

VISION AND OBJECTIVES FOR IMPROVEMENT OF EXISTING STRATEGIES AND POLICIES

WORK PACKAGE T4 - JOINT STRATEGY DEFINING POTENTIAL
COMMITMENTS IN IMPROVEMENT OF PLANNING PROCESS
CONSIDERING CC

ACTIVITY T4.1 STRATEGY DEVELOPMENT

DELIVERABLE D.T4.1.2

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[Annex 2 - Lookup table gaps and tools](#)- MS Excel file



List of abbreviations

BMP	Best Management Practices
BWD	Bathing Water Directive
CC-ARP-CE	Integrated Toolbox for Climate Change Adaptation and Risk Prevention in Central Europe
CC	Climate change
CE	Central Europe
C3S	Copernicus Climate Change Service
DSS	Decision Support System
DST	Decision Support Tool
DTP	Danube Transnational Programme
DWD	Drink Water Directive
EQS	Environmental Quality Standards
EU	European Union
FD	Floods Directive
FHRM	Flood Hazard and Risk Map
FRMP	Flood Risk Management Plan
GIS	Geographic Information System
GWD	Groundwater Directive
IED, ex. IPPC	Industrial Emissions Directive
IPCC	Intergovernmental Panel on Climate Change
NSWRM	Natural Small Water Retention Measures
PFRA	Preliminary Flood Risk Assessment
RBMP	River Basin Management Plan
SDG	Sustainable Development Goals
WFD	Water Framework Directive



1. Introduction

One among others a main objective of the TEACHER-CE project is to develop an integrated and joint strategy for improvement of existing water management practices (implementation of EU water legislation) taking into consideration knowledge gained from previous projects. This strategy promotes and stimulates adoption of TEACHER-CE Toolbox (CC-ARP-CE) for efficient decision making in water management planning.

The effects of climate change can hinder the achievement of local development objectives defined in existing documents. For this reason, it is highly recommended to mainstream adaptation to climate change into the planning process. But the issue even goes beyond the simple local level: from a broader point of view, the local level is a key element in climate change adaptation policies, because it also allows the implementation of objectives from the regional, national or European level.

To face these challenges, TEACHER-CE proposes to support local actors in their adaptation policy to climate change. To do this, the project aims to provide a strategy for reviewing existing documents or developing new ones. This strategy should be largely based on tools developed in the frame of the TEACHER-CE Toolbox CC-ARP-CE (map of climate indicators, catalogue of adaptation measures with its decision support tools) or from crossed-fertilized projects, such as:

- > INTERREG-CE RAINMAN
- > INTERREG-CE FRAMWAT
- > INTERREG-CE PROLINE-CE
- > INTERREG-CE SUSTREE
- > DTP CAMARO-D
- > H2020 FAiRWAY
- > DTP DRIDANUBE
- > DTP DAREFFORT
- > Contract to support C3S “Disaster Risk Reduction” Sectoral Information System
- > Contract for C3S “Soil Erosion” Demo Case.

As a first step to build the integrated and joint strategy for improvement of existing water management practices, the present deliverable presents a coherent overview of vision for involved Pilot Actions (local level), regions and/or countries for improvement of existing strategies considering lessons learned from T3.2 and the T.4.1.1 of the TEACHER-CE project and recommendations developed in cross-fertilized projects.



2. Gaps in the implementation practise of climate change adaptation and the tools to address them

2.1. What should be improved - common gaps from DT.4.1.1

The previous deliverable (DT.4.1.1) has led to the identification of about 90 gaps:

- 11 gaps at the level of countries from a formal perspective identified from the RBMP and FRMP assessment reports;
- 16 gaps at local, regional, river basin and national levels in the frame of a scope review of policy documents;
- 64 gaps from the review of grey and scientific literature and previously funded projects (cross-fertilized projects).

In the frame of the present deliverable the lists of gaps have been consolidated and thematically organized in 6 groups. Duplicates have also been merged: the final list contains 83 gaps (see Table 1).

Table 1. Groups of gaps from the consolidated list

Groups of gaps	Number of gaps
Knowledge / data and tool availability	31
Lack of adaptation measures	10
No CC- resilience test of measures	2
Planning / Communication / Management	32
Weak assessment of the document impact on CC (greenhouse emission/ adaptation)	2
Weak description of the climate change issue	6
Total	83

2.2. How to improve - lookup table of gaps and their solutions

Once the final list of gaps was established, members of the Review Group were invited to assess the applicability of the tools developed in the framework of TEACHER-CE and fertilized-projects to address the identified issues. In total, 8 projects / tools were taken into account in this evaluation:

- > Recommendations for strategy improvement - TEACHER-CE
- > Issues and discussion toolbox - TEACHER-CE
- > Map of climate indicators - TEACHER-CE
- > Ranking and catalogue of measures - TEACHER-CE
- > DSS - FRAMWAT
- > FroGIS - FRAMWAT
- > Planning NSWRM - FRAMWAT



- > PROLINE-CE
- > RAINMAN
- > SUSTREE
- > DTP CAMARO-D
- > DRIDANUBE (DTP)
- > Datasets and applications hosted in Climate Data Store for C3S Disaster Risk Reduction Sectoral Information System - COPERNICUS CLIMATE CHANGE SERVICE (C3S)
- > Datasets and applications hosted in Climate Data Store for C3S Soil Erosion Demo Case - COPERNICUS CLIMATE CHANGE SERVICE (C3S)

The result of the analysis is presented in the Annex 1 of this document.



3. Strategic framework of EU policies for national, regional and local CC-adaptation activities

3.1. Planning process in the field of climate change adaptation and water management: from the EU to the local level

The main water management principles and objectives are set by the EU water legislations: the Water Framework Directive, its daughter' directives (Bathing Water Directive, Drinking Water Directive, Urban Waste Water Directive, IPPC Directive, Nitrogen Directive, EQS Directive) and the Flood Directive. These directives were transposed in the national laws to give force to them.

The WFD and the FD (and the relevant national laws that have transposed these directives) require the preparation of plans that define medium term specific objectives and define measures that will enable to meet these objectives: the River Basin Management Plan (RBMP) and the Flood Risk Management Plan (FRMP). The RBMP contains a characterisation of the water bodies, an assessment of drivers and pressures, an economic analysis and set the ecological objectives for every water body. Its program of measures lists measures that are needed to reach the environmental objectives. The preparation of the FRMP is preceded by the production of preliminary flood risk assessments (PFRAs), that is followed by the preparation of flood hazard and risk maps (FHRMs), showing how far floods might extend, the depth or level of water, and the impacts that might be on human health, economy, environment and cultural heritage. On this basis the FRMP defines objectives and identify the necessary measures to reach them.

The EU recommendations in the field of climate change adaptation come from the communications from the Commission:

- > [White Paper on adapting to climate change](#)¹ (2009);
- > [EU Strategy on adaptation to climate change](#)² (2013);
- > [EU Climate Adaptation Strategy](#)³ (2021);

and the regulations from the European Climate Law⁴ (2021).

Since the publication of the White Paper on adaption to climate change, the EU Commision has encouraged Members States to develop national adaptation strategies, using as starting point all mentioned documents. In the 2013 communication, these strategies are defined as “*key analytical instruments designed to inform and prioritise action and investment*”. This recommendation comes from the Art. 4 of the United Nations Framework Convention on Climate Change which stipulates that all parties should “*Formulate, implement, publish and regularly update national and, where*

¹ White paper - Adapting to climate change: towards a European framework for action {SEC(2009) 386} {SEC(2009) 387} {SEC(2009) 388}, COM/2009/0147

² COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS An EU Strategy on adaptation to climate change, COM/2013/0216

³ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change, COM/2021/82 final

⁴ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law')



appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change". The article 7 par. 9 of the [Paris Agreement](#) (2015) also stipulates that States should engage themselves in adaptation planning processes: "Each Party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, which may include:

- (a) The implementation of adaptation actions, undertakings and/or efforts;
- (b) The process to formulate and implement national adaptation plans;
- (c) The assessment of climate change impacts and vulnerability, with a view to formulating nationally determined prioritized actions, taking into account vulnerable people, places and ecosystems;
- (d) Monitoring and evaluating and learning from adaptation plans, policies, programmes and actions; and
- (e) Building the resilience of socioeconomic and ecological systems, including through economic diversification and sustainable management of natural resources."

To support Member States to this challenge the Commission has launched an European climate and health observatory under the European Climate Adaptation Platform [Climate-ADAPT](#), to better understand, anticipate and minimize the health threats caused by climate change.

The 2021 EU Climate Adaptation Strategy was announced by the European Commission in the [European Green Deal](#) in December 2019. It was built on the experience of the 2013 strategy, but increases its ambition. The long-term vision described in the point 2. of the 2021 Strategy is that in 2050, "the EU will be a climate-resilient society, fully adapted to the unavoidable impacts of climate change. This means that by 2050, when we aim to have reached climate neutrality, we will have reinforced adaptive capacity and minimized vulnerability to climate impacts, in line with the Paris Agreement and the proposed European Climate Law".

The 2021 strategy covers new areas and priorities by developing a more systemic approach with 3 cross cutting priorities:

- > integrating adaptation into macro-fiscal policy;
- > nature-based solutions for adaptation;
- > local adaptation action.

Other sectorial strategic documents associated with water management or climate change adaptation may be also developed at different administrative levels (from the EU to the local one) to define the challenges, the objectives or priority areas and indicate the expected results (e.g.: EU biodiversity strategy, national ecological policy, national spatial development strategy, etc.) as illustrated on Figure 1.

It is obvious that to be effective, all policy documents must also be consistent with each other. Thus, for the sake of consistency with the CC adaptation objectives, EU water legislation:

- > incorporates explicit CC adaptation requirements (e.g.: FD requires Member States to take into account the likely impact of climate change on the occurrence of floods (Article 14(3)) from the second planning cycle);
- > uses the principles already existing in European water legislation (eg. considering CC at the pressure analysis stage in the WFD planning cycle).

National laws and strategic documents may require or recommend the preparation of operational and implementation documents and instruments in order to implement the strategic documents objectives and specifying the necessary tasks (e.g.: water retention program, regional plan of adaptation to climate



change, etc.). This approach is also recommended by the art. 13(5) of the WFD: “River basin management plans may be supplemented by the production of more detailed programs and management plans for sub-basin, sector, issue, or water type, to deal with particular aspects of water management”.

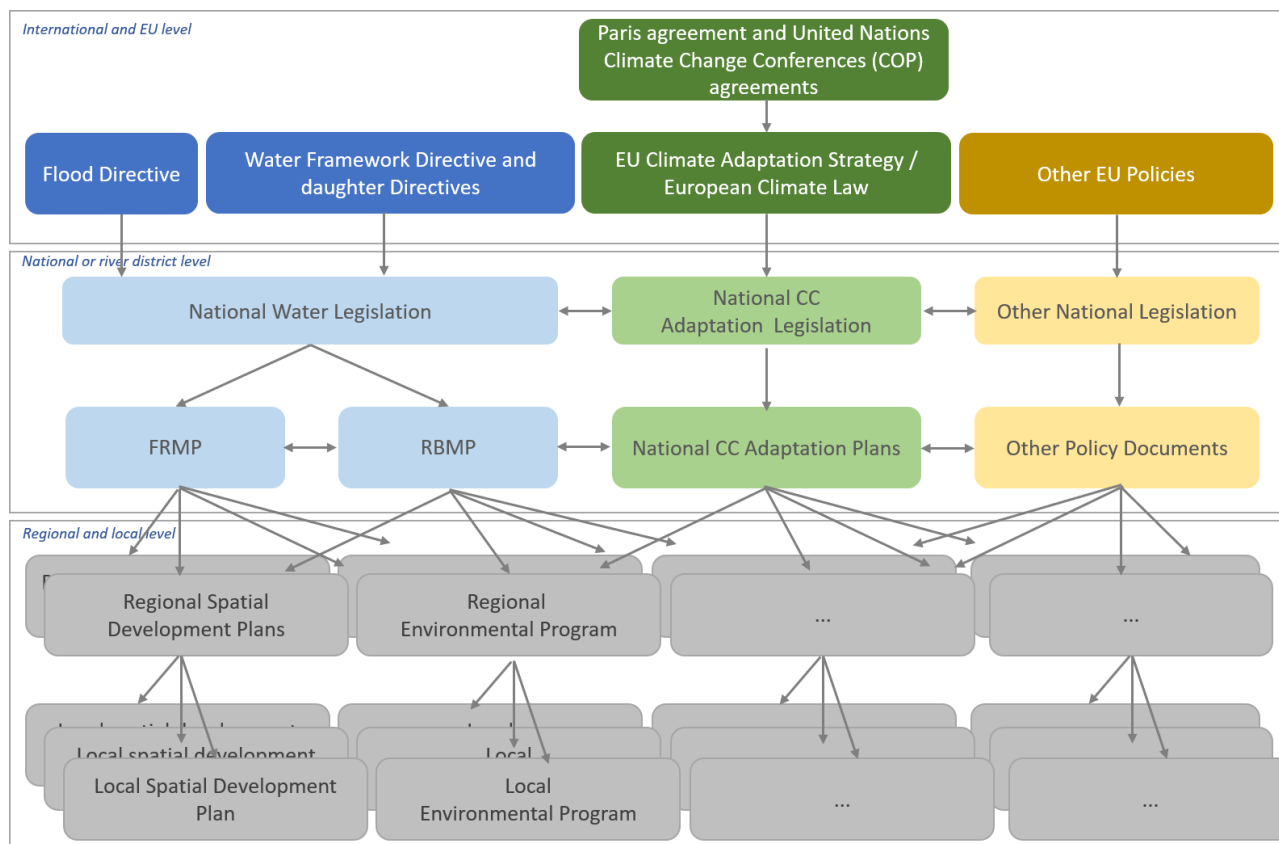


Figure 1. Schemes of the planning process from EU to local level in the field of water management and climate change

3.2. How to transfer and specify EU and national policies to improve local CC-adaptation

RBMPs, FRMPs or other national water related policy documents contain essential information to be integrated into local documents for a coherent and efficient management of water management issues in the context of climate change. These documents show the objectives (e.g.: achieving good ecological status of water bodies), the risks/pressures (e.g.: flood hazard and risk maps from the FRMP; risk of not achieving good status and the pressures analysis from the RBMP) and the measures to counteract them. Local policy documents must implement, contribute to implement or facilitate the implementation of these measures, among others by:

- > considering the objectives for conservation of water-dependent habitats or the flood hazard and risk maps in the spatial management plan;
- > implementing/scaling/adapting/completing the measures from EU and national plans to the local policy documents (see Figure 2).

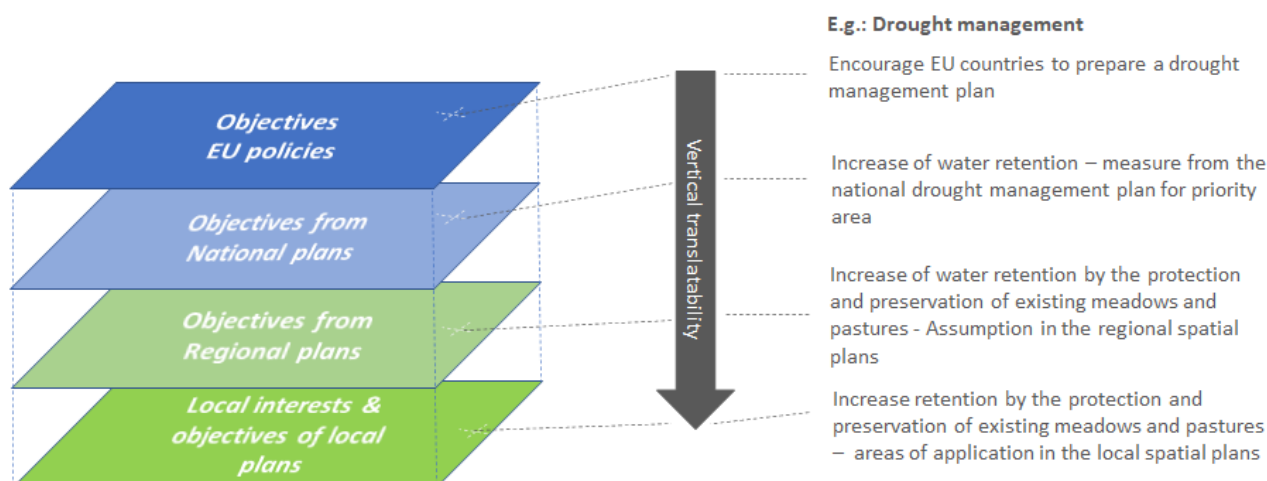


Figure 2 . Vertical translatability of the objectives among policy documents – example with drought management




More generally, local policy documents should consider the objectives of the national/ regional ones to achieve synergy with them and, in case of RBMP and FRMP, be consistent at the watershed level.



Previous Work Packages have identified the fields of action of the water management sector that are affected by climate change:



- > Pluvial flood risk management;
- > Water Scarcity and Drought management;
- > Groundwater management;
- > Management of water-dependent ecosystems;
- > Irrigation water management;
- > Fluvial flood risk management;
- > Drinking water supply management;
- > Management of water related ecosystems.

In order to facilitate this vertical transfer by local stakeholders in the sectorial policies documents, the objectives of the WFD, FD, DWD and GWD have been dispatched to the different fields of action (Table 2). The table also includes information on how to consider EU/national strategies to improve local ones. The exercise led to highlight the role of spatial management plans as means of implementing the objectives of the directives. It should be also noted that the tools from crossed-fertilized projects can be a source of best practices or decision support tool to improve the implementation WFD, FD, DWD and GWD.

Table 2 Objectives that results from the WFD, FD, DWD and GWD for the different Fields of Actions used in TEACHER-CE in the context of climate change

Field of Actions	Objectives resulting from the WFD, FD, DWD and GWD				How to consider the EU/national strategies to improve local ones	Tools and sources
	Water Framework Directive	Flood Directive	Drinking Water Directive	Groundwater Directive		
 Fluvial flood risk management	-	- reducing the risk of floods, taking into account the future changes in the risk of flooding as a result of climate change - The elements of flood risk management plans should be periodically reviewed and if necessary updated, taking into account the likely impacts of climate change on the occurrence of floods.	-		- Taking into account the flood hazard and risk maps in the spatial management plan	FRAMWAT
 Pluvial flood risk management	-	- The elements of flood risk management plans should be periodically reviewed and if necessary updated, taking into account the likely impacts of climate change on the occurrence of floods.	-		- Increasing the water retention - Creation and maintenance of retention areas, avoidance of building in hazard zones, restoration of floodplains and floodplain forests, wetlands, dry detention reservoirs	RAINMAN
 Groundwater management	-Achieving good quality and quantity status of groundwater bodies - Ensuring a balance between abstraction and recharge rates the inclusion of a water balance (concept include in the classification of quantitative status - contributes to a better response to new or growing climate change-related pressures)	-	-	Prevent the deterioration of the status of all bodies of groundwater	-Implementation of land use management concept and local measure for groundwater / aquifer recharge, e.g.: wetland restoration enhances high aquifer recharge due to high water connection between surface flows and groundwater. Forest cover and forest health is known to positively influence quality of groundwater, favour groundwater recharge, as they enhance water infiltration in soils.	PROLINE-CE SUSTREE

Field of Actions	Objectives resulting from the WFD, FD, DWD and GWD				How to consider the EU/national strategies to improve local ones	Tools and sources
	Water Framework Directive	Flood Directive	Drinking Water Directive	Groundwater Directive		
 <p>Drinking water supply management</p>	<p>Securing the drinking water supply for the population (the register of protected areas shall include areas designated for the abstraction of water intended for human consumption)</p>	-	<p>Protecting human health from the adverse effects of any contamination of water and improving access to water intended for human consumption - taking into consideration risks stemming from climate change in the assessment of risks on human health through use of water intended for human consumption</p>	-	<ul style="list-style-type: none"> - Implementation of land use management concepts for drinking water protection - Taking into account the water intake protection zones in the spatial management plan - Implementing best management practice for drinking water management 	PROLINE-CE
 <p>Irrigation water management</p>	<p>Identifying and implementing measure to achieve the environmental objectives (climate change should be considered when identifying pressures and so the necessary measures to cope with these pressures. As example of measure, the Annex VI of the WFD mentions the promotion of adapted agricultural production such as low water requiring crops in areas affected by drought)</p>	-	-	-	<ul style="list-style-type: none"> - Increasing water retention (e.g.: agrotechnics-field water harvesting (small dikes around field edges; small channels / grooves around field edges)) 	FRAMWAT

Field of Actions	Objectives resulting from the WFD, FD, DWD and GWD				How to consider the EU/national strategies to improve local ones	Tools and sources
	Water Framework Directive	Flood Directive	Drinking Water Directive	Groundwater Directive		
 <p>Water Scarcity and Drought risk management</p>	Maintaining or reaching the environmental flow (hydrological regime consistent with the achievement of the environmental objectives of the WFD in natural surface water bodies as mentioned in the Article 4(1)) 1	-	-	-	- Increasing the water retention	PROLINE-CE FRAMWAT DRIDANUBE
 <p>Management of water-dependent ecosystems</p>	<ul style="list-style-type: none"> - Achieving good ecological status of water bodies - Achieving compliance with any standards and objectives of areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites 	-	-	-	<ul style="list-style-type: none"> - spatial management plan should take into account buffer stripes along river bank of rivers and lakes in the spatial management plan - Spatial planning must consider objectives for conservation of water-dependent habitats 	PROLINE_CE



4. Recommendations on how to consider climate change in local strategies and policy documents

4.1. General recommendations / visions for climate change adaptation strategies

The analysis carried out within the framework of chapters 2, 3 and Annex 1 of the present document led to highlighting the strategic elements to be taken into account in order to improve the policy documents. To define these recommendations/visions, the following assumptions were applied:

- > the recommendations/visions should lead to address gaps identified in D4.1.1 as possible, particularly those from the group of gaps “planning / communication / management” (see Chapter 2.1);
- > the recommendations/visions should promote and stimulate adoption of tools from TEACHER-CE Toolbox for efficient use by decision makers in water management planning;
- > the recommendations/visions should enhance the synergy between fields of action and support different but complementary types of activities.

Based on the analysis and the above mentioned assumptions, the 5 main visions were identified:

General recommendation no 1 - Integrating assumptions of national/regional documents into the planning process

Addressing problems at a coarse national/EU scale aims at setting the strategic framework, but is not appropriate to respond and manage risks locally. Nevertheless, local policy documents should consider the objectives of the national/ regional strategic documents to achieve synergies with them and, in case of RBMP and FRMP, be consistent on the river basin level.

General recommendation no 2 - Mainstreaming the climate change adaptation into the planning process

Climate change effects should be considered when setting objectives for all relevant planning and policy documents. This exercise of integration should be transparent: the policy document should clearly explain how climate change is taken into consideration. To describe climate change, it is recommended to consider different but reliable and updated projections as a reference.

General recommendation no 3 - Maximizing cross-sectoral benefits

To maximize cross-sectoral benefits, local planning actors should apply integrated, multi-criteria and systematic solutions. Thus, an interdisciplinary approach should be followed. Maximizing cross-sectoral benefits will de facto promote combined green-blue infrastructure and nature-based solutions.

General recommendation no 4 - Privileging the implementation of nature-based solutions, implementing sustainable land use

Local planning actors should consider and promote the potential of ecosystem-based solutions for the protection of water resources (quantitatively and qualitatively) as the best way for adaptation to climate change.

General recommendation no 5 - Involving stakeholders

The involvement of stakeholders in the planning process ensures a reliable and improved acceptability of the adaptation measures, and so a better implementation of the policy documents, including straight



forward climate change adaptation goals. Their involvement is over all needed at the step of assessing and approving adaptation options.

4.2. Operational recommendations

Operational recommendations take the form of a step-by-step guideline. They aim to integrate the dynamics of the effects of climate change in the planning process of policy documents associated - directly or indirectly - with water management. In other words, they try to ensure that the document's objectives are met despite the climate risk. The guideline mainly refers to the CC-ARP-CE tool and the cross-fertilized projects and considers the assumptions of the European Climate Adaptation Platform "[Climate-ADAPT](#)".

The recommendations apply to update an existing document or to prepare a new one (further referred as "reviewed document").

Guidelines	Tools and sources
Step #0 - Preparing the ground	
<ul style="list-style-type: none"> • Obtaining political support for adaptation • Setting up consultative and participatory mechanisms to enable: <ul style="list-style-type: none"> ○ the multi-stakeholder engagement in the adaptation process, ○ a continuous communication process for the engagement of the different target audiences, • Assigning roles and responsibilities of the “core adaptation team” responsible of the review of the strategy within the administration, setting up institutional cooperation, • Identifying and securing human, technical and financial resources 	<ul style="list-style-type: none"> • Local knowledge • Adaptation support tool (Climate - ADAPT platform)
Step #1 - Identifying and prioritising the relevant fields of action in the local context	
<ul style="list-style-type: none"> • Identifying which fields of action are considered as the relevant local issue: <ul style="list-style-type: none"> ○ Fluvial flood risk (management) ○ Pluvial flood risk (management) ○ Groundwater management ○ Drinking water supply (management) ○ Irrigation water (management) ○ Water Scarcity and Drought risk (management) ○ Management of water-dependent ecosystems ○ Other • Prioritising identified fields of action 	<ul style="list-style-type: none"> • Local knowledge vs. needs • Scope of the reviewed document • FRMP, RBMP • National CC adaptation strategy
Step #2- Assessing the climate change impacts	
<ul style="list-style-type: none"> • Recognizing past and present climate impacts (overview of past climate and extreme weather events, their consequences and existing response actions is in place) • Assessing the climate change impacts at the proper scale: <ul style="list-style-type: none"> ○ in the atmospheric subsystem; ○ in the hydrological subsystem; 	<ul style="list-style-type: none"> • CC-ARP-CE tool: map of climate Indicators; reference EU and national links • FRMP



<ul style="list-style-type: none"> ○ in the hydrogeological subsystem; ○ including the frequency of extreme events. ● Assessing the climate changes impacts with the appropriate timeframe. If possible, the time interval of the CC projection should fit to the timeframe of the policy document according to the objectives schedule of step #1. The time interval and the timeframe should fit together/overlap but do not need to be equal: If two climate projections (both showing comparison to a reference year of the climate projection) in-relatively short interval (e.g. <10 years) would be compared, the effects of climate change might not be significant. This is especially true for near-future projection. For short time intervals the projections cannot provide year-by-year forecast but should be exploited to identify trends and tendencies. The timeframes of CC projection and policy objectives, should consider the lifespan of the investment measures recommended or approved in the policy document. 	<ul style="list-style-type: none"> ● National CC adaptation strategy and/or plan
Step #3 - Describing the various fields of actions and objectives	
<ul style="list-style-type: none"> ● Describing the state of art of the different fields of actions, understanding the evolution of the water demand in the course of time; ● Describing objectives of the different field of actions ; ● Setting up a schedule to reach the objectives (the time perspective of the reviewed document) ● Using GIS methodologies/tools indicating potential needs (vulnerabilities) and possibilities (capacities) of NSWRM development based on multi-criteria analysis taking into account environmental conditions. 	<ul style="list-style-type: none"> ● Regional and national policy documents or other local documents ● FroGIS (FRAMWAT)
Step #4 - Assessing the Climate Change risks associated with your objectives - Integration of the Step #2 with the Step #3	
<ul style="list-style-type: none"> ● Preparing the assessment by determining the impact of the climate changes on the field of action objectives defined in the reviewed document, by: <ul style="list-style-type: none"> ○ identifying of connections between fields of action to understand the interdependencies and maximize the cross-sectoral benefits at the step #5 ○ identifying the impacts of climate change on the on the water use, considering the interactions between fields of actions ○ checking the robustness of the measures planned in the reviewed documents or its assumptions (climate change resilience test) 	<ul style="list-style-type: none"> ● Climate - ADAPT platform ● Risk Supplement to the Vulnerability Sourcebook Guidance⁶ ● Seed4forest - Forest CC vulnerability assessment tool and seed transfer models (SUSTREE)

⁶ The Risk Supplement to the Vulnerability Sourcebook Guidance on how to apply the Vulnerability Sourcebook's approach with the new IPCC AR5 concept of climate risk is available from the Climate - ADAPT platform database at the address <https://climate-adapt.eea.europa.eu/metadata/guidances/risk-supplement-to-the-vulnerability-sourcebook-guidance-on-how-to-apply-the-vulnerability-sourcebook2019s-approach-with-the-new-ipcc-ar5-concept-of-climate-risk>



- Assessing the climate change risk by developing an impact chain⁵ by identifying and organizing its 3 components:
 - the hazards (e.g.: too high temperatures) on the basis #2
 - the vulnerabilities (e.g.: unfavourable soil conditions) - on the basis of the step #3
 - the exposures (e.g.: high proportion of agriculture in the local economy) on the basis #3

which finally will lead to the risk (e.g.: risk of water scarcity for local farmers) and may initiate brainstorming session on potential adaptation measures.

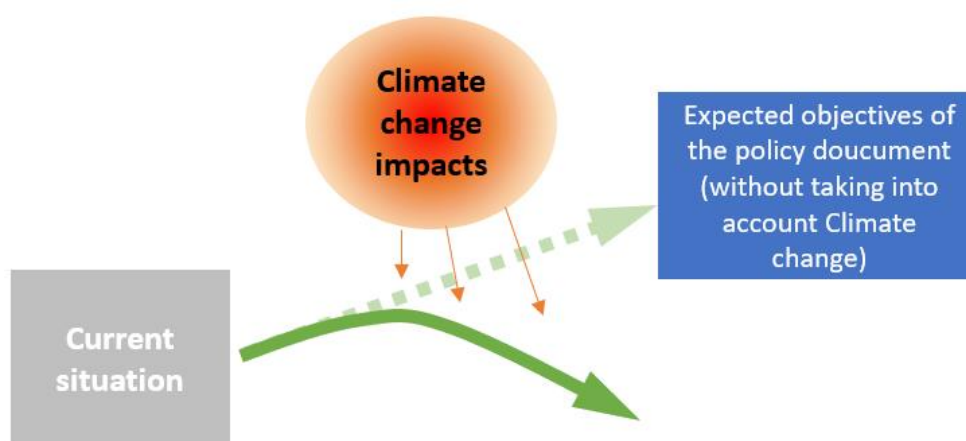


Figure 3. Climate change impacts associated with the objectives of the policy document

Step #5 - Identifying, assessing and selecting adaptation measures

- | | |
|--|---|
| <ul style="list-style-type: none"> • Defining the operational priorities, e.g.: how much your objectives are time bounded? What is the affordability of the actors? E.g.: the ranking and catalogue of measures of the CC-ARP-CE Tool provides a prioritisation system with 4 criteria: <ul style="list-style-type: none"> ○ cost; ○ duration and complexity of implementation; ○ robustness; ○ multi-functionality • Involving stakeholders in the development of the prioritization/ selection system for adaptation measures or in the process of weighting criteria • Using Decision Support Tool (DST) developed for supporting the implementation of innovative Best Management Practices (BMPs) • Completing the analysis by discussing with stakeholders about the best way to address vulnerabilities (tackling sensitivity or enhancing capacities to moderate impact). | <ul style="list-style-type: none"> • CC-ARP-CE tool: Catalog of measures • Seed4forest - Forest CC vulnerability assessment tool and seed transfer models (SUSTREE) • DSS and Planning NSWRM (FRAMWAT) • GOWARE tool (PROLINE) • RAINMAN toolbox • Local knowledge/ needs • Adaptation support tool (Climate - ADAPT platform) |
|--|---|

⁵ According to the Risk Supplement to the Vulnerability Sourcebook Guidance, an impact chain is an analytical tool that helps you better understand, systemise and prioritise the factors that drive risk in the system of concern. It is composed of 3 risk components: hazard, vulnerability, exposure.

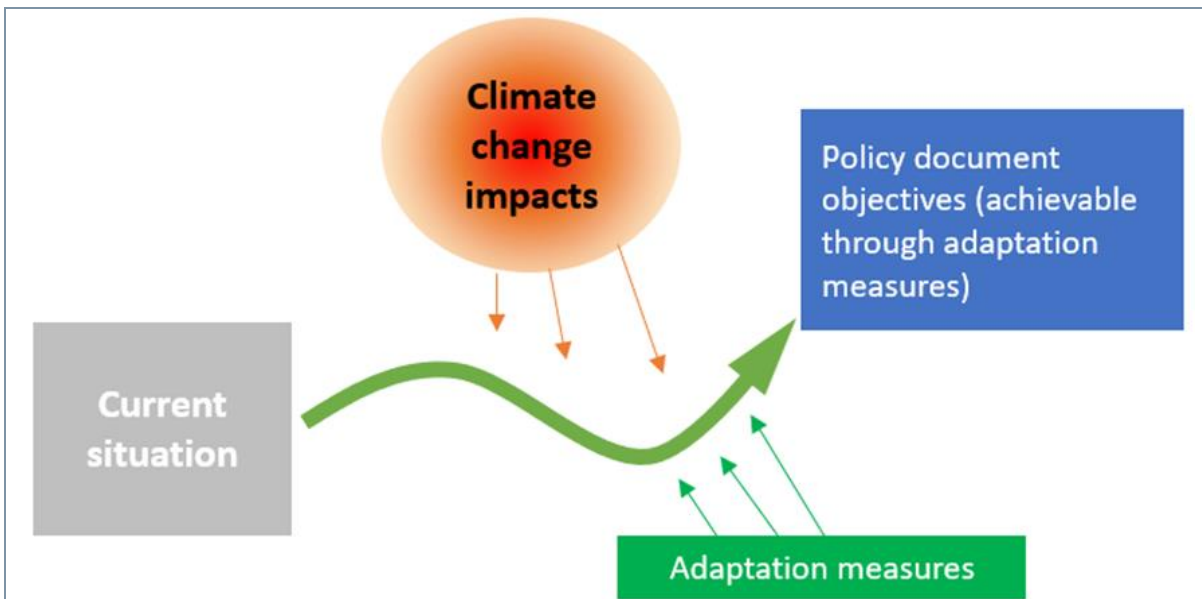


Figure 4. Climate change impacts and adaptation measures

Step #6 - Preparing the implementation of the reviewed document and the monitoring of its objectives, assessment of impact

- | | |
|--|--|
| <ul style="list-style-type: none"> • Consulting stakeholders and ensuring their approval and support for the chosen set of measures • Consulting with neighboring countries in the field of adaptation measures (if applicable) • Identifying indicators to evaluate the achievement of the objectives • Assessing the document on emission of greenhouse gases or adaptation to climate change at the step of impact assessment, supporting expert judgment with data | <ul style="list-style-type: none"> • Local knowledge/ needs • Adaptation support tool (Climate - ADAPT platform) |
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5. Conclusions

This deliverable aims to present a coherent vision for involved Pilot Actions (local level), regions and/or countries for improvement of existing strategies. The area for improvement concerns better integration of the effects of climate change and adaptation measures in the planning process.

As a first step to achieve the above-mentioned objectives, the gaps identified in the previous deliverable have been consolidated and thematically organized in 6 groups:

- > Knowledge / data and tool availability;
- > Lack of adaptation measures;
- > No CC- resilience test of measures;
- > Planning / Communication / Management;
- > Weak assessment of the document impact on CC (greenhouse emission/ adaptation);
- > Weak description of the climate change issue.

Each gap has then been associated with tools developed within TEACHER-CE and the cross-fertilized projects, as a way to address it (see chap. 2). The most majority of gaps come from 2 groups:

- > Knowledge / data and tool availability;
- > Planning / Communication / Management.

The tools developed within TEACHER-CE and the cross-fertilized projects fill the gaps in the “Knowledge / data and tool availability” group particularly well, as this is often one of the primary objectives of the projects themselves.

The Gaps related to the planning process were considered for the preparation of the vision for improvement of existing policy documents, in particular to establish the general recommendations. The preparation of the above-mentioned vision for improvement is also based on the results of chapter 3 dedicated to the integration of the outcomes from European/national strategies into local policy documents.

The result is a vision centered on 5 main axes (see chapter 4):

- > integrating assumptions of national/regional documents into the planning process;
- > mainstreaming the climate change effects into the planning process;
- > maximizing of cross-sectoral benefits;
- > privileging the implementation of natural-based solutions, implementing sustainable land use;
- > involving stakeholders.

This deliverable also presents step-by-step recommendations to integrate the dynamics of the effects of climate change in the planning process of policy documents associated - directly or indirectly - with water management. These recommendations also present the tools, including TEACHER-CE project ones that can be used at each stage of the planning process.

The Joint Strategy (deliverable D.T4.2.1) should be developed keeping in mind the identified gaps and the recommendations because these two elements correspond to the room of improvement of the existing policy documents.