



# BINGO

a better future under  
CLIMATE CHANGE

BRINGING INNOVATION TO ONGOING  
WATER MANAGEMENT

# Guidelines

## Collaborative Management in Climate Change Adaptation

April 2019

[www.projectbingo.eu](http://www.projectbingo.eu)



The BINGO project has received funding from the European Union's Horizon 2020 Research and Innovation programme, under the Grant Agreement number 641739.

April 2019



Horizon 2020 Societal challenge 5:  
Climate action, environment, resource  
efficiency and raw materials

## BINGO

### **Bringing INnovation to onGOing water management – a better future under climate change**

Grant Agreement n° 641739, Research and Innovation Action

#### **Short Summary (<250 words)**

Water managers often need scientific information to match their decisions (typically short term and local) to complex, long-term, large-scale challenges such as adaptation to climate change. In such situations, the most reliable route to actionable science is co-production, whereby managers, policy makers, scientists and other stakeholders first identify specific decisions to be informed by science and then jointly define the scope and context of the problem, research questions, methods and outputs, make scientific inferences and develop strategies for the appropriate use of science ((in Paul Beir et al in “A How-to Guide for Coproduction of Actionable Science”).

This report presents the Guidelines on “*Collaborative management in Climate Change adaptation*”, following what has been defined and committed in the BINGO ´s Final Exploitation Plan (D7.8). It´s main goal is to share and expand the collaborative management experience of the BINGO ´s Coordination, Management and IPR (WP1) process during the 4 years development of the project. Alliances between researchers, managers and stakeholders in challenging and effective experiences of knowledge co-production were promoted. It was a key decision to place BINGO´s WP6 – Ensuring Excellence & Actionable Research– at the heart of the scientific & and the research sites developments. In a joint work we have addressed the scientific production (i.e.

April 2019

climate predictions, hydro-models and risk management) by recognizing the relevance of going beyond the scientific areas and building dialogues and cross-learning.

We are clearly convinced with our experience in BINGO that co-production is especially appropriate for complex problems (i.e. climate change and impacts on water) involving multiple spatial and temporal scales, problems where neither scientists nor managers can specify needed science products in advance or situations in which managers need ongoing guidance on proper use of science in a variety of decision-making context.



April 2019

April 2019

## Table of Content

<b>List of Figures</b> .....	<b>vi</b>
<b>1. INTRODUCTION</b> .....	<b>1</b>
<b>2. GUIDELINES</b> .....	<b>2</b>
Engage actively everyone in a common goal .....	3
Ensuring commitment & full acceptance of managerial principles and structure.....	4
Promote good communication and attainment of a common framework .....	7
Face difficulties when they show up, enhancing collaborative problem solving .....	9
Use of combined multi-level approaches to get information .....	9
Develop capacity to adapt and move forward .....	10
Identify key success factors and celebrate team achievements .....	11
Prepare for long-term processes and deal with uncertainty.....	11
Develop a virtuous ongoing cycle of preparation, response and revision .....	12
<b>3. REFERENCES</b> .....	<b>13</b>

April 2019

## List of Figures

Figure 1 – Key points for guideline 1 .....	3
Figure 2 - Structure of cooperation among BINGO partners and external participants ..	5
Figure 3 - Diagram with relevant steps for communicating consciously and effectively with different types of audiences (Barbosa and Matos, 2017) .....	8

April 2019

## **1. INTRODUCTION**

This document aims to present the guidelines on Collaborative Management in Climate Change Adaptation aiming at summarising methodologies and approaches developed by BINGO.

A set of 9 Guidelines are presented hereby. The main goal is to share and expand the collaborative management experience of the BINGO 's Coordination, Management and IPR (WP1) process during the 4 years development of the project. Alliances between researchers, managers and stakeholders in challenging and effective experiences of knowledge co-production were promoted. The successful experience of managing a large team (20 organisations, from 6 different countries) and a budget of around 8 M€ with a timeline and specific deliverables and outcomes to be accomplished is also embedded in these guidelines.

April 2019

## 2. GUIDELINES

In this chapter the guidelines for engaging a group of people and organisations into a collaborative work, in the scope of climate change is presented. According to the BINGO's experience, there are 9 key topics to address and keep in mind to successfully keep the engagement and collaborative process going on.



1. Engage actively everyone in a common goal



2. Ensuring commitment & full acceptance of managerial principles and structure



3. Promote good communication and attainment of a common framework



4. Face difficulties when they show, enhancing collaborative problem solving



5. Use of combined multi-level approaches to get information



6. Develop capacity to adapt and move forward



7. Identify key success factors and celebrate team achievements



8. Prepare for long-term processes and deal with uncertainty



9. Develop a virtuous ongoing cycle of preparation, response and revision

April 2019



## 1. Engage actively everyone in a common goal

It is the role of a leader/manager to start by gathering together all the groups of people/organisations and players that are meaningful to achieve the purpose. Everyone should get well acquainted with the objective and with all the members of the team. People should meet face to face and reach a common agreement on the goal and the deadline to achieve it.

The resources needed to promote this step are simple: communication channels (email, telephone or network based conversion) and travel resources to meet face to face, with an agenda. The promotion of different digital platforms to share information, documents, photos, videos, or ongoing work is beneficial. This resources may already exist at the organisation or be purchased for the purpose.

In the case of the BINGO project, it was essential, since the starting of the proposal's preparation, that the core team agreed with the framework and project goal to be pursuit. During the project management of ongoing activities, it was always important that the coordination kept clear that all were working together towards the common goal previously agreed and that each one had a relevant and specific contribution to be made.

The main advantages of this step is to keep people together and focused on the target goal, also feeling valued, and both relevant and needed to achieve the objective.

**Figure 1 – Key points for guideline 1**

- 1 • Good/wise choice of the partners to engage in the common goal
- 2 • Check along the road if partners are kept aligned to the common goal
- 3 • Keep recalling the focus while allowing people to pursuit their institutions/ organisations mission

April 2019

A major barrier that participants in BINGO workshops identified was the practical difficulty to “move” from “existing knowledge” to “practice”, from “ideas and plans” to “real action”. And the reasons that have been pointed out are less centred in technical issues, but rather in the lack of participative and integrated governance where co-production plays a key role.

In the scope of BINGO **co-production** was defined as “collaboration among scientists, managers and other stakeholders, who, after identifying specific decisions to be informed by science, jointly defined the context of the problem, research questions, methods and outputs, make scientific inferences and develop strategies for the appropriate use of science results”.



## 2. Ensuring commitment & full acceptance of managerial principles and structure

There is a need to create a managerial structure, including communication flows and recipients. Each one should be aware of the all structure and of its specific role, as well as who to address in case of need (higher level responsible), with whom to co-produce work and to whom the products/outcomes should be communicated.

This issue requires experience in team management and skills of realistic planning, based on the activities and resources available. Also requires leadership competences to ensure that the structure of responsibilities is kept. The leader should start by drafting a proposal for the managerial principles and structure and then discuss it with the key players.

It is important to have a diagram/flowchart with this structure and its bodies clearly indicated. The description of the roles and the associated responsible is also needed. All the players should be well informed and committed.

In BINGO, since the very beginning we have planned both the WPs flow structure (pert diagram) and a higher level structure, allowing the understanding of the different roles interactions. Figure 3 presents this structure for BINGO.

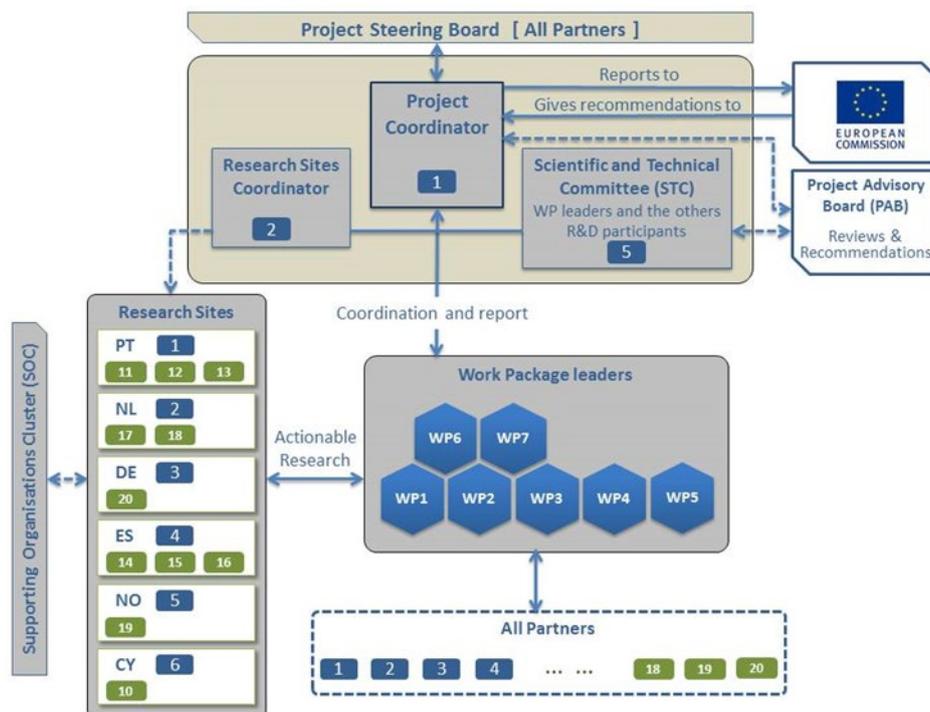
The main advantages of this step providing a good and agreed structure that reflects the views of everyone and intends to achieve the objective with the existing resources.

April 2019

The flow of actions, responsibilities and communication is much more focus and effective. It is also easy to find the correct actions knowing who is in charge of what.

It is known that innovation is not easy because it is unpredictable and requires creativity and risk-taking, but to not innovate in the face of CC changes is an even greater risk. Creating the conditions for innovation requires new types of leadership that facilitate and develop shared visions and commitment (Young, 2014).

**Figure 2 - Structure of cooperation among BINGO partners and external participants**



An example of the text explaining some of the roles is given below (also extracted from the BINGO Amendment):

April 2019

#### ***Governance structure and roles***

*Project coordinator (PC):* The project will be coordinated by **LNEC**, who will be responsible for the overall implementation of the project. The PC will act as the sole interface between the EC and the project partners, receiving the Community financial contribution on behalf of the beneficiaries, administrating this contribution regarding its allocation between partners and activities, in accordance with the Grant Agreement and decisions taken by the consortium. The PC has to ensure that the project reports and deliverables are prepared in due time, and that all partners comply with their responsibilities (including reporting and cost statement commitments). The PC will also convene the consortium and PAB meetings and oversee ethical issues related to project implementation. The PC will be also responsible for ensuring a sound financial management of the contract of the project, continuously overseeing the efforts of partners for detecting any potential ineffective use of resources. The PC will have a secretariat that will have the main tasks of supporting the project coordination activities, ensuring the daily communication with partners.

*Scientific and Technical Committee (STC):* The STC is composed by the R&DI partners, including WP leaders, namely **LNEC, KWR, IWW, Aqualogy, NTNU, InterSUS, FUB, SPI and Cyl** (chaired by NTNU). Its main responsibility will be to ensure that the scientific and technical activities of the project are accomplished successfully and in compliance with the quality standards. A Quality Assurance Plan will be developed by NTNU/LNEC/SPI, which will define suitable quality management processes, including mechanisms to review internal reports and deliverables. The STC will also have the overall responsibility for protection and management of IPR of the project results.

*Scientific and Technical Committee (STC):* The STC is composed by the R&DI partners, including WP leaders, namely LNEC, KWR, IWW, Aqualogy, NTNU, InterSUS, FUB, SPI and Cyl (chaired by NTNU). Its main responsibility will be to ensure that the scientific and technical activities of the project are accomplished successfully and in compliance with the quality standards. (...).

*Research Sites Coordinator (RSC):* Each research site is led by a research organisation; cf. Figure 8 (LNEC, KWR, IWW, Aqualogy, NTNU, Cyl). The RSC is KWR who will ensure together with the research organisations that the relevant information is retrieved from each research site, and also that relevant end users and problem-owners (i.e. the 'Supporting Organisations Cluster') are effectively involved in the project activities, and that the results are consistently integrated ensuring actionable research and potential replicability.

April 2019



### 3. Promote good communication and attainment of a common framework

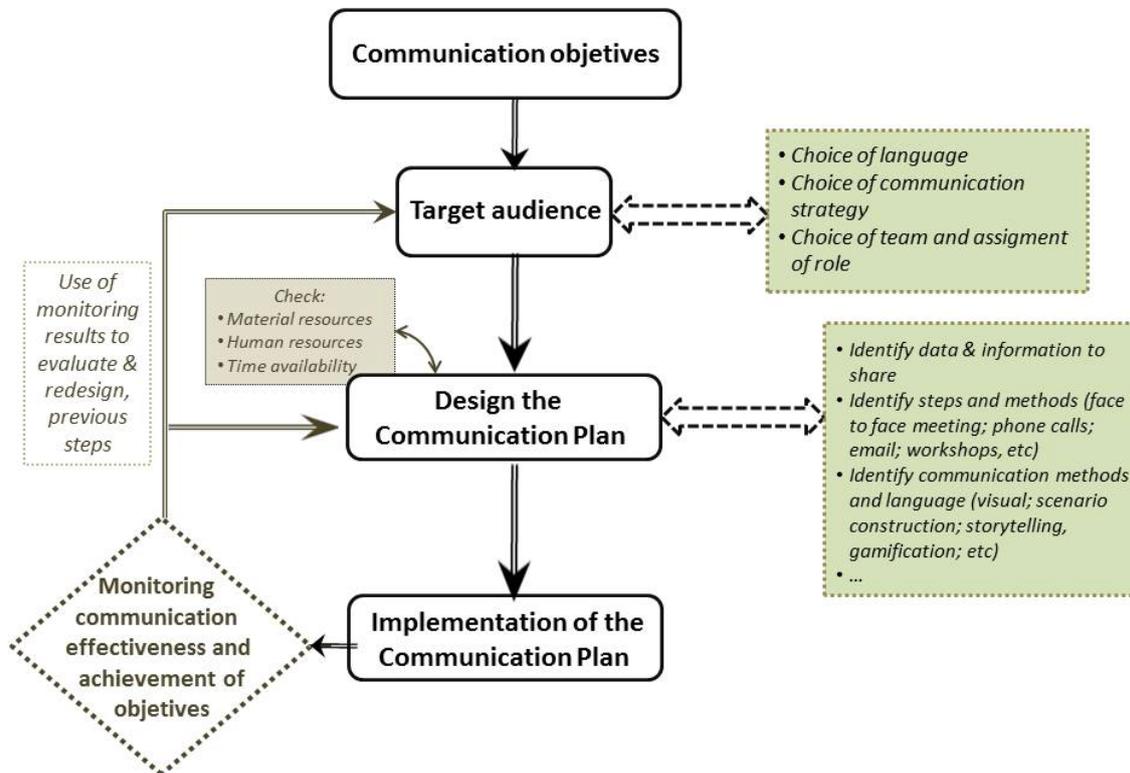
Here we are dealing both with communication within the team and with the team and the “outside world”. Everyone in the team should be aware that the use of different languages and distinct perceptions of the same scenario may hinder communication. It is necessary to take the time to have people together, face to face, promoting exercises of mutual understanding.

This can be done, for instance, in workshops/ face to face meetings with the support from someone from social sciences and/or specialist in communication. This was done in BINGO, through several workshops (with a roadmap from the starting) with the researchers and the communities of practice. It was very clear from workshop one that one barrier when different people are working together is language. Research language differs to common everyday language, but even among researchers the same terminology can be used to refer to different phenomena, and vice versa.

As an example, Young (2014) explains how the use of the word “uncertainty” (a common word in climate change), it is often heard by non-scientists as scientists being unsure of the scientific facts whereas to scientists it can be a measurement to ascertain the level of confidence in a finding.

In BINGO it was discussed how the uncertainty of results can be better communicated to local end users.

**Figure 3 - Diagram with relevant steps for communicating consciously and effectively with different types of audiences (Barbosa and Matos, 2017)**



April 2019



#### 4. Face difficulties when they show up, enhancing collaborative problem solving

This is a very relevant, tough simple guideline! It addresses the fact that sometimes there is a human tendency to minimise small frictions/ misunderstandings/ deviations to the plan, etc. This approach can lead to the growth in time of a small issue or occurrence, producing damages or even a relevant problem that sometimes is not easy to overcome.

The key issue is to be attentive to what is going on, both in terms of human relationships and achievement of planned actions, to create an open communication flow (guideline 3) where all can express, and provide clear knowledge of each ones duties and responsibilities (guideline 2).

This guideline is very much dedicated to the ones with more responsibilities in the structure. It requires maturity and emotional awareness in dealing with sensitive issues. All the needed actors in the team should be contributors to the solution/correction of the situation.



#### 5. Use of combined multi-level approaches to get information

This step is meant to be as breaking with previous paradigm where, for instance, researchers should collect data in scientific forums or journals of the speciality. Not neglecting the traditional ways, it is capital to acknowledge that adaptation to climate change requires integration of knowledge, visions and approaches.

All the team should be open to communicate and get information by more technical and scientific process and more traditional and social ones. It is important that top specialists use specific models that need well prepared researchers and hardware that can generate the climate data. But it is also relevant to get information from farmers, as an example of people that are experienced in facing variations of climate and have already developed adaptation strategies that may be useful by themselves or inspire others.

April 2019

Another good example is to listen to traditional stories (storytelling) that provide information from people that live in a certain region or area and can relate previous climate extreme events that are useful – even to understand the behaviour /calibrate climate models.

BINGO used this approach by reaching relevant stakeholders all over the 6 research sites, engaging them in a community of practice to listen to their past problems, solutions and future concerns in a true co-production process. As an example of the relevance of communication: dealing with farmers in Cyprus had to use more traditional communication approaches, given the age and literacy of the people.

This guideline provides a broader insight on the richness of information concerning climate change issues, allowing use of data that, in other circumstances, would be ignored.



## 6. Develop capacity to adapt and move forward

Although when we address an issue in managing climate change adaptation we start by establishing a plan and a structure, it is common - and part of life itself - that unexpected occurrences take place. To face these challenges positively and looking to them as potential opportunities is vital, especially for the ones who have to guide and inspire the team.

In a way, what is required is to cope with stressful and unpleasant events, knowing that they we can learn out from them, and keep the same focus and motivation towards the main goal.

Of course it is relevant to evaluate if some action to better adapt is needed, and place it into practice. But keep moving forward!

**Adaptation is a continuous social process of change, therefore requiring appropriate planning, support and resources to enable and sustain activities – meaning a long-term strategic approach. It is important to accept that discomfort and tensions are part of the processes and we should better work with them rather than against. Understanding how to manage human responses to change is key in achieving effective change actions. (Young 2014, Klenk *et al.* 2017)**

April 2019



## 7. Identify key success factors and celebrate team achievements

In order to keep the effectiveness of the work and the motivation of the team it is very relevant that key success factors are identified, so that they can be enhanced and continue to be pursued. When a target is achieved, or a group within the team has a good performance and good results this should be published and celebrated as a global achievement for ALL.

This playing role contributes to keep all informed on the successes and helps to understand that such factors are relevant to keep motivation and the team spirit.

Prizes awarded to BINGO or media news on the project, even if related specifically to one of the six research sites, were always published/communicated to all the team with joy and enthusiasm, as being ALL team achievements.



## 8. Prepare for long-term processes and deal with uncertainty

Establishing collaborative management in the scope of climate change adaptation is a long-term process, involving many aspects that are by no way predictable. This issue of “being prepared to deal with uncertainty” is in some way connected with the subject of “develop capacity to adapt and move forward” referred in to guideline 6.

In the case of BINGO project we knew there were 4 years to go, although all the process, from the first stage of proposal preparation took more than 5 years. We are a consortium with 20 partners from 6 different countries. Even though 4 years is not exactly a long period of time, the project had to deal with changes in the team, people getting retired or moving to another institution, changes in the person-month values for organisations in countries facing government/policy contingency measures, etc.

The fact that BINGO was invited to be one of the 3 projects co-organising the European Climate Change Adaptation Conference, ECCA 2019, in Lisbon was an unexpected event that was faced through in the light of “adapt and move forward”!

April 2019

If from the starting of a process with keep in mind there is uncertainty along the process, and face every step with serenity and resilience is crucial for not getting demotivated or lost.



## 9. Develop a virtuous ongoing cycle of preparation, response and revision

This is the ***stop and rethink*** guideline, allowing for a growing awareness of each of the processes concerning the previous guidelines. Although one can acknowledge the value of each of the 8 previous guidelines and place them into practice, there is always potential for improvement. Experience and practice have several levels, and if one does not allow some distance to the events and the opportunity to revise them, one may miss important teachings that can improve the action in future similar situations.

Therefore it is very relevant for a continuous improvement and maturation of the practice that the responses are revisited and revised.

April 2019

### 3. REFERENCES

Barbosa A.E. and Matos R. (2017) Water Management in a changing climate: Research at the service of society. *14<sup>th</sup> ICUD 2017*, Prague – Czech Republic. Session title: 6.8 Governance and institutions, pp 7.

Beier P., Hansen L.J., Helbrecht L., and Behar D. (2016) A How-to Guide for Coproduction of Actionable Science. *Conservation Letters*, September 2016, 00(0), pp. 1–9.

Klenk, N., Fiume A., Meehan K., & Gibbes C. 2017 Local knowledge in climate adaptation research: moving knowledge frameworks from extraction to co-production *WIREs Clim Change*, e475. doi: 10.1002/wcc.475

Matos R., Barbosa A.E. and Fleming P. (2019) Advice in Collaborative Management in Climate Change Adaptation. European Climate Change Adaptation 2019, Lisboa. Session theme: Institutions, governance, citizens and social justice.

Young, C. (2014) The problem solution framework: process guidance for adaptation practitioners. *VISES Climate Change Working Paper No. 19*, Victoria Institute of Strategic Economic Studies, Victoria University, Melbourne.