analysis, but also simplifies the formulation of objectives and helps in the comparison of the desired future and the expected future.
- Prioritising needs for action does not necessarily require detailed scientific analyses or models. Prioritisation can already be done on the basis of simple criteria (see point Possible guiding questions above) or automatically during the discussion with the participants.



Step 4

Backcasting

BACKCASTING

OBJECTIVES

- Creation of a catalogue of measures tailored to the identified needs for action

CONTENT/STEPS

- Joint selection and collaborative development of climate adaptation measures
- Identification of appropriate adaptation pathways and screening of the developed measures

IMPLEMENTATION

JOINT SELECTION AND COLLABORATIVE DEVELOPMENT OF CLIMATE ADAPTATION MEASURES

In the first step of the Backcasting, ideas for measures are collected together in order to further concretise them with the participants. Different adaptation options can be introduced by the moderators as well as by the participants. The aim is to break down rough ideas into individual measures and to determine which work steps are necessary to implement them. Ideas that are similar in content are combined and summarised as far as possible. The concretised measures are then transferred into standardised templates (see chapter 6.2 Template for measure profiles). In order to develop a guideline for future climate adaptation that is as concrete as possible, various criteria for each individual measure/work step are discussed with the participants and, if possible, defined. Possible categories are, for example, the leading actors and those to be involved, potential drivers and barriers, resource requirements and criteria for monitoring the measures (see chapter 4.6 Monitoring and evaluation).

POSSIBLE GUIDING QUESTIONS

- Which measures are already being implemented and could be further developed or disseminated?
- Which measures are suitable for meeting the identified adaptation needs?
- What steps are necessary to implement the measure?
- Which actors should be involved in the implementation of these individual measures?
- Which actor should take the lead?
- What are the possible drivers and obstacles for the implementation of the measure and how could these be overcome?
- What resources are needed for implementation and how quickly could the measure be implemented?

OUTCOMES

- Completed measure profiles with concrete contents and organisational statements
- Collection of measures which, for various reasons, cannot yet be further specified or implemented, but which could be important in the future

IDENTIFICATION OF APPROPRIATE ADAPTATION PATHWAYS AND SCREENING OF THE DEVELOPED MEASURES

In order to develop a broad range of effective adaptation measures, it is helpful to review the collected ideas and elaborated measures at different points during the process. This is done by engaging the participants in a discussion to identify the kind of measures (adaptation paths) that are particularly suitable or unsuitable for the needs of the process in each thematic area. The objective of this discussion is to check whether there are any paths that haven't been considered yet, if there's a need to discuss them in greater detail, or whether they need readjustment to fit the process. Possible paths of action/adaptation include, for example, adapted planning and building, awareness-raising and education or (financial) support.

POSSIBLE GUIDING QUESTIONS

- What are the advantages and disadvantages, opportunities and risks of different paths of adaptation?
- Which paths are particularly suitable with regard to the identified adaptation needs?
- What concrete adaptation options are available on the adaptation pathways?
- In which areas measures might still be developed?

OUTCOME

- Reasoned selection of particularly suitable paths of adaptation for each thematic area

NOTES FROM THE PRACTICE

- The discussion of the advantages and disadvantages of different adaptation paths is useful because it helps the participants identify viable options, as well as identify paths that may have previously been ignored. On one hand, unsuitable options can be discarded from the start, and on the other, participants are encouraged to think about alternate measures. Since the advantages of this discussion are usually not clear to all participants, the purpose of identifying viable paths of action should be clearly communicated from the beginning.
- When collecting possible adaptation options, relatively rough ideas are often described. In Backcasting, it is also necessary to concretise these further in order to promote their implementation. An example: „Green roofs“ are a suitable option for climate adaptation. However, simply naming the term will hardly bring the measure to implementation. Together with the participants, it should be discussed which actors have to do what in order to realise the idea, e.g. the establishment of a funding programme, the creation of information offers for citizens or the greening of public buildings.

- As participants often tend to bring in things they already know well, measures are often mentioned that have already been implemented in some way. Here, it should be jointly considered how these activities can be (thematically) expanded or disseminated.
- Joint working time is limited, even in long-term workshop series, and in most cases it will not be possible to gather, discuss and jointly determine all the information needed. In order to save time and at the same time generate as much content as possible, the time between the events can also be used, e.g. by enriching interim results through a commenting by the participants or the inclusion of experts.



Step 5

Creation of the Roadmap

CREATION OF THE ROADMAP

OBJECTIVE

- Creation of an agreed, practical and flexible working document for future use in climate adaptation by all local/regional actors

CONTENT/STEPS

- Preparation of the process results and compilation in the Roadmap

IMPLEMENTATION

PREPARATION OF THE PROCESS RESULTS AND COMPILATION IN THE ROADMAP

After the Backcasting, the results of the process are available. Now these must be processed and compiled in a document, the Roadmap. As a basis for action for future climate adaptation, the roadmap should contain all the necessary information on climate change and adaptation to climate change impacts, as well as the jointly defined goals, strategies and measures, and should be comprehensible and practicable for all actors. The contents and results from all process steps must be prepared textually or graphically and then compiled in an attractively designed document. The preparation of the results includes, for example, the addition of a description of the measures and their objectives, a possible spatial location for the implementation and, if necessary, information on the prioritisation and implementation of measures.

POSSIBLE STRUCTURE

- Summary of the Evolving Roadmapping process
- Analysis of the current situation
- Expected developments and prognoses (Forecasting)
- Results of the roadmapping process (thematic areas, mission statements, measures)
- Instructions and plans for implementation

OUTCOME

- Roadmap with the most important information on climate change and climate adaptation as well as the results of the roadmapping process as a basis for future climate adaptation

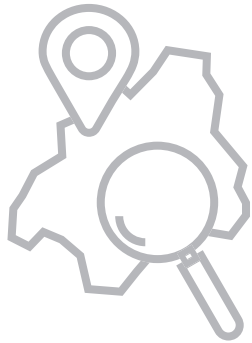
NOTES FROM THE PRACTICE

- The creation of the roadmap concludes the Evolving Roadmapping process, but is also the starting point for the implementation phase. The implementation of the developed measures requires the support of many actors. In order to give weight to the contents of the Roadmap, e.g. for political decision-making, the symbolic signing of a corresponding declaration by the participants can help. An example of this can be found in the Roadmap Soest (see chapter 6.3 Examples from Evolving Regions). A joint agreement on objectives for the time after the roadmapping process is also conceivable
- Climate adaptation is a joint task for a large number of actors. In order to make the roadmap as practicable as possible, it should be decided beforehand which target groups the document is aimed at and what this means for the design and preparation of the content. Content could alternatively be disseminated via different documents/media
- The formulation and compilation of the process results and their preparation in terms of content and design is usually done by the process moderation. However, this does not exclude that participating actors can be involved in the preparation of the roadmap, e.g. by writing chapters or paragraphs dealing with the initial local/regional situation or the further planning of different actors
- Summarising the contents of a whole series of workshops in a comprehensible and practicable way in an accepted document is not an easy task. With regard to the future use of the roadmap, it is important to formulate the most important contents not only as simply as possible, but also as briefly and practically as possible.

ANALYSIS OF THE CURRENT SITUATION

FORECASTING

BACKCASTING



ROADMAP



IMPLEMENTATION



Step 6

Monitoring and Evaluation

MONITORING AND EVALUATION

With the creation of the Roadmap, a solid foundation can be laid for active climate change adaptation. Just as adaptation to climate change will remain an ongoing task, the contents of the roadmap must also be continuously developed. The basis for this is continuous monitoring and evaluation of the process results.

OBJECTIVES

- Evaluation of the implementation
- Continuous extension and further development of the results
- Sustainable establishment of the topic of climate adaptation

CONTENT/STEPS

- Monitoring and evaluation of the process results
- Continuation of the process and further development of the results

IMPLEMENTATION

MONITORING AND EVALUATION OF THE PROCESS RESULTS

In order to be able to control the implementation of the elaborated results, suitable monitoring criteria should be defined during the development of the measures (see chapter 4.4 Backcasting). The collection and evaluation of appropriate indicators not only enables the progress of implementation to be checked, the results of monitoring and evaluation also form the basis for the further development of the Roadmap. Implemented measures should also be reviewed with regard to their intended and actual impact. In order to react to changing climatic or other conditions in the best possible way, it makes sense to collect and assess corresponding indicators on the contents of the Roadmap and the climate adaptation activities at regular intervals.

POSSIBLE GUIDING QUESTIONS

- Have climatic or other local conditions changed since the roadmapping process that require an adaptation of the roadmap?
- Which of the measures developed have already been implemented, and which have not? What prevents the implementation of the measures?

- Have the intended effects of the measures been achieved? If not, why not?
- Have further needs for action/thematic areas emerged in the meantime that can or should be added to the Roadmap in a next cycle?

OUTCOMES

- Overview of relevant changes in the local/regional framework conditions
- Overview of the implementation status of the Roadmap and possible need for adaptation/further development
- Assessments of the impacts achieved through the implementation of the measures

CONTINUATION OF THE PROCESS AND FURTHER DEVELOPMENT OF THE RESULTS

In many cases, the creation of the roadmap will only be the starting point for active adaptation to the consequences of climate change. It is important to look ahead and consider how the process and the personnel structures and networks that have been established, as well as the collaboratively developed content, can be further developed and the roadmap updated after the completion of the process. With regard to the permanent task of climate adaptation, a cyclical approach makes sense. Parts of the roadmapping process can be iterated again at regular intervals, and it can be used to work on completely new topic areas. The basis for this iteration is the monitoring of measures including the evaluation of the implementation progress as well as the process monitoring (see chapter 4.1 Setting the framework and definition of goals).

POSSIBLE GUIDING QUESTIONS

- At what intervals should the roadmap be evaluated?
- Which roadmapping steps should be repeated or updated (in a shorter format) and when?

OUTCOME

- Agreed decision on how to proceed with regard to the further development of the process results

i **NOTES FROM THE PRACTICE**

- Monitoring and evaluation are not among the most popular tasks, but they are essential for a continuous development of the contents and for an effective adaptation to climate change. The foundations for monitoring and evaluation should be laid throughout the course of the process.
- In order to keep the workload for monitoring and evaluation as low as possible, low-threshold indicators and survey methods should be selected, which can be integrated into the daily work of the actors.
- Monitoring and evaluation, as well as the updating of the Roadmap and its further development in terms of content or thematic areas, require additional resources. Together with the relevant actors, it should be determined which person(s) can take over the monitoring or bundle the results and which time periods are reasonable and feasible for updating.

5

THE METHOD AT A GLANCE

**SETTING THE FRAMEWORK
& DEFINITION OF GOALS**

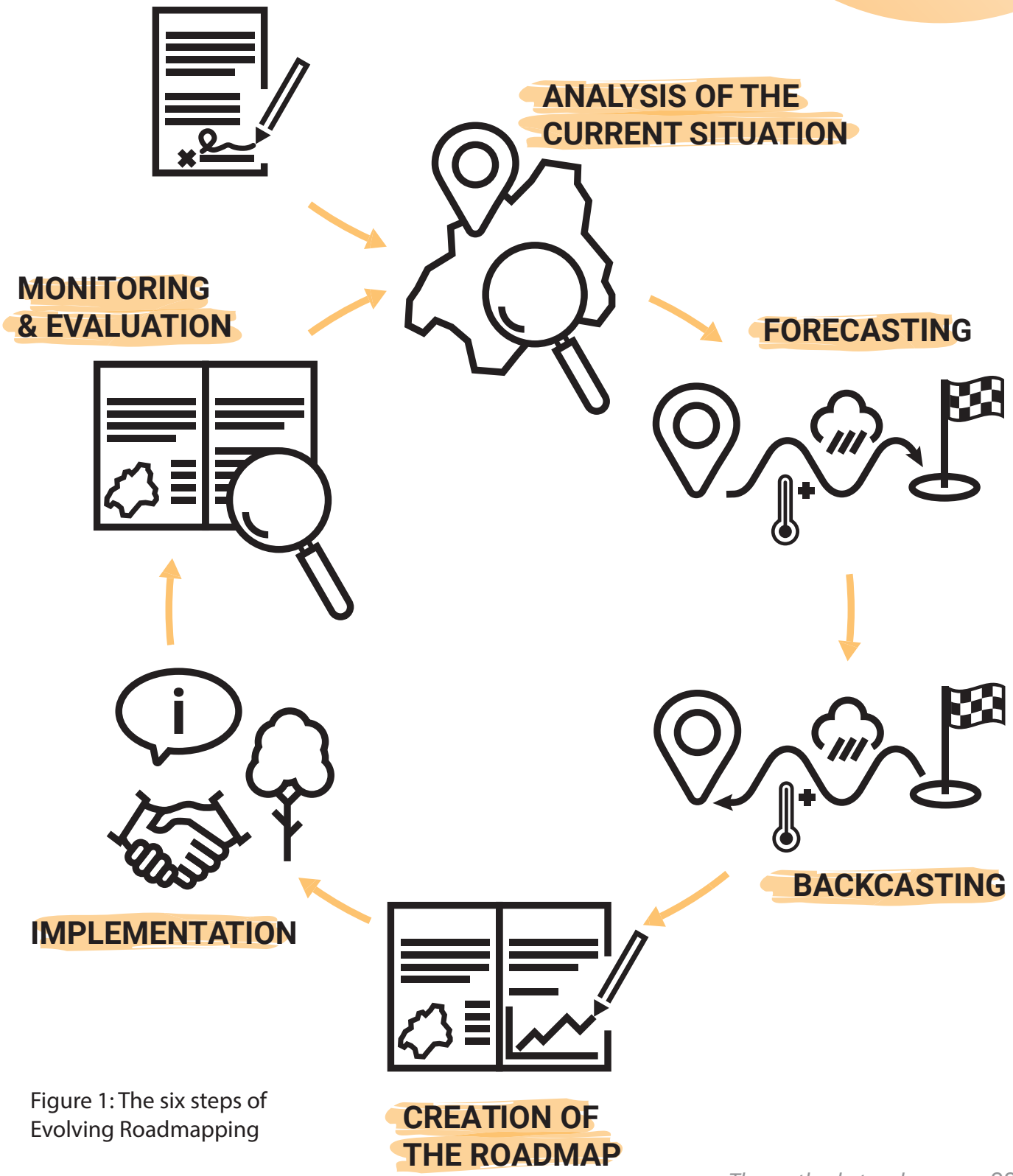


Figure 1: The six steps of Evolving Roadmapping

SETTING THE FRAMEWORK AND DEFINITION OF GOALS

- Developing a concrete agreement on the goals and content of the process
- Making preliminary decisions on the content of the process
- Formulation of objectives and definition of indicators for the process monitoring

ANALYSIS OF THE CURRENT SITUATION

- Analysis of the current situation
- Actor analysis and networking
- Assessment of existing concepts, projects and activities

FORECASTING

- Development of a shared vision of the future
- Discussion of the results of the analyses with a focus on the future (climatic) development of the area
- Identification of needs for action for climate adaptation

BACKCASTING

- Joint selection and collaborative development of climate adaptation measures
- Identification of appropriate adaptation pathways and screening of the developed measures

CREATION OF THE ROADMAP

- Preparation of the process results and compilation in the Roadmap

IMPLEMENTATION

MONITORING & EVALUATION

- Monitoring and evaluation of the process results
- Continuation of the process and further development of the results

6 FURTHER INFORMATION AND SUPPORT MATERIAL

PROPOSED WORKSHOP AGENDAS

In the following, exemplary agendas for a five-part workshop series according to the Evolving Road-mapping Method, plus one interdisciplinary workshop each at the beginning and end of the process, are presented. For each workshop, two to three hours of time are planned. The exact planning also depends on whether the events are held in presence or online. Between the individual workshops, different preparatory and follow-up work is required (see chapters 4.1 - 4.6).

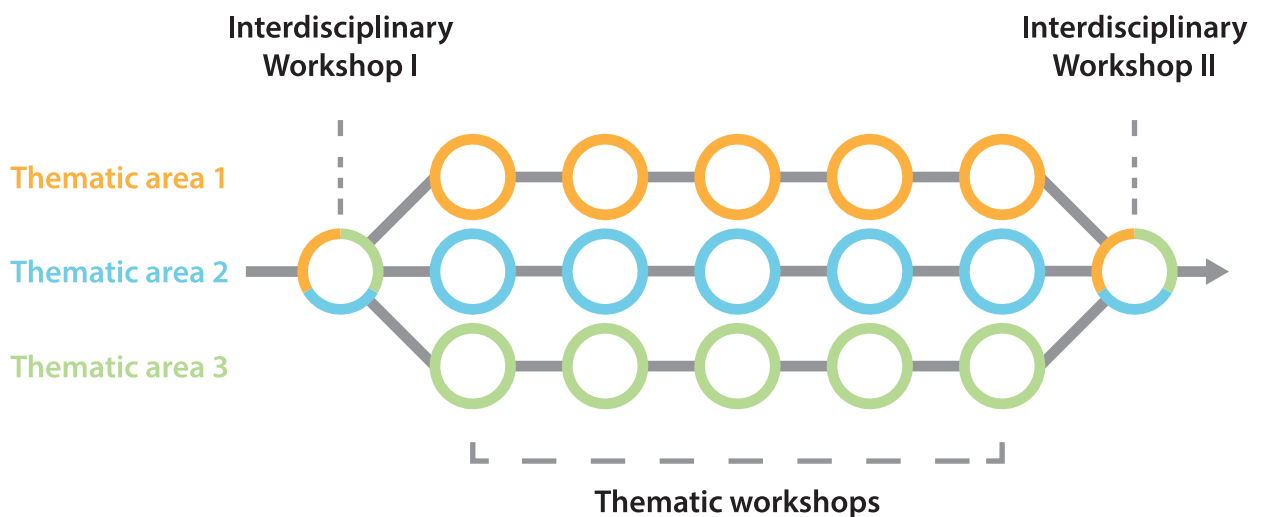


Figure 3: Schematic illustration of the process

INTERDISCIPLINARY WORKSHOP I: JOINT KICK-OFF

At the beginning of the process, the relevant actors from all the selected thematic areas come together in an interdisciplinary workshop to discuss the current situation and the priorities for the process. The cross-thematic workshops are also, and especially, aimed at actors who cannot participate in the entire process due to limited time capacities, namely decision-makers. It is intended for decision-makers to contribute to the beginning of the process and then, be represented by their staff during the rest of the process, which is more geared towards a task-level.

Time frame	Content
10 Minutes	Welcome and introduction of the moderator, promotor and core team
5 Minutes	Presentation of the agenda and objectives of the workshop
5 Minutes	Presentation of process structure and procedure
25 Minutes	Joint formulation of goals for the process <ul style="list-style-type: none"> • If necessary, introduction of the participants (depending on the number of participants)
45 Minutes	Joint collection and discussion of current framework conditions <ul style="list-style-type: none"> • Potentially combined with inputs from experts
15 Minutes	Break
35 Minutes	Development of a shared vision for a climate-adapted future
30 Minutes	Brainstorming on individual thematic areas <ul style="list-style-type: none"> • Possible foci • Intersections with other topics • Relevant actors • Existing projects/concepts or activities
10 Minutes	Summary of the results and outlook on the next workshops

THEMATIC WORKSHOP 1: ANALYSIS OF THE CURRENT SITUATION

After a cross-thematic kick-off event, workshops can be held within the selected thematic areas. However, possible interfaces between thematic areas should not be lost sight of. If actors who are relevant for several thematic areas cannot participate in all events, it is advisable to discuss thematic intersections (e.g. measures that have an impact on several thematic areas) in both workshops or, if necessary, to schedule a joint event for two or more thematic areas.

Time frame	Content
10 Minutes	Welcome and introduction of the moderator and promoter
10 Minutes	Introduction of participants
5 Minutes	Presentation of the agenda and objectives of the workshop
5 Minutes	Presentation of process structure and procedure
15 Minutes	Looking back at the results of the Interdisciplinary workshop <ul style="list-style-type: none"> • Priorities in the thematic area • Relevant actors
30 Minutes	Development of a mission statement for the thematic area
15 Minutes	Break
50 Minutes	Presentation and discussion of climate (impact) and regional analyses
30 Minutes	Development of scenarios for the future development of the area
10 Minutes	Summary of the results and outlook on the next workshops

THEMATIC WORKSHOP 2: IDENTIFICATION OF NEEDS FOR ACTION

Time frame	Content
5 Minutes	Welcome
5 Minutes	Presentation of the agenda and objectives of the workshop
5 Minutes	Looking back at the results of the previous workshop
45 Minutes	Identification of needs for action by comparing the vision/ mission statement and the results of the analyses
15 Minutes	Determination of priorities for the collaborative process
15 Minutes	Break
40 Minutes	First collection of possible measures in working groups
10 Minutes	Presentation of the results of the group work
10 Minutes	Summary of the results and outlook on the next workshops

THEMATIC WORKSHOP 3: START OF MEASURE DEVELOPMENT

Time frame	Content
5 Minutes	Welcome
5 Minutes	Presentation of the agenda and objectives of the workshop
5 Minutes	Looking back at the results of the previous workshops
45 Minutes	Brainstorming on ideas for measures in working groups
15 Minutes	Presentation of the results of the working groups and control by considering different adaptation pathways
15 Minutes	Break
35 Minutes	Concretisation of ideas for measures in working groups
15 Minutes	Discussion of open points and questions in the plenary session
10 Minutes	Summary of the results and outlook on the next workshops

THEMATIC WORKSHOP 4: CONTINUATION OF MEASURE DEVELOPMENT

Time frame	Content
5 Minutes	Welcome
5 Minutes	Presentation of the agenda and objectives of the workshop
5 Minutes	Looking back at the results of the previous workshops
45 Minutes	Concretisation of ideas for measures, work measure templates in working groups
15 Minutes	Break
30 Minutes	Presentation and discussion of the results of the working groups
15 Minutes	Presentation of possibilities and arrangements for commenting on the elaborated results between the workshops
10 Minutes	Summary of the results and outlook on the next workshops

THEMATIC WORKSHOP 5: PRIORITISATION OF MEASURES AND IMPLEMENTATION

Time frame	Content
5 Minutes	Welcome
5 Minutes	Presentation of the agenda and objectives of the workshop
10 Minutes	Looking back at the process
30 Minutes	Clarification of last open points from the templates
15 Minutes	Prioritisation of measures
15 Minutes	Break
20 Minutes	Collection of needs for action with regard to implementation
20 Minutes	Collection of conclusions and feedback on the process
10 Minutes	Summary of the results and outlook for the Interdisciplinary workshop II

INTERDISCIPLINARY WORKSHOP II: CONSOLIDATION OF RESULTS AND JOINT OUTLOOK

At the end of the process, the relevant actors from all thematic areas should come together once again. In a final event covering all thematic areas, the results will be presented, discussed and agreements made on further joint action.

Time frame	Content
5 Minutes	Welcome
5 Minutes	Presentation of the agenda and objectives of the workshop
10 Minutes	Looking back at the process
30 Minutes	Presentation of the developed results, if applicable by participants
40 Minutes	Discussion of the elaborated measures <ul style="list-style-type: none"> • Focus on self-reflection of the participants: Which measures are you involved in? How can you contribute to the implementation?
15 Minutes	Break
20 Minutes	Discussion of the collected needs for action with regard to the implementation
20 Minutes	Outlook for the implementation phase <ul style="list-style-type: none"> • Presentation of the Roadmap • Already planned activities
25 Minutes	Declaration of support and agreement on objectives for the implementation of the process results
10 Minutes	Summary of the results and closing

TEMPLATE FOR MEASURE PROFILES

Template for an adaptable measure profile, which can be filled in during the workshops together with the participants. Completed templates can be found in the Evolving Regions Roadmaps (see chapter 6.3 Examples from Evolving Regions below).

Expressive title of the measure						
Description and objectives of the measure Description of contents and expected effects of the measure						
Climate signals and impacts addressed For example: <ul style="list-style-type: none"> • Heat <ul style="list-style-type: none"> › Overheating of highly sealed areas, exposure to health hazards • Heavy rainfall <ul style="list-style-type: none"> › Flooding of settlement areas • Drought <ul style="list-style-type: none"> › Lower yields in agriculture • Floods <ul style="list-style-type: none"> › Flooding of settlement areas 				Location of the measure For example: <ul style="list-style-type: none"> • Concrete hot spots <ul style="list-style-type: none"> • Municipality XY, Street XY • Social facility XY • Across municipalities, without a specific location 		
Link to other goals and strategies Where relevant, synergies between the measure and existing policies can be described, or how the measure contributes to the achievement of other objectives and strategies.						
Work steps	Lead actor	Actors to be involved	Implementation timeframe	Resource requirements	Possible drivers and barriers	Further notes and remarks
Step 1						
Step 2						
Step ...						

EXAMPLES FROM EVOLVING REGIONS

ROADMAPS FROM EVOLVING REGIONS

All regional roadmaps can be downloaded from the central download page at <https://evolvingregions.com/downloads/> (in German only).

VISION FOR THE CLIMATE-ROBUST DISTRICT OF LIPPE

The „Vision for the climate-robust district of Lippe“ can be found in the respective Roadmap at page 34 (in German only).

MISSION STATEMENT FOR THE THEMATIC AREA „SOCIAL (CLIMATE) CHANGE“ IN THE DISTRICT OF LIPPE

The mission statement for the thematic area „Social (climate) change“ can be found in the respective Roadmap at page 36 (in German only).

HELPFUL LINKS

In the following you will find further links with helpful information, tips and tools for the design of climate adaptation processes.

(The listed sites can be accessed in the PDF version of the guide by clicking on the highlighted words.)

- On its website, the **German Environment Agency** (Umweltbundesamt – UBA) offers municipalities and other climate adaptation actors a comprehensive pool of information, good examples, templates, tips and links to helpful websites and publications on the topic of climate adaptation; from the preparation of the process, the development of strategies and measures to implementation and evaluation.
- The **Climate-ADAPT** platform, operated by the European Commission and the European Environment Agency, provides information, advice and tools on climate change and adaptation in Europe. The core of the platform is an extensive database of exemplary European climate adaptation projects.

