An upscaling approach for climate services:

Toolkit

Helping climate services move from pilots and case studies to sustainable and/or transferable services

and

scaling existing services to increase reach and impact.

What is upscaling?

Upscaling is the process of moving beyond a pilot or case study to routine, repeatable services that are accessible and useful. It also includes making changes to existing services to increase reach and impact.

Benefits of developing a considered approach to upscaling climate services include:

- reaching more people and organisations
- providing services of high credibility and quality, leading to long-lasting positive impacts
- a well-planned process, based on evidence of success and benefit

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For this toolkit, we use the term climate services in the broadest possible sense, namely that 'Climate services are generally defined as the provision of climate information to meet the established decision-making needs of users' (reference [1]).

What is this toolkit?

This document, the accompanying worksheet, infographic, and explainer are intended to act as a toolkit, supporting efforts to upscale a climate service.

This toolkit provides a structured approach to aid thinking. It intends to raise considerations and spark discussions regarding a variety of themes, then takes the findings and supports the formulation of an upscaling strategy. The material **does not** cover the practical implementation of the strategy – and rather than replacing a detailed business plan or work plan, following the materials can inform the creation of such plans.

The concepts, methods, and material in this toolkit come from – or build on – a wide variety of scaling literature. References and sources are laid out in detail at the end of this document.

The questions and reflection raised by the different activities laid out within this material are **designed to be challenging**. However, the potential outcome of following this process is an improved climate service with more benefits for both the users and providers.

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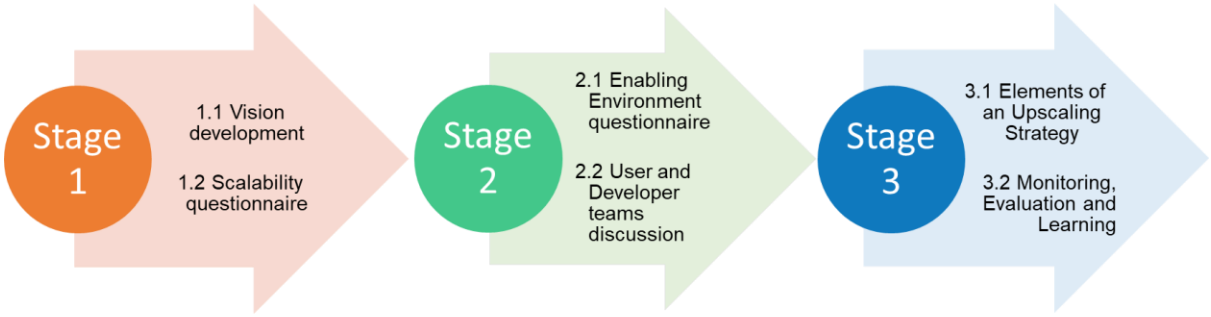
The climate services upscaling approach



The approach is organised into **three stages, each with two steps**, as shown in the diagram above. The toolkit is designed to prompt thinking and discussion. It may well be that thinking is more mature in some Stages than others, such that less time is spent on these. Conversely other areas may take more time and need to be revisited. This will also be determined by the nature of the climate service to which it is applied. In testing we found that a facilitated, or workshop-style, implementation of the approach works well.

Grey boxes throughout this toolkit indicate outcomes which should be input into the accompanying worksheet.

Glossary of helpful definitions

- **Innovation:** The process, service or product which is to be upscaled, which may also include communication and engagement activities.
- **Scaling dimension:** The type of upscaling; reaching many (horizontal), enhancing the enabling environment (vertical), and expanding the product or service's features (functional). **Efforts to upscale an innovation may include a combination of these components.**
- **Scaling ambition:** Answers to what will be upscaled, where, when, how much, for whom, by whom, and why? What is the anticipated impact? Together with the dimension, this forms the **scaling vision**.
- **Innovation scalability**: The potential of the innovation to be upscaled given its attributes and characteristics.
- **Enabling environment:** External factors, which can be thought of as **drivers,** which are forces and opportunities that push the scaling forwards (e.g. leadership and champions, incentives and accountability) within **spaces/themes**, where the scaling can grow (e.g. institutional, policy and/or legal frameworks, political, financial).
- **User team:** Those who will use or benefit from the upscaled innovation. This may be a specific decision maker, a team within an organisation, or a wider group or network.
- **Developer team:** Those who will develop and deliver the upscaled innovation.
- **Co-production:** Collaborative interactions between the developer and user teams during the development of the climate service. Some key principles of climate service co-production from the literature are: inclusive, collaborative, flexible, decision-driven, process-based, time-managed (reference [2]).
- **Scaling strategy**: A plan to reach the scaling vision, informed by the innovation scalability, enabling environment, and user and developer teams.
- **Monitoring, evaluation, and learning**: All the above aspects can be monitored and evaluated while the upscaling process is underway. Any changes or lessons can then be used to update the scaling vision and strategy, how they are implemented, or the service itself.
    - Throughout the toolkit you will be asked to think about what aspects of the climate service, and its development and use, can be monitored.
    - After identifying these, think about what an appropriate way would be to quantify and assess them, and ultimately what learning this informs.
    - **Step 3.2 includes some resources to help with considering monitoring, evaluations, and learning.**

STAGE 1 – What do you want to achieve with upscaling and is the innovation ready?

Step 1.1 – Develop the vision

The **vision** sets out what the upscaling task is. This is a combination of the **dimension**(s) of the upscaling task (horizontal, vertical, functional), and the **ambition** (what, where, when, how much, for whom, by whom, why?).

This sets out what the 'upscaling strategy' (to be developed in Stage 3) aims to achieve.

Step 1.2 – Evaluate the innovation characteristics and assess scalability

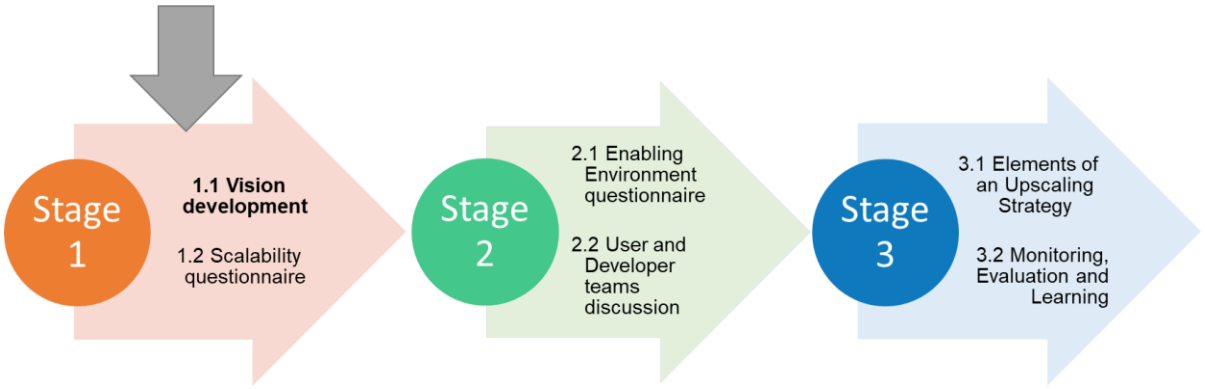
The **scalability questionnaire** assesses all the attributes and factors that affect how easily the product or service can be upscaled to meet the vision.

This helps determine whether to begin with scaling in the first place, and what issues may need to be addressed in the scaling strategy.

These steps ensure following these good practices

- Upscaling when strong evidence of positive impacts and efficiency exist.
- Balancing generalising and adapting prototypes.
- Setting a clear goal for the upscaling process.

Step 1.1 – Vision development: what the scaling strategy will aim to achieve



To start an upscaling process there needs to be a recognition and understanding of the **purpose of the innovation and the potential for it to bring positive benefits to its users**. This can be captured through a **vision** for upscaling, which includes a **SMART** (**S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**imebound) **scaling ambition**.

Through following the exercises in this step we will aim to establish:

- **What is the dimension of the scaling ambition? (i.e., what type of scaling)**
- **What should be upscaled, where, when, how much, for whom, by whom, and why?**
- **What is the "to be" state that is envisioned?**
- **How will this be measured?**

If the answers to these are well established, you may wish to skip forwards to just articulating a scaling vision!

Expect to spend around an hour developing the vision, although discussions in a workshop format may take longer.

Much of the material in this section has been inspired by, and adapted from, reference [3] and more detail can be found in those resources.

Determining the dimensions of scaling

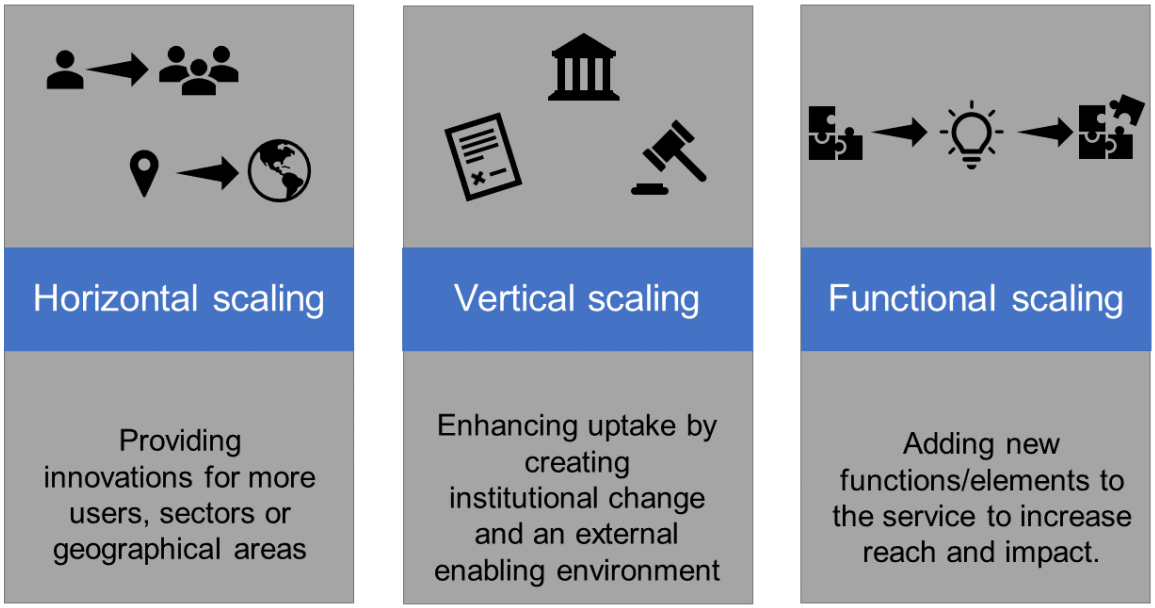


Figure 1: The dimension of upscaling considered in this upscaling framework. Adapted from Guentchev et al. (2023).

Is your upscaling effort aimed at horizontal (expansion/replication), vertical (institutional), or functional upscaling, or a combination of these? Record your answer, and any relevant notes in ***the worksheet (1.a)****.*

Before formulating the upscaling vision, answer the following questions on the ambition:

a) What is being scaled?

b) Where will it be scaled – who will use the service?

c) When will it be scaled?

d) How much will it be scaled?

e) For whom will it be scaled?

f) By whom will it be scaled?

g) Why will it be scaled?

Record these answers in ***the worksheet (1.b)****.*

After answering these questions – create a scaling ambition

- Formulate a **SMART (Specific, Measurable, Achievable, Realistic, Timebound)** scaling ambition like this:

> ***By*** (date), (leading organisations) ***want to increase adoption/functionality of*** (technology/practice) ***from*** (current amount) ***to*** (future amount) (target group) ***in*** (intervention area) ***for*** (contribution to system change)

- The scaling ambition can be accompanied by statements outlining **how progress towards the vision can be measured** in a monitoring, evaluation, and learning (MEL) framework – this will be collated and built on in Stage 3.

Please record the scaling ambition in the left-hand column of ***the worksheet (1.c)****.*

After development of the vision, we suggest considering the **system** in which the innovation will operate (sector structure, regulation, market positioning), as well as any **responsibilities** which should be considered (e.g., environmental, or social), before updating it if required.

System check & Responsibility check

a. **System check:** Does your scaling ambition contribute to wider and sustained changes in the climate service sector you are operating in? If so, **what is the "to be" state that these changes will bring?**

b. **System check:** Consider this analytical framework for positioning the scaling initiative within (user) sector or (climate services) market change – using Table 1 below (see also the figure on page 7 of reference [3]).

- Indicate in which phase the proposed upscaling starts and which phase it aims to reach?
- What changes in the sector are required to reach your scaling ambition?

c. **Responsibility check**

- Equality and ethics – consider aspects such as equality of access in use, inclusiveness, and power equity in development.
- Environmental responsibility – discuss potential negative side effects resulting from use of the innovation (e.g., use of resources, decisions which the service informs)

d. **Write the revised Scaling ambition** keeping in mind the Responsibility and System checks.

Table 1: Analytical framework for sector positioning of the innovation and its impact.

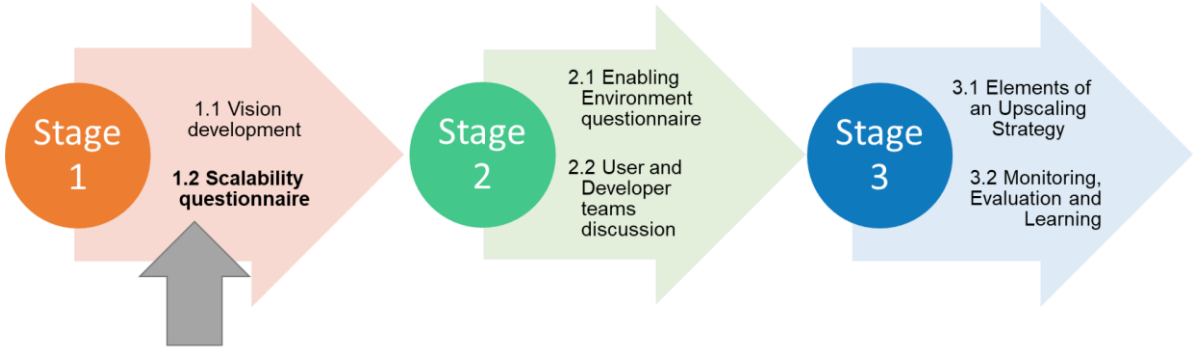
1. Inception	2. First Movers	3. Critical Mass	4. Institutionalisation
• Awareness about an underlying problem or need slowly rises • Climate service providers initiate innovations to address them	• First movers in creating or using the innovations gain some direction, coherence, or influence • The innovation is tested and improved in collaboration with stakeholder groups	• Sector stakeholders cooperate and push use as the benefits of the innovation become clear • The innovation is a commonly requested climate service	• A level playing field emerges, and the former "to be" state becomes the "as is" state in the sector(s) • Institutionalisation of the new normal is lobbied for, making it part of legal or climate services frameworks, for example

*Record any notes related to these additional considerations, and an updated scaling ambition if required in **the worksheet (1.c)**.*

Outcomes from Step 1.1

Now that you have formulated your **upscaling vision**, you should now have **a clearer idea of what you are hoping to achieve with upscaling – including what type(s) of upscaling is/are involved, what is the "to be" state you are trying to reach, and how you will measure your progress**. You will need to keep this vision in mind as you follow the rest of the approach.

Step 1.2 – Assess the scalability of the innovation



Now that the upscaling vision has been established, it's important to assess the readiness of the innovation for scaling.

An innovation should be **CORRECT – Credible, Observable, Relevant,** providing **Relative advantage, Easy** to install and understand**, Compatible, Testable** (reference [6]). Determining if the characteristics of the innovation and the environment can support successful upscaling, and warrant starting the upscaling process, is the aim of this step.

This step focuses on the **Scalability Assessment,** where scalability is understood as the **potential of an innovation to be scaled up** (reference [7]). The assessment allows a quick evaluation of the conditions that could justify (or stand in the way of) starting an upscaling process. Table 2 below shows the themes covered by this assessment.

- Depending on the available time and how you are using the toolkit you may just wish to discuss these themes, or a sub-selection of them, directly without answering the questionnaire.
- **Expect to spend around an hour assessing the scalability of the innovation** when using the questions below, although discussions in a workshop format may take longer.
- Answers and comments will be used in Stages 2 and 3 to indicate topics or themes which need to be addressed in the development of a scaling strategy.
- While the scalability of the innovation/service and the state of the enabling environment are closely linked, here **the focus should be on changes or improvements that can be made to the service itself**. Step 2.1 will look at the enabling environment, and how it could be influenced, in more detail.
- **Challenging questions or negative responses should not dissuade you from improving or upscaling a climate service, they will just inform how to go about it.**

Table 2: The scalability questions are grouped under the themes in this table. Answering them and then reviewing them provides a mechanism for assessing current scalability, and identifying potential issues that the scaling plan should address

Existence of and target of the scaling up strategy	Credibility, relevance, and observability of the innovation	Relative advantage over existing practices	Ease of transfer and adoption	Fit between the innovation and the adopting/user organisation
Engagement with key stakeholders	Constituents, Drivers, and Champions	Monitoring, Evaluation and Learning	Support for change	Sustainable source of funding and resource

Scalability Questionnaire

The outcomes of this questionnaire are intended to inform the development of the upscaling strategy by highlighting areas where further improvements, new approaches, and/or careful considerations will be needed for the upscaling process to be successful, as well as emphasising positive factors that need to remain in place so they will continue to support scaling. **Take note of the questions that seem the most important as you go through them**.

- Please respond to each of the questions below (recording your answers in ***the worksheet, 1.d***) with one of the following responses:
  - **No**
  - **Yes, in progress, partly** – the question is being addressed, you are aware of it, or it is not a clear barrier
  - **Yes, completely**
  - **N/A –** Not relevant or applicable
- Skip questions which are not relevant to the application. You may wish to **prioritise questions marked with [Priority]** if time is limited.
- **This isn't a tick box exercise** – these are questions that are designed to get you thinking beyond obvious considerations.
- These questions are deliberately generic to be appropriate to all situations so they will need to be interpreted for each application. Please don't dwell too long on the intended meaning but consider clarifying this in the notes.

Topic	Questions related to potential scalability
Existence and target of the scaling strategy	1. **[Priority]** Is there a pre-existing clear and compelling strategy/plan to reach scale?
	2. **[Priority]** Are the target user/stakeholder group and setting homogeneous? (Geography, economy, sector, type of organisation, vulnerability, impactful hazards)
	3. **[Priority]** Does the innovation address a persistent problem or issue? (Persistently over time, or across user groups)
	4. **[Priority]** Does the innovation have the potential to benefit a high number of users and stakeholders across multiple locations or settings?

Topic	Questions related to potential scalability
Credibility, relevance, and observability of innovation	5. **[Priority]** Have considerations about equity been considered or implemented? (Large vs small user organisations, available resource, age, gender, accessibility)
	6. **[Priority]** Is the innovation of a high technological/scientific readiness level? (As defined here)
	7. **[Priority]** Has the innovation been through independent external evaluation or review?
	8. **[Priority]** Is the innovation as simple as possible without jeopardising outcomes? (Later this will relate to ease of use and implementation)
	9. Is there evidence that the innovation works in diverse contexts?
	10. Is the innovation's benefit tangible and easily observable to potential adopters?
Relative advantage over existing practices	11. Are the current solutions considered **inadequate**? (Or don't exist at all)
	12. Is the innovation known/thought to be more effective than current solutions and other alternatives? (By potential or current user and stakeholder groups)
	13. Does the innovation have a substantially lower cost than other solutions? (Including time and resource)
Ease of transfer and adoption	14. **[Priority]** Can the innovation be implemented by users with their existing systems, infrastructure, and employee skills?
	15. **[Priority]** Is the innovation able to be tested by the developers or users on a limited scale? (Or has it been already)
	16. **[Priority]** Can the innovation be used for multiple purposes beyond the initial aim that increases its value?
	17. **[Priority]** Can the innovation be easily adapted or extended by the developer team to meet the upscaling goals? (E.g., the data used are available across geographic regions, relevant climate variables or metrics are readily available)
	18. Does using the innovation represent a small departure from current processes, practices and decision-making approaches of target organisations?
	19. Is it easy for the innovation to be adopted? (e.g., Is the number of decision-makers involved in agreeing to adopt the innovation small? Is adoption motivated by regulation?)
	20. Is adoption of the innovation aligned with the existing socio-cultural norms or behaviours of the target areas or population? (Within the user community, or those affected by using the innovation)
Fit between the innovation and the adopting/user organisation	21. **[Priority]** Does the adopting/user organisation(s) have the capacity to implement/use the innovation? (Including time and resources)
	22. **[Priority]** Is it easy to implement any required training and extension support for the innovation?
	23. Does the adopting/user organisation(s) have leadership teams, norms and incentives consistent with using the innovation? (e.g., a recognised sustainability team or target)
	24. Is there a demonstrable support for the change among staff of the adopting/user organisation(s)?
Engagement with key stakeholders	25. **[Priority]** Is, or has, input about the project/innovation being (or been) sought from a range of stakeholders? (e.g., main users, policy makers, secondary users)
	26. Does the innovation allow for building ownership in the implementing (user) organisation(s)?
Constituents, Drivers, Champions	27. **[Priority]** Does the innovation address an urgent need that is felt acutely? (By users, stakeholders, policy makers etc.)

Topic	Questions related to potential scalability
	28. **[Priority]** Is there a growing demand for the innovation? (e.g., within the user community, policy makers, or the public)
	29. **[Priority]** Are there powerful advocates that support the adoption of the innovation? (Organisations or champions)
Monitoring, Evaluation and Learning	30. **[Priority]** Is there a mechanism for monitoring and evaluation, review of progress and inclusion of new learning in the process of scaling?
	31. Is there a shared understanding among key stakeholders about gathering evidence related to feasibility and outcomes prior to, or during, scaling?
	32. Are actions in place to assess and document outcomes, feasibility, cost effectiveness as well as the process of implementation/usage?
Support for change	33. **[Priority]** Is there an agreed-upon expectation and leadership on the extent to which the innovation is to be scaled up? (Within the stakeholder/institutions community, or project leadership)
	34. **[Priority]** Does the innovation address an issue that is high on the policy agenda?
	35. **[Priority]** Have the opportunities and constraints of the political, policy, sectoral and other institutional factors been considered?
	36. Is the innovation consistent with the existing national, or international, climate variability and change policies, plans and priorities?
	37. Is scaling of the innovation **unlikely** to be impeded by opposition from vested interests in the private value chain* or from public sector actors**?
	38. Are there plans to advocate for changes in policies, regulations needed to institutionalise the innovation?
Sustainable source of funding and resource	39. **[Priority]** Is the innovation funded by a sustainable source? (self-financing, commercially viable, public financing)
	40. **[Priority]** Are additional human and financial resources available to the developer team, that are required during scale-up?
	41. Are there considerations for early and continuous engagement with partners, donors and stakeholders to build a broad base of financial support for scaling?

* Definition from reference [3] - **Value Chain** - Effective links between actors to pursue their business cases***. A value chain refers to the full lifecycle of the technology or practice that is to be scaled, including material sourcing, production, processing, and consumption/use by the end user. Different actors along this value chain (often but not necessarily businesses) each add value to the technology/practice through various processes to (1) create a finished end-product and (2) sell the finished innovation to the end-user.

** An **actor** in the Unified Modelling Language (UML) "specifies a role played by a user or any other system that interacts with the subject". Consider all those persons or organisation who may interact with the climate service in some way.

*** Definition from reference [3] - **Business Cases** - Attractive financial/economic propositions for users and other actors to respond to the demand. A business case captures the reasoning for actors along the value chain to produce and supply the technology/practice. All (business) actors will ask themselves: Can I earn from this activity? The business cases involve the economic and financial proposition for each actor along the value chain.

*Please record your answers to the above questions in **the worksheet (1.d)**.*

*Then, for each possible response ("Yes", "Partly", "No", "N/A"), add up the number of responses, and record the totals in **the worksheet (1.e).***

Answering the questions should have highlighted aspects of the innovation where further improvements, new approaches, and/or careful considerations will be needed for the upscaling vision to be met. This should include positive factors that need to remain in place so they will continue to support scaling.

Discuss the questions that stood out as the most important for reaching the scaling ambition that you recorded at Step 1.1.

Record some of the main issues identified, including how they could be monitored and evaluated in ***the worksheet (1.f)***.

Outcomes from Step 1.2

At the end of Step 1.2, with your upscaling vision in mind, you will be starting to understand any **positive factors in place that you will need to retain to support upscaling** (the questions to which you answered "Yes"), and any **additional areas that might need further attention for successful upscaling to take place** (the questions to which you answered "No"). Questions where you answered "Partly" could fall into either category, depending on the context – you may wish to review these further. You may also have found some aspects **not to be relevant** for your upscaling case (questions to which you answered "N/A").

You can also compare the number of answers in each category, to get an idea of **the balance between positive factors, challenges/additional focus areas, and aspects not relevant for your case**.

Finally, you will be starting to think about **how to monitor and evaluate your upscaling progress against the vision** from Step 1.1.

At the end of Stage 1, you have:

- **Created your upscaling vision**
- **Assessed the scalability of your climate service**

Now proceed to Stage 2