

PART IV: PERSPECTIVE

Adaptation is a process that demands monitoring and regular review. Only in this way you can assure that your city is well adapted in a permanently changing world.

It is important to stress the different approach of reviewing and monitoring adaptation:

Reviewing the adaptation process focuses on examining the background conditions, the initial reasons for starting adaptation. You should ask the following question:

- Have the input data, the arguments for adaptation changed in any way?
- Have new aspects or consequences for the goals set arisen?

Monitoring adaptation aims at checking the implemented measures for the goals predefined during the planning phase. You should regularly ask yourself:

- Are you reaching the goals concerning the moderation of unwanted climate change impacts or the exploitation of positive aspects of climate change?
- Is the implemented measure living up to your expectations, concerning functionality, acceptance, cost and time aspects?

1 Reviewing adaptation

The background conditions and the initial reasons for starting adaptation should be checked for actuality.

Step 1: Check the need to review

Climatic, scientific and technological advancements are very probable considering the lifetime of most adaptation measures. You should ask yourself if the input data or the arguments for adaptation changed in any way. E.g.:

- Has my city gained or lost resilience against climate change, so that the vulnerability classes would be different today than at initial assessment?
- Have any of the receptors changed in its character or spatial distribution?
- Climate change – have new scientific findings changed the tendencies which are the basis for the risk assessment?
- Have new findings or technical advancements for adaptation options changed the information given in the tool and used as a basis for your adaptation?

Key terms

Review

A review or reviewing process describes in the Adaptation Compass the check and examination of the background conditions, initial reasons for adaptation and input data to the Compass.

Monitor

Monitoring adaptation in the Adaptation Compass is described as checking the implemented adaptation measures for the goals predefined during the planning phase of the measure.

Climate change impact

Impacts or consequences of climate change on natural or human systems (IPCC, 2007).

In the Adaptation Compass these consequences are assessed for each receptor individually.

Resilience

The ability of a system to recover from the effect of an extreme load that may have caused harm (UKCIP, 2003).

If you can answer one of these questions with “yes”, you will need to go back to the planning phase of your adaptation measures, check the determination of your local vulnerabilities and risks, and assess the changes. What implications have these changes for my goals and evaluations?

Step 2: Revise your goals

After having checked if your goals are all fulfilled as planned or if not, to what extent the reality differs from your expectations, you should take a look at the goals themselves as well. The standards and demands can change as well as the input data to assess your need for adaptation.

But remember: if changes or additions at your goals are necessary, don't forget to adapt the monitoring process as well.

2 Monitoring adaptation

The purpose of monitoring the course of action is to understand whether the project or activity delivers the planned benefits. Furthermore, the findings from the monitoring process should be reflected in your adaptation measures and future planning.

This chapter should give you practical advice to understand how to handle the questions highlighted above and how to organise the process of monitoring. In many sectors, e.g. environmental protection, monitoring programmes are well defined and established, like for water quality monitoring. If a monitoring programme in your city does already exist, the monitoring regarding adaptation should be integrated. Ask your colleagues and discuss possibilities to adapt existing monitoring programmes or establish new ones.

Step 1: Are the set objectives reached?

When having implemented an adaptation measure a wide range of objectives has been identified. These are specific for each situation, dependent not only on the local natural and technical background but also on the experts and decision makers in charge.

We structure the objectives in the following groups.

Greater goals for your city:

Is the measure contributing to the overall goals of adaptation for your city, like

- Are you reaching the goals concerning
 - the moderation of negative climate change impacts or/and
 - the exploitation of positive aspects of climate change?

Functionality goals for the adaptation measure:

Functionality aspects regard issues such as the amount of water storage, the quantity of green areas, green roofs etc.: Does everything **function** as expected?

Key terms

Receptors

In the Adaptation Compass receptors describe local physical features and socio-economic conditions of cities and regions that are affected by weather impacts. They include the major functions and features of a city like population, infrastructure, built environment, economy and natural resources.

Target group

Each message that is disseminated should be fitted to a group of people to reach the optimum effect. This group of people is called target group. Messages specified for a target group are more likely to be understood and implemented.

Also the **success** of your measures should be assessed: concerning the reduction of climate change impacts and the exposure but also concerning the increase of resilience, the use of opportunities or further cross-cutting effects on other goals set, e.g. mitigation goals.

Practical questions can be used, e.g.:

- Has the urban heat or the consequences been reduced?
- Have the retention measures detained heavy rains in the planned area?

Economic goals for the adaptation measure:

Economic aspects concern the cost-benefit for the measures as predefined. Sometimes unexpectedly, new costs arise for building or maintenance of the measure that have initially not been thought of. Or a measure might cause higher maintenance costs in other infrastructure parts or with other stakeholders. On the other hand, costs might have been estimated too high in the beginning, to be on the safe side, but are less after implementation.

Acceptance / communication goals for the adaptation measure:

In your process of adaptation you have integrated several target groups and informed them about the necessity of adaptation in general and /or the adaptation measure itself.

- Have all defined target groups been reached?
- Do they understand and access the information?
- Did the participatory approach work as planned? Is continuous participation reached?
- Did the attitude of the targeted groups change?

Time aspects of the adaptation measure:

A further aspect is time. In the planning and implementation phase, time always plays a central role for decision-making. You should also integrate some thoughts in the monitoring:

- Was the time for decision making, for implementation as expected?
- Time frame of the measure's impacts (long-term, short-term): is it as planned?

Step 2: Set a time limit for monitoring your actions

In general, your adaptation actions have to be monitored **frequently** to assess the effectiveness of the adaptation measures.

Relevant adaptation literature mostly advises to monitor adaption strategies and measures annually or more often (UKCIP, 2010; Ecologic Institute 2009). But the decision is up to you.

Take care that the monitoring programme is described in detail and sufficiently structured to guide your colleagues through the process. This also ensures that the results are comparable from year to year.

Recommendation by Future Cities: “Total cost-benefit ownership”

Costs and benefits of an adaptation measure are often not in the hand of one person or organisation. Therefore, the approach of taking the investment costs and all long-term costs into account should be followed by all involved stakeholders. Here, collaboration is essential.