



Interreg



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DACCHE

Climate Change Communication Toolkit

A toolkit for heritage organisations, tourism SMEs,
and climate stories rooted in place

This toolkit supports heritage organisations, tourism SMEs, educators, and community partners in communicating climate change through cultural heritage. It begins from the idea that climate change becomes more meaningful when it is connected to specific places, landscapes, objects, practices, memories, and futures. Rather than starting with technology, the toolkit encourages organisations to begin with story: what is changing, who and what is affected, and what forms of dialogue, care, or action the story might inspire.

Drawing on the DACCHE project and the exhibition *Gaskelaante – the land in between*, the toolkit provides a flexible framework for developing climate heritage stories, choosing appropriate digital methods, designing participatory experiences, and evaluating impact. It includes guidance on transmedia storytelling, immersive and non-immersive digital tools, stakeholder involvement, practical implementation, sustainability, and long-term reuse of digital assets.

The toolkit also includes a theme bank and printable worksheets to help organisations move from broad climate concerns to specific, place-based communication projects.

(2026) Climate Change Communication Toolkit – a toolkit for heritage organisations, tourism SMEs, and climate stories rooted in place

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Introduction: Communicating climate change through heritage

Climate change is often communicated through scientific data, global projections, risk assessments, and policy targets. These forms of communication are essential, but they can also feel distant from everyday life. For many people, climate change becomes meaningful when it is connected to places they know, landscapes they care about, traditions they recognise, objects they value, or futures they can imagine.

Cultural heritage offers a powerful way to make these connections. Heritage organisations and tourism SMEs work with the material and immaterial traces of human life: landscapes, buildings, routes, collections, stories, practices, skills, memories, and identities. These are not separate from climate change. They are increasingly affected by changing weather patterns, coastal erosion, flooding, shifting seasons, biodiversity loss, changing land use, and pressure on traditional ways of living. Climate change is therefore not only an environmental issue. It is also a cultural issue, because it affects how communities remember, use, understand, and care for the places around them.

This toolkit has been developed through the DACCHE project to support heritage organisations and tourism SMEs in communicating climate change through cultural heritage. Its purpose is to help organisations create climate stories that are engaging, respectful, practical, and action-oriented. These stories may be communicated through exhibitions, guided experiences, digital media, immersive environments, online platforms, public workshops, educational activities, or social media. The aim is not simply to present information, but to create experiences that help people see climate change differently: as something connected to lived places, shared histories, vulnerable landscapes, traditional knowledge, and possible futures.

A central principle of the toolkit is that communication should begin with story, not technology. Digital tools such as photogrammetry, 3D modelling, virtual reality, augmented reality, animation, interactive maps, 360° photography, and online exhibitions can all strengthen heritage communication. They can help visitors explore fragile objects, enter inaccessible landscapes, visualise change over time, or encounter stories in more immersive and memorable ways. However, technology should always serve the story. It should help people see, feel, understand, discuss, access, or care about something that would otherwise remain distant, hidden, fragile, abstract, or difficult to imagine.

The DACCHE exhibition *Gaskelaante – the land in between* provides one example of this approach. The exhibition used the site of Hansmyra, in the mountainous border region between Jämtland and Trøndelag, as an entry point into a wider cultural landscape shaped by Sámi presence, reindeer herding, movement, trade, pilgrimage, seasonal practices, archaeological traces, and climate pressure. Through animation, VR, photogrammetry, film, digital objects, landscape reconstruction, knowledge resources, and youth manifestos, the exhibition connected past, present, and future in order to show how cultural landscapes are shaped by relationships between people, nature, objects, practices, and memory.

The toolkit builds on this experience, but it is not a recipe for recreating the same exhibition. Instead, it offers a flexible framework that other organisations can adapt to their own places, audiences, resources, and climate challenges. It also draws on participatory workshop methods developed during the DACCHE project, where heritage staff explored how digital

technology could strengthen audience engagement and storytelling, while also considering organisational capacity, feasibility, maintenance, and long-term sustainability.

The approach taken here is based on a simple idea: climate change communication becomes more powerful when it moves from the general to the specific. Large-scale facts and statistics matter, but people often respond more strongly to identifiable stories: one place, one object, one family, one practice, one route, one landscape, one memory, one future at risk. Stories can make information more memorable, emotionally resonant, and easier to share. They can also open space for dialogue, care, and action.

For this reason, the toolkit encourages organisations to ask:

What is changing here?

Who and what is affected?

What stories, objects, practices, or places can help people understand that change?

What future do we want visitors, communities, and decision-makers to imagine?

What forms of dialogue or action might this story inspire?

By working through these questions, heritage organisations and tourism SMEs can become important actors in climate communication. They can help audiences understand that climate change is not only happening elsewhere, in the future, or in scientific reports. It is already reshaping cultural landscapes, community knowledge, local identities, and relationships with place. Through thoughtful storytelling, careful use of digital tools, and meaningful dialogue with communities, heritage can help people recognise what is at stake — and what may still be possible.

Why stories matter in climate communication

Climate change communication often faces a difficult challenge: the issue is urgent, but it can also feel distant, complex, statistical, and overwhelming. Global temperature targets, emissions pathways, sea-level projections, and biodiversity data are essential for understanding the scale of the problem, but they do not always help people connect climate change to their own lives. For many audiences, climate change becomes more meaningful when it is encountered through a specific place, person, object, practice, or memory.

This is where cultural heritage can play a powerful role. Heritage stories make climate change tangible. They connect environmental change to landscapes people recognise, traditions they value, skills they have inherited, buildings they pass every day, routes they walk, objects they care for, and futures they can imagine. A story about changing snow conditions in a reindeer-herding landscape, for example, can communicate more than a general statement about warmer winters. It can show how climate change affects movement, grazing, knowledge, livelihoods, identity, and relationships between people and place.

Stories are also memorable. Information presented as isolated facts can be difficult to retain, especially when the subject is complex or emotionally demanding. When information is embedded in a story, audiences are more likely to follow it, remember it, and share it with others. The presentation *Reaching and Appealing to a Target Audience* makes this point by distinguishing between bullet-point information and narrative experience. It notes that stories engage more than language processing alone: they can activate the parts of the brain

associated with imagining or experiencing the events being described. The same presentation also highlights the importance of lasting memory, noting that facts are easier to recall when they are part of a story rather than presented as isolated data.

This does not mean that facts and evidence are unimportant. On the contrary, climate heritage stories should be grounded in reliable knowledge, careful research, and respectful collaboration with communities and experts. The point is that facts often become more powerful when they are connected to a human or place-based narrative. A climate story can hold together evidence, emotion, memory, and meaning. It can help audiences understand not only what is changing, but why that change matters.

One useful communication principle is that people often respond more strongly to specific, identifiable stories than to large-scale statistics alone. The audience presentation illustrates this through two charity campaign examples: one centred on the story of Rokia, a seven-year-old girl facing hunger in Mali, and another presenting statistics about millions of people affected by food shortages across several countries. The personal story was more effective in generating charitable donations because it gave audiences someone specific to imagine, care about, and respond to.

For climate heritage communication, this principle should be used carefully. Communities, Indigenous groups, and people affected by climate change should not be reduced to passive victims or emotional devices. The purpose is not to exploit vulnerability, but to avoid making climate change so large and abstract that people cannot relate to it. A specific story can open the door to a wider issue. One place can reveal a changing landscape. One object can point to a disappearing practice. One route can show shifting patterns of movement. One person's account can help visitors understand how climate change affects knowledge, identity, and everyday life.

The DACCHE exhibition *Gaskelaante – the land in between* demonstrates this approach. Rather than beginning with climate change as an abstract global phenomenon, the exhibition began with Hansmyra, a specific site in the mountainous border region between Jämtland and Trøndelag. From this site, the story expanded outward to address Sámi presence, reindeer herding, archaeological traces, historic movement across the mountains, changing climate conditions, and questions about the future of vulnerable cultural landscapes.

A climate story therefore works by moving between the specific and the general. It begins with something identifiable: a landscape, a practice, an object, a memory, a person, or a moment of change. It then helps audiences see how this specific example connects to larger questions: climate risk, cultural continuity, adaptation, loss, responsibility, and possible action. In this way, heritage communication can make climate change not only understandable, but meaningful.

For organisations developing their own climate stories, the key questions are:

What specific place, object, practice, person, or memory can help audiences understand the wider climate issue?

What evidence needs to be included so the story remains accurate and trustworthy?

What emotional connection might help people care without overwhelming them?

What should audiences remember after the experience?

What conversation or action might the story make possible?

The aim is not to replace scientific communication, but to complement it. Climate stories can translate evidence into experience. They can help audiences move from knowing that climate change is happening to understanding what it means for places, communities, and futures that matter.

Core principles for climate heritage communication

Climate heritage communication works best when it begins with the meanings people attach to places, practices, objects, and landscapes. Digital technology can support this work, but the foundation is interpretive: What story needs to be told? Who is connected to it? What is changing? Why does it matter? What kind of response might the story invite?

The following principles can help heritage organisations and tourism SMEs develop climate stories that are meaningful, respectful, and practical.

Start with place, not technology

A climate story should begin with a place, landscape, site, object, route, building, collection, practice, or community concern. Technology should come later, once the organisation has identified what needs to be communicated and why. Starting with technology can lead to impressive but shallow experiences. Starting with place helps ensure that the story remains grounded in heritage, memory, knowledge, and lived experience.

This does not mean that digital tools are secondary or unimportant. Photogrammetry, VR, AR, 3D modelling, animation, film, sound, maps, and online exhibitions can all help audiences encounter heritage in new ways. However, the question should always be: What does this tool help people understand, access, feel, discuss, or care about?

Connect past, present, and future

Heritage gives climate communication a longer time perspective. It allows organisations to show that landscapes and communities have always changed, while also making visible the distinctive pressures created by contemporary climate change. A climate story can move between what happened here, what is changing now, and what futures may still be possible.

This temporal movement was central to *Gaskelaante – the land in between*. The exhibition used a specific site, Hansmyra, as a way into a wider story of Sámi presence, reindeer herding, archaeological traces, movement across the mountains, and current climate pressure. Its animated story moved between present-day experience, historical moments, and future questions.

Make the landscape cultural as well as natural

Climate change is often framed as an environmental issue, but cultural landscapes are shaped by relationships between people, animals, practices, routes, economies, beliefs, memories, and ecosystems. A mountain, coast, forest, river, farm, route, or settlement is rarely only “nature.” It may also be a working landscape, a sacred landscape, a family landscape, a colonial landscape, a migration landscape, a tourist landscape, or a landscape of traditional knowledge.

The *Gaskelaante* material is especially useful here because it challenges the idea of the mountain landscape as untouched wilderness. Instead, it presents the border region between Jämtland and Trøndelag as a landscape shaped through long histories of Sámi presence, reindeer herding, pilgrimage, trade, summer farming, archaeological traces, and contemporary use.

Move from the general to the specific

Climate change can become overwhelming when communicated only through global statistics or large-scale scenarios. A specific story can make the issue more graspable. One site can help audiences understand a wider landscape. One object can open up a discussion about traditional knowledge. One practice can reveal changing seasonal rhythms. One person's testimony can make visible the lived consequences of climate change.

The aim is not to simplify climate change, but to give audiences an entry point. Specific stories can help people connect emotionally and intellectually before they are asked to consider larger systems, risks, or responsibilities.

Create dialogue rather than guilt

Climate communication can easily become paralysing if it relies only on fear, loss, blame, or catastrophe. Heritage organisations are well placed to create more reflective forms of engagement. They can invite people to consider what they value, what they have inherited, what is being lost, what should be cared for, and what futures they want to contribute to.

This does not mean avoiding difficult truths. Climate heritage stories may involve damage, injustice, conflict, loss, and uncertainty. However, they can also foreground care, continuity, resilience, adaptation, responsibility, and shared dialogue. The purpose is not only to tell people what is wrong, but to help them recognise what matters.

Respect knowledge holders and communities

Climate heritage stories often involve local knowledge, traditional practices, Indigenous heritage, family histories, oral traditions, and community attachments. These should not be treated simply as content to be extracted. Organisations need to consider who has the right to tell the story, who should be involved in shaping it, and how knowledge should be represented, credited, protected, or withheld.

This is especially important when working with Sámi heritage, traditional ecological knowledge, sacred places, community memory, or contested landscapes. Respectful communication may require collaboration with knowledge holders, careful consent processes, shared interpretation, and recognition that not all knowledge is appropriate for public display.

Use digital tools purposefully

Digital technology can strengthen climate heritage communication by making fragile, distant, hidden, or inaccessible heritage easier to encounter. It can also help visitors explore objects in new ways, visualise changes over time, experience reconstructed landscapes, or access exhibitions remotely. The DACCHE materials include examples such as drone footage, 360° capture, photogrammetry, VR objects, animation, interviews, and digital exhibition elements.

At the same time, digital technology brings practical and ethical responsibilities. It may require specialist skills, maintenance, staffing, funding, accessibility planning, data storage, troubleshooting, and cultural sensitivity. It can also distract from the heritage story if the technology becomes the main attraction. The purpose of digital technology should therefore be tested against the story it is meant to support.

Plan for sustainability from the beginning

A digital climate story does not end when an exhibition opens or a campaign is launched. Organisations need to consider who will maintain the technology, update the content, support visitors, manage rights and permissions, preserve digital files, and keep the story alive after project funding ends.

This principle emerged clearly from the DACCHE workshop material, where participants were asked to consider practical frames such as maintenance responsibility, premises, finance, organisational opportunities, and barriers. It also reflects the experience of the *Gaskelaante* exhibition, where VR created strong visitor engagement but required staff guidance, supervision, charging, troubleshooting, and careful management during opening hours.

Taken together, these principles encourage a balanced approach. Climate heritage communication should be imaginative, but also grounded. It should be emotionally engaging, but not manipulative. It should use technology where useful, but not depend on novelty. Most importantly, it should help people understand climate change through places, stories, and relationships that matter.

The DACCHE climate story framework

This framework is designed to help heritage organisations and tourism SMEs develop climate stories that are grounded in place, informed by heritage, and supported by appropriate communication methods. It is based on the experience of the DACCHE project, especially the development of *Gaskelaante – the land in between*, but it is intended to be flexible. It can be adapted for museums, cultural landscapes, visitor centres, local history groups, tourism providers, community organisations, schools, or digital exhibitions.

The framework follows seven steps:

- 1. choose the theme**
- 2. choose the site or heritage focus**
- 3. identify the layers of the story**
- 4. gather material**
- 5. develop the narrative**
- 6. choose formats and media**
- 7. invite reflection and action**

The steps do not always need to happen in a strict order. In practice, organisations may move back and forth between them as new knowledge, partners, resources, or constraints emerge. A chosen site may reshape the theme. A community workshop may reveal a stronger story than

the one first imagined. A digital tool may prove less suitable than expected. The framework should therefore be used as a guide for development, not as a fixed recipe.

Step 1: Choose the theme

Begin by identifying the climate-related theme you want to explore. This might be a direct climate impact, such as coastal erosion, flooding, warmer winters, changing snow conditions, drought, biodiversity loss, or damage to buildings and archaeological sites. It might also be a broader issue, such as changing land use, pressure on traditional livelihoods, tourism and environmental responsibility, renewable energy transition, or the loss of local and traditional knowledge.

The theme should be specific enough to guide the story, but broad enough to connect with wider questions. For example, “climate change in the Arctic” is too large to communicate meaningfully on its own. “Changing snow conditions and reindeer herding in this landscape” gives audiences a clearer point of entry.

A useful starting question is:

What climate-related change is already affecting this place, community, practice, object, or landscape?

Step 2: Choose the site or heritage focus

Once the theme is clear, choose a site or heritage focus through which the story can be told. This may be a landscape, route, building, object, collection, archaeological site, working practice, seasonal tradition, or community memory. The focus should help make the theme tangible.

In *Gaskelaante – the land in between*, the DACCHE project used Hansmyra as a specific site through which to explore a much wider cultural landscape in the border region between Jämtland and Trøndelag. Hansmyra was chosen because it connected archaeological evidence, Sámi presence, reindeer herding lands, historic movement across the mountains, and present-day questions about climate change and landscape use.

This illustrates an important principle: one well-chosen place can open up a much larger story. The chosen focus does not need to explain everything. It needs to give audiences somewhere to begin.

Useful questions include:

Why this place?

What does it help us see?

What wider landscape, history, practice, or climate issue does it represent?

Step 3: Identify the layers of the story

Climate heritage stories are rarely about one thing only. They often involve several layers: environmental change, cultural memory, material heritage, local knowledge, daily practice, conflict, adaptation, and future uncertainty. Identifying these layers helps avoid reducing the story to either “climate impact” or “heritage loss.” It allows the organisation to show how landscape, people, objects, and practices are connected.

Possible layers include:

landscape and environment
buildings, sites, routes, and archaeological traces
museum objects and collections
oral histories, memories, and family stories
traditional and local knowledge
livelihoods, skills, and seasonal practices
climate pressures and visible change
policy, land use, tourism, or green transition
future scenarios, hopes, fears, and responsibilities

The *Gaskelaante* exhibition combined several of these layers. It presented the landscape itself, 3D models of Sámi objects connected to reindeer herding, an animated historical story, film clips with reindeer herders, knowledge resources about climate pressure, and youth manifesto texts about future responsibility.

A useful mapping question is:

What becomes visible when we connect the landscape, the people, the objects, the practices, and the climate pressure?

Step 4: Gather material

The next step is to gather the material needed to build the story. This may include historical research, collection research, interviews, community workshops, site visits, photography, film, sound, maps, archive material, climate evidence, oral histories, digital scans, drone footage, 360° images, or photogrammetry.

The purpose of gathering material is not only to collect content, but to deepen the organisation's understanding of the story. Some of the most important material may come from people who know the place through lived experience: local residents, guides, elders, practitioners, land users, craftspeople, young people, or community organisations.

In the DACCHE case, the team visited Hansmyra with guidance from a former reindeer herder and archaeologist who knew the mountainous region well. The site was documented using drone footage and 360° cameras, and trials were made with photogrammetry to capture selected elements of the site.

Useful questions include:

What evidence do we need?

Whose knowledge should shape the story?

What material already exists in our collections or archives?

What needs to be recorded before it changes or disappears?

Step 5: Develop the narrative

Once the theme, focus, layers, and material are in place, the story can be developed. A climate story should not simply arrange information in chronological order. It should guide audiences through a meaningful experience. It may begin with a question, a memory, a journey, an object, a person, a conflict, or a visible change in the landscape.

One useful structure is to connect past, present, and future:

What happened here before?

What is happening here now?

What might happen next?

What choices, responsibilities, or uncertainties shape that future?

In *Gaskelaante*, the animated story began in the present day, followed a character into a time-travel sequence, showed snapshots of life in the landscape over time, returned to the present, and ended by asking what might happen to these landscapes in the future.

The narrative does not need to provide all the answers. In climate communication, an open question can sometimes be more powerful than a closed conclusion. The story should help audiences understand what is at stake and invite them to think further.

Step 6: Choose formats and media

Only after the story has taken shape should the organisation decide how it will be communicated. This is where transmedia storytelling becomes useful. A climate story can be told across several connected formats, each doing something different. A physical exhibition may introduce the theme. A film may bring in community voices. A 3D model may allow visitors to explore an object. A map may show landscape change. A workshop may invite dialogue. Social media may extend the story beyond the visit.

The DACCHE project used multiple formats in combination: animation, VR, photogrammetry-based 3D objects, a virtual landscape, film clips, knowledge resources, and youth manifesto texts. Together, these created a layered exhibition rather than a single communication channel.

The choice of media should be guided by purpose:

What should this format help people see, hear, feel, understand, discuss, or remember?

Not every story needs immersive technology. Sometimes a short film, audio walk, object handling session, guided tour, digital map, projection, or facilitated conversation will be more effective and sustainable than VR or AR.

Step 7: Invite reflection and action

The final step is to consider what the story should make possible. Climate heritage communication should not only transmit information. It should create space for reflection, discussion, care, and action. This may mean encouraging visitors to think differently about a landscape, recognise the value of traditional knowledge, understand the vulnerability of

heritage sites, contribute local memories, support adaptation work, reduce their own impact, or participate in community dialogue.

This step is especially important for heritage organisations and tourism SMEs because they often work directly with visitors, local communities, schools, families, and public authorities. Their role is not only to explain climate change, but to help people connect it to places and futures that matter.

Useful questions include:

What should visitors remember after the experience?

What conversation do we want to open?

What form of care, responsibility, or action might the story encourage?

How can audiences contribute their own knowledge, memories, or ideas?

The DACCHE framework therefore moves from place to story, from story to media, and from media to dialogue. It encourages organisations to begin with what matters locally, connect it to wider climate change, and communicate it in ways that are engaging, respectful, and practical.

Choosing digital tools: opportunity, not obligation

Digital technology can be a powerful way to communicate climate change through cultural heritage. It can help visitors encounter fragile objects, explore inaccessible places, visualise change over time, hear community voices, or experience landscapes in ways that would not be possible through text and images alone. However, digital technology should be treated as an opportunity, not an obligation.

A climate heritage story should not begin with the question, “Should we use VR, AR, an app, or an interactive screen?” It should begin with the story itself: What needs to be communicated? Who is the audience? What should they understand, feel, remember, discuss, or do? Only then should the organisation ask what kind of technology, if any, could strengthen that experience.

The DACCHE workshop *Developing Digital Tools for Awareness and Engagement*, part of the *Our Shared Futures* conference, framed digital tools broadly. They may include hardware and software, online and offline formats, and immersive, semi-immersive, or non-immersive experiences. Examples include mobile technologies, interactive displays, Internet of Things devices, VR, AR, MR/XR, digital twins, photogrammetry, 3D printing, and gamification. This breadth is important. Digital communication does not always mean a headset or a complex immersive installation. It may be a simple digital map, an audio guide, a short film, a social media story, a touchscreen, a 3D model, a projection, or an online exhibition.

The most useful question is not “Which technology is most impressive?” but:

What does this tool help people see, hear, feel, understand, discuss, access, or care about that would otherwise be difficult?

This question keeps the story in control. It also helps organisations avoid choosing technology mainly because it is new, fashionable, or visually striking. Digital tools can attract attention, but attention is not the same as understanding. A technology may draw visitors toward an exhibition, but if it becomes the main focus, the heritage story can be reduced to a

demonstration of equipment. This is one form of the “honeypot effect”: the technology becomes the attraction, while the deeper purpose of the communication is weakened.

The honeypot effect is especially important for climate heritage communication because the subject matter is already complex. Climate change involves scientific evidence, personal experience, cultural meaning, uncertainty, responsibility, and emotion. If the digital experience is too technically demanding, too spectacular, or too disconnected from the story, visitors may remember the device rather than the issue. They may leave saying “the VR was fun” rather than “I understand how this landscape is changing and why it matters.”

This does not mean avoiding ambitious technology. Immersive and interactive tools can create powerful experiences when used with care. In *Gaskelaante – the land in between*, VR allowed visitors to interact with digitised objects and enter a virtual representation of Hansmyra’s winter landscape. Photogrammetry made it possible to handle and inspect digital versions of objects that could not be handled in the same way physically. Film clips, animation, knowledge resources, and youth manifesto texts then placed those digital experiences within a wider story about Sámi presence, reindeer herding, climate pressure, and future responsibility.

The strength of this approach lies in the relationship between story and medium. The VR did not stand alone. It was part of a layered communication experience in which different media did different kinds of work. The animation carried the historical narrative. The 3D objects connected collections to practice. The virtual landscape connected visitors to place. The film clips brought in contemporary voices. The library materials deepened knowledge. The youth manifestos opened questions about the future. Together, these elements helped communicate a cultural landscape rather than simply showcase a technology.

Digital tools can support several forms of engagement. The *Developing Digital Tools for Awareness and Engagement* workshop identified engagement as a movement from passive observation to active discovery, with possible effects on dwell time, cognitive and learning impact, emotional and immersive connection, and social or behavioural outcomes. This is a useful way to think about technology selection. A digital tool may be worthwhile if it helps visitors spend more meaningful time with a story, understand a complex issue more clearly, feel more connected to a place, interact with others, or consider their own relationship to climate action.

At the same time, every digital choice brings practical and ethical considerations. The same workshop highlighted rewards such as personalised experience, multi-sensory engagement, collaborative learning, reduced friction, and wider accessibility, but also risks including cognitive overload, inclusivity, financial barriers, and the need for technical facilitation and infrastructure. These risks should not be treated as reasons to avoid technology, but as design questions to address early.

For example, an immersive VR experience may be engaging, but who will help visitors use the headset? How will hygiene be managed? What happens if the equipment fails? Can people with mobility, visual, auditory, or sensory needs participate? Will children be able to use it? Will it create queues? Does the organisation have the budget and competence to maintain it after launch? If the experience depends on one technically skilled person, what happens if that person leaves?

These questions are not secondary. They shape whether a digital climate story is sustainable. The *Gaskelaante* experience showed that immersive technology can create joy and active engagement, but also that it can be staff-intensive. Visitors often needed guidance, headsets needed charging and supervision, and technical issues required troubleshooting. This kind of planning should be part of the concept from the beginning, not added after the exhibition has been built.

A useful decision test is to ask whether the proposed technology adds genuine communicative value. If the same story could be told more clearly, inclusively, and sustainably through a guided walk, a film, an object handling session, an audio story, a projection, or a simple online exhibition, then those may be better choices. The aim is not to use the most advanced technology. The aim is to create the strongest connection between climate change, cultural heritage, and audience understanding.

Digital technology should therefore be selected through a balance of ambition and realism. It should be imaginative enough to open new forms of awareness and engagement, but grounded enough to fit the organisation's capacity, audience, setting, and long-term purpose. The best digital tool is not necessarily the most immersive or expensive one. It is the one that helps the story do its work.

Digital methods for climate heritage stories

There are many digital methods that can support climate heritage communication. Some are immersive and technically demanding; others are simple, low-cost, and easy to maintain. The aim is not to use as many technologies as possible, but to choose the methods that best support the story, the audience, the setting, and the organisation's capacity.

Digital methods can help organisations make climate change more visible, more personal, and more memorable. They can bring together archive material, oral histories, collections, landscapes, scientific evidence, community voices, and future scenarios. They can also extend the life of an exhibition by making material available online, through social media, or as part of a virtual museum.

The following overview is intended as a starting point. It does not provide detailed workflows, but it can help organisations compare different methods and consider which are most appropriate for their climate story.

Digital method	Useful for	Engagement value	Things to consider
Photography and digital image collections	Documenting places, objects, buildings, routes, events, and visible climate impacts	Familiar, accessible, easy to share, useful for comparison over time	Requires good metadata, permissions, storage, and a plan for long-term organisation
Film and short documentary clips	Bringing in personal testimony, community voices, expert explanation,	Strong emotional and narrative value; can make climate	Requires consent, editing capacity, subtitles, rights management, and sensitivity when

	or visible landscape change	change feel specific and lived	representing people or communities
Audio recordings and oral histories	Capturing memories, traditional knowledge, local place names, practices, stories, or soundscapes	Intimate and accessible; works well for guided walks, exhibitions, podcasts, and online resources	Requires informed consent, careful archiving, translation where relevant, and decisions about what should or should not be public
Digital maps and story maps	Connecting heritage sites, climate risks, routes, landscape change, visitor trails, or community knowledge	Helps audiences understand relationships across space; useful for tourism and education	Requires reliable location data, clear visual design, and care when mapping sensitive or protected heritage
360° photography and video	Giving audiences a sense of place, especially for remote, fragile, seasonal, or difficult-to-access landscapes	Creates semi-immersive experiences without necessarily requiring full VR development	Needs good narration or interpretation; may be less engaging if presented without a clear story
Photogrammetry and 3D scanning	Creating digital models of objects, artefacts, buildings, archaeological features, or landscape details	Allows visitors to inspect, rotate, enlarge, or interact with heritage that may be fragile, inaccessible, or difficult to display	Not all objects scan well; reflective, transparent, delicate, or complex materials may create problems; requires processing time and technical skill
Digital twins and 3D landscape models	Representing sites, buildings, landscapes, or environments as digital records or interpretive spaces	Useful for showing change over time, visualising risk, or preserving a snapshot of vulnerable heritage	Can be resource-intensive; needs clear purpose, technical capacity, and long-term storage planning
Animation	Showing change across time, reconstructing past events, imagining possible futures, or simplifying complex processes	Strong storytelling value; useful when live footage or direct evidence is incomplete	Requires narrative design, visual style decisions, production time, and care not to overstate uncertain reconstructions

Interactive displays and touchscreens	Presenting layered content, maps, object stories, timelines, quizzes, or visitor choices	Encourages active discovery and can support different visitor pathways	Needs robust hardware, accessible interface design, maintenance, and regular content updates
Virtual reality (VR)	Immersive exploration of reconstructed places, digitised objects, inaccessible landscapes, or future scenarios	High potential for emotional engagement, curiosity, and memorable experience	Staff-intensive; requires supervision, hygiene routines, troubleshooting, charging, accessibility planning, and queue management
Augmented reality (AR)	Adding digital layers to physical places, objects, trails, exhibitions, or visitor environments	Can connect the real and digital without removing visitors from the physical setting	Depends on devices, software compatibility, lighting, connectivity, and clear visitor instructions
Mixed/extended reality (MR/XR)	Blending physical and digital interaction in more advanced immersive settings	Can create powerful spatial and collaborative experiences	Often technically complex and costly; requires careful testing, facilitation, and infrastructure
Gamification and interactive challenges	Encouraging exploration, learning, problem-solving, participation, or return visits	Can increase motivation, especially for younger audiences and educational groups	Should support learning and reflection rather than trivialise climate issues or heritage values
Social media storytelling	Extending climate stories beyond the visit, sharing short narratives, images, clips, campaigns, or calls to action	Low-cost, shareable, and useful for reaching wider audiences	Requires consistent tone, moderation, platform knowledge, permissions, and a plan for audience interaction
Online exhibitions and virtual museums	Making exhibitions, collections, stories, and learning resources available beyond the physical site	Increases access for remote audiences and gives project material a longer life	Needs hosting, maintenance, rights clearance, accessibility, content updates, and long-term ownership
3D printing	Creating tactile versions of objects,	Useful for learning, access, and	Requires suitable 3D files, printing capacity,

	replicas, educational materials, or accessible handling objects	engagement where original objects cannot be handled	material choices, and clarity about replica status
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This overview shows that digital methods vary widely in cost, complexity, accessibility, and purpose. A small organisation may not have the capacity to build a VR exhibition, but it may be able to create a strong climate story through short films, oral histories, digital maps, social media, and a simple online exhibition. A museum with existing technical support may choose to combine photogrammetry, interactive displays, and immersive environments. A tourism SME may focus on audio guides, story maps, visitor-generated photographs, or digital trails.

The DACCHE project used several methods in combination. In Gaskelaante – the land in between, drone footage, 360° cameras, photogrammetry, animation, VR, film clips, knowledge resources, and youth manifesto texts were used to create a layered experience of landscape, objects, people, practices, climate pressure, and future responsibility. The Our Shared Futures workshop similarly framed digital tools broadly, including mobile technologies, interactive displays, IoT, VR, AR, MR/XR, digital twins, photogrammetry, 3D printing, and gamification as possible tools for awareness and engagement.

The important point is that these methods do different kinds of work. Some help preserve or document heritage. Some help audiences explore. Some create emotional connection. Some support learning. Some extend access. Some invite participation. A strong climate heritage story may use one method or several, but each method should have a clear role.

Before choosing a method, organisations can ask:

What part of the story is difficult to communicate through conventional means?

What does this method help visitors see, hear, feel, understand, or discuss?

Who might be included or excluded by this method?

What staff, skills, infrastructure, and maintenance will it require?

How will the digital material be preserved, updated, and reused?

The best choice is not necessarily the most advanced technology. It is the method that gives the story the clearest, most meaningful, and most sustainable form.

Designing your own digital climate story

Designing a digital climate story does not need to begin with a finished idea. It can begin with a question, a memory, a concern, a place, an object, or a challenge that staff and community members recognise. The aim is to move gradually from possibility to concept, and from concept to something realistic enough to develop, test, and sustain.

This section presents a workshop process that heritage organisations and tourism SMEs can use to design their own digital climate stories. It draws on participatory methods used during the DACCHE workshop series, including activities developed to help heritage staff explore digital technology, audience engagement, organisational capacity, and long-term implementation. In Adam Palmquist's workshop, the process was organised around three phases: exploration, reflection, and coordination. Participants first explored needs, ideas, and

concepts; then reflected on realism and capacity; and finally coordinated priorities and next steps.

This same structure can be adapted for climate heritage communication.

Phase 1: Explore

The first phase is about opening up possibilities. At this stage, the aim is not to decide which technology to use, but to identify what matters: the stories, memories, concerns, places, audiences, and climate pressures that might form the basis of a climate story.

A useful opening activity is to ask participants to identify memorable moments. In the DACCHE workshop, participants were asked to write two Post-it notes: one positive moment and one challenging moment, then cluster them on a whiteboard to identify recurring themes.

For climate heritage work, this can be adapted as:

Activity: Memorable moments in a changing landscape

Ask participants to write down:

**one meaningful or positive memory connected to a
place, object, practice, route, building, or landscape
one challenging, threatened, or changing aspect of that
same heritage**

The notes can then be grouped into themes. These themes might include changing seasons, loss of access, disappearing skills, visitor pressure, damaged sites, emotional attachment, family memory, traditional knowledge, or uncertainty about the future.

The purpose of the activity is to start from experience rather than from abstract climate categories. It helps the group identify what people already care about and what they are worried about losing, changing, or needing to protect.

Useful questions for this phase include:

What stories do we have to tell?

What places, objects, or practices matter to people?

What changes are people already noticing?

What feels meaningful, vulnerable, difficult, or urgent?

Which audiences do we want to reach?

Phase 2: Generate ideas

Once themes have been identified, the next step is to imagine how they might be communicated. At this stage, participants should think broadly. The aim is not to choose the final solution immediately, but to generate possibilities.

Adam Palmquist's workshop asked participants to choose one theme or need and write down as many ideas as possible for how technology might strengthen or help. The prompts encouraged broad thinking, including apps, sound, interactive surfaces, online solutions, sensors, and storytelling.

For this toolkit, the key question becomes:

How might digital tools strengthen this climate heritage story?

Possible ideas might include:

an audio walk using local memories and soundscapes
a digital map showing landscape change and heritage sites

a short film with knowledge holders or local practitioners
a 3D model of an object connected to a changing practice
a visitor poll about future choices for a landscape

an animation showing change across time
a VR experience of an inaccessible or vulnerable place
a social media series following one object, route, or seasonal practice

a touchscreen timeline connecting archive material, climate evidence, and personal testimony
a youth-created digital manifesto about the future of local heritage

At this stage, quantity is useful. Some ideas may be unrealistic, too expensive, or poorly matched to the story, but they can still help the group understand what kind of experience they want to create.

Phase 3: Sketch a concept

The next phase is to choose one idea, or combine several ideas, and turn it into a clearer concept. This is where the group begins to connect story, audience, technology, goals, and practical conditions.

In the DACCHE workshop, participants were asked to develop a digital idea by considering the visitor experience, the goal of implementation, practical frames such as maintenance responsibility, premises and economy, opportunities, and barriers.

For climate heritage communication, this can become a Digital Climate Story Concept Canvas.

Question	Notes
What is the story?	What place, object, practice, person, route, or landscape is the story about?
What is changing?	What climate pressure, environmental change, or future uncertainty is connected to it?

Who is the audience?	Visitors, tourists, schools, local communities, families, decision-makers, online audiences?
What should the audience experience?	What should they see, hear, feel, understand, discuss, or remember?
What digital method could strengthen this?	Film, audio, map, 3D model, VR, AR, animation, interactive display, social media, online exhibition?
What is the purpose?	Awareness, dialogue, learning, behaviour change, community participation, documentation, preservation?
What do we already have?	Collections, archive material, staff skills, partners, equipment, stories, research, local knowledge?
What do we need?	Funding, technical support, permissions, community input, content development, hosting, training?
What could go wrong?	Technical failure, lack of staff, accessibility problems, cultural sensitivity, cost, maintenance, low uptake?
How will it be sustained?	Who updates, maintains, hosts, facilitates, evaluates, and archives the material?

This canvas should remain practical. It is not a funding application or a technical specification. It is a way to test whether the concept is coherent before committing time and resources.

Phase 4: Test the concept

Before developing the concept further, it should be tested with others. This can be done informally with colleagues, community representatives, visitors, young people, tourism partners, or technical collaborators.

A simple feedback method from Adam Palmquist's workshop is Two Stars, One Wish: participants identify two strengths and one suggestion for improvement.

For climate heritage communication, feedback can focus on four areas:

- 1. Story value: Is the climate heritage story clear, meaningful, and specific?**
- 2. Audience value: Would the experience be engaging, accessible, and memorable?**
- 3. Feasibility: Can the organisation realistically create, maintain, and staff it?**
- 4. Responsibility: Are communities, knowledge holders, and sensitive heritage represented appropriately?**

This phase helps prevent ideas from becoming too technology-led. It also gives the organisation an early opportunity to identify confusion, barriers, risks, or missing perspectives.

Useful feedback prompts include:

What is strongest about this concept?

What would make it more meaningful for visitors?

What might be difficult to understand, access, or maintain?

Whose perspective is missing?

What should be changed before development begins?

Phase 5: Map organisational readiness

A good idea still needs the right conditions to succeed. Organisations should therefore assess their digital maturity and practical capacity before moving into production.

In Adam Palmquist's workshop, participants created a four-field map with the headings: what we do well, what we can develop, what we lack, and potential/gaps. The purpose was to reflect on the organisation's digital maturity.

For this toolkit, the same activity can be adapted as a readiness map.

What we do well	What we can develop
Existing strengths, skills, audiences, collections, partnerships, equipment, communication channels	Areas where the organisation has some experience but needs improvement
What we lack	Potential and gaps
Missing resources, skills, funding, infrastructure, permissions, staff time, technical support	Opportunities, risks, dependencies, partnerships, or unresolved questions

This activity is especially important for digital climate stories because many tools require long-term support. A VR installation, online exhibition, app, or interactive display may be exciting at launch, but it also needs maintenance, troubleshooting, updates, and staff confidence. If an organisation lacks capacity, the concept may need to be simplified, phased, or developed through partnership.

Phase 6: Create a roadmap

The final phase is to turn the concept into a realistic plan. This does not need to be complex, but it should identify the main steps between the current idea and a working experience.

Adam Palmquist's workshop asked participants to create a simple timeline or roadmap, placing actions chronologically from the present to launch and operation, and considering both short-term and long-term needs.

A simple roadmap might include:

Stage	Key questions
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Now	What can we clarify immediately? Who needs to be involved? What is the story focus?
0–3 months	What material can we gather? What permissions are needed? What partners should be contacted?
3–6 months	What prototype, pilot, or small test can we develop? Who will give feedback?
6–12 months	What resources, production work, technical support, or exhibition planning are required?
Launch	How will visitors access the experience? Who will facilitate it? What support is needed?
After launch	Who maintains, updates, evaluates, archives, and improves the digital story?
1–3 years	How can the material be reused, extended, connected to education, tourism, or future exhibitions?

The roadmap should include both creative and practical work. It should cover content, technology, people, permissions, accessibility, maintenance, evaluation, and long-term ownership.

Designing a digital climate story is therefore both an imaginative and organisational process. It requires space for creativity, but also reflection on capacity and sustainability. The strongest concepts are usually those that begin with a meaningful story, choose technology with care, involve the right people, and remain realistic enough to be maintained beyond the initial project or exhibition.

Worked example: Gaskelaante – the land in between

The DACCHE exhibition *Gaskelaante – the land in between* offers one example of how a climate heritage story can be developed through place, narrative, digital methods, physical exhibition design, and visitor engagement. The exhibition was shown simultaneously at Stiklestad Nasjonale Kultursenter in Verdal, Norway, and Gaaltije Saemien Museume in Östersund, Sweden, from July 2025 to March 2026. It focused on the mountainous border region between Jämtland and Trøndelag, using the site of Hansmyra as an entry point into a wider cultural landscape shaped by Sámi presence, reindeer herding, historic movement, archaeological traces, and climate pressure.

The exhibition did not begin with technology. It began with a question: how can a cultural landscape be presented in a way that connects landscape, people, objects, traditions, climate change, and future responsibility? This was important because the mountain landscape is often imagined as wilderness or untouched nature. The DACCHE project instead approached it as a cultural landscape: a place shaped over time by human and non-human relationships, including reindeer herding, hunting, fishing, pilgrimage, trade, summer grazing, archaeological remains, and contemporary land use.

Choosing Hansmyra as an entry point

Hansmyra was chosen because it could make a larger story more specific. The site contains archaeological evidence connected to long-term Sámi presence and is located near Karl Johans väg, an old route between Jämtland and Trøndelag that is now part of the St Olav pilgrimage route. It is also connected to reindeer herding lands, making it possible to link historical landscape use with present-day climate pressures affecting reindeer herding and Sámi communities.

This illustrates a transferable lesson for other organisations: a climate heritage story does not need to cover an entire region at once. A specific place can become a gateway into wider themes. Hansmyra allowed the exhibition to connect archaeology, movement, traditional knowledge, reindeer herding, climate change, and future uncertainty through one identifiable landscape.

Developing the story

The narrative development began with the history of the mountains and the people who had lived, travelled, worked, and moved through the area. The story focused on key moments in time that showed changing relationships between communities and the landscape. This was then developed into an animated film, *The Skier*, created by the DACCHE team at Nord University, with input from Swedish and Norwegian project partners and the museums hosting the exhibition.

The film used a frame story. A family father travels through the mountain landscape around Hansmyra on skis, gets caught in a snowstorm, hits his head, and experiences a journey back in time. Through a series of historical moments, he and the audience encounter snapshots of how people have lived in the landscape over time. The story returns to the present and ends by opening a question about the future: what will happen to these landscapes, and how can their stories be cared for while looking ahead?

The film was screened as one part of the exhibition and also drew on digital production work connected to the site. The drone-scanned landscape of Hansmyra helped shape the visual environment, while some 3D elements, including trees created through photogrammetry work at the site, were incorporated into the animated world. In this way, digital documentation was not only used for preservation or display; it also became part of the storytelling process.

The exhibition as a layered environment

The overall exhibition was built from several connected elements. These included the animated film, two XR-based components, historical photographs of Sámi culture, video clips from youth and student workshops, excerpts from the Northern Youth Manifesto, and contextual material about climate pressure, reindeer herding, landscape use, and future responsibility.

This layering was important. The exhibition did not ask one medium to do everything. Instead, each element played a different role. The animated film carried the main narrative arc. Historical photographs placed the story within a broader visual and cultural context. Workshop videos brought in contemporary voices from young people in Ireland and students in Norway and Sweden. The Northern Youth Manifesto excerpts, draped around *The Circle*, connected the exhibition to youth perspectives and future-oriented climate responsibility. The XR components

then gave visitors opportunities for embodied, participatory, and immersive encounters with objects, landscape, and historical imagination.

Together, these elements created a transmedia climate story: visitors could watch, read, listen, move, discuss, interact, and reflect.

Digital objects and shared mixed reality: The Circle

One of the central exhibition components was The Circle. This was a physically formed circle within the exhibition space where visitors used Meta Quest 3 headsets to interact with scanned artefacts. The artefacts were created using photogrammetry, allowing visitors to inspect, rotate, handle, and pass virtual versions of museum objects that would normally be protected from physical handling.

The Circle was not a purely virtual experience. At the artefact-interaction stage, the headsets used pass-through, allowing visitors to see one another while also seeing and manipulating the digital objects. This created a participatory dynamic that is very important for the toolkit. Instead of isolating visitors inside separate VR experiences, the technology supported shared discovery. Visitors could communicate, gesture, observe one another, and pass virtual objects between them.

This matters because one common criticism of immersive technology in museums is that it can become solitary. In The Circle, the mixed-reality design helped maintain social interaction while still giving visitors access to fragile or inaccessible artefacts. The technology strengthened the heritage story because it allowed objects to become active points of encounter rather than static items behind glass.

The portal to Hansmyra

Within The Circle was a virtual portal shaped like a door. Through the doorway, visitors could see a winter landscape beyond, creating an effect similar to stepping through a threshold into another world. Once visitors walked through the portal, the experience became more fully immersive. They entered a virtual representation of Hansmyra in winter, with views of lavvu, snow, and the Northern Lights.

This created a strong “wow factor”, but its value was not only visual spectacle. The portal gave visitors a felt transition from museum space into landscape. It connected the scanned objects to the place, season, atmosphere, and cultural context in which such objects and practices carried meaning. The visitor was not only looking at heritage; they were stepping into an interpretive environment that joined object, landscape, and story.

This is a useful example of how immersive technology can be used without allowing the technology itself to become the whole experience. The portal was memorable because it served a narrative and spatial purpose. It helped visitors move from artefact encounter to landscape encounter, and from observation to imaginative presence.

Live compositing and dialogic encounter

A second, more experimental component used a pop-up green room for live compositing. This part of the exhibition used a Varjo 3 headset to create a further immersive experience. The room

was arranged with physical props, including traditional skis, animal hides, and a campfire. An actor was also present, playing the role of a hunter-gatherer from around 1000 years ago.

This experience was designed for one visitor at a time. Interaction with the actor was not forced, and conversation could be initiated by either the visitor or the actor. The intention was not to create a scripted performance, but a dialogic exchange of information. The visitor could encounter a person from the past, ask questions, respond to the environment, and experience uncertainty about what was physical, virtual, staged, or live.

Visitor reactions to this component were very positive. Some visitors reportedly questioned what was real and what was virtual, including whether the actor was physically present. This uncertainty became part of the interpretive power of the experience. It showed how XR can create not only immersion, but also curiosity, presence, and active meaning-making.

For climate heritage communication, this is especially interesting. The live element made the encounter less like consuming content and more like entering a conversation. It also demonstrated that advanced digital technology can be combined with simple theatrical, material, and sensory elements: props, costume, voice, gesture, and dialogue. The result was not just a technological experience, but a staged meeting between visitor, landscape, past life, and cultural interpretation.

Youth perspectives and future responsibility

The exhibition also connected the historical and cultural landscape story to future-facing dialogue. Video clips from workshops with young people in Ireland and students in Norway and Sweden brought contemporary youth voices into the exhibition. Excerpts from the Northern Youth Manifesto were displayed around The Circle, physically surrounding the immersive experience with statements about climate, heritage, responsibility, and the future.

This was important because climate heritage communication should not only look backwards. Heritage can help people understand what has been inherited, but it can also help them ask what should be protected, adapted, transformed, or passed on. The youth material therefore helped connect the exhibition's past and present dimensions to questions of action and responsibility.

Historical images and cultural context

Historical photographs of Sámi culture were displayed around the walls of the exhibition. These images helped situate the digital and immersive elements within a broader cultural and historical context. They also provided a quieter, more reflective counterpoint to the XR components. Visitors could move between spectacular, participatory, documentary, and archival modes of engagement.

This balance matters. Digital exhibitions should not rely only on novelty or immersion. Still images, archival material, text, film, and physical exhibition design can all help anchor the experience. In Gaskelaante, the historical photographs helped connect the more technologically mediated parts of the exhibition to documented cultural histories and visual memory.

What was learned

The exhibition showed that immersive and mixed-reality technologies can create strong engagement when they are connected to a meaningful story. Visitors responded positively to the opportunity to handle digital artefacts, share the experience with others, enter the winter landscape, and encounter a live figure from the past. The wider exhibition design also showed the value of combining XR with animation, archival photographs, workshop films, manifesto excerpts, and contextual knowledge.

At the same time, the project highlighted practical demands. XR experiences require staff support, technical facilitation, maintenance, charging, supervision, troubleshooting, and visitor guidance. In the Gaskelaante exhibition, visitors could not simply be left to use headsets on their own. They needed help entering the experience, understanding how to interact, and navigating the equipment.

This is not a weakness of the approach, but it is a planning requirement. Organisations considering similar methods should think early about staffing, visitor flow, hygiene, accessibility, technical support, equipment security, and what happens when something does not work. The more immersive the technology, the more important facilitation becomes.

Transferable lessons

The Gaskelaante case offers several lessons for heritage organisations and tourism SMEs developing their own digital climate stories.

First, begin with a meaningful place. Hansmyra worked because it connected specific evidence and local significance to wider cultural and climate questions.

Second, let the story guide the technology. The digital methods were most effective when they helped visitors move between object, landscape, past, present, and future.

Third, use immersive technology to create connection, not just spectacle. The portal to Hansmyra created a wow factor, but it also served the story by connecting artefacts to landscape and atmosphere.

Fourth, design for shared experience where possible. The Circle showed that mixed reality can support social interaction rather than isolating visitors.

Fifth, consider live, material, and dialogic elements alongside digital ones. The green room experience worked because it combined XR with props, embodied presence, and conversation.

Sixth, include multiple voices and temporal perspectives. The animation, historical photographs, youth workshop clips, and Northern Youth Manifesto helped connect past lives, present concerns, and future responsibilities.

Finally, plan for facilitation and sustainability. Digital exhibitions require people, not only equipment. The success of the visitor experience depends on staff confidence, technical reliability, and long-term organisational capacity.

In this sense, *Gaskelaante – the land in between* demonstrates the central principle of this toolkit: digital technology is most powerful when it helps a climate heritage story become more specific, more memorable, more participatory, and more meaningful.

Practical implementation guidance

Digital climate stories depend on good ideas, but they also depend on practical conditions. Staffing, technical support, visitor flow, accessibility, maintenance, rights, consent, budgeting, and long-term ownership all shape whether a digital experience works in practice. These issues should be considered from the beginning, not treated as problems to solve after the story has been designed.

One of the most important lessons from DACCHE is that organisations should not make assumptions about what will be easy or difficult. Some technologies that appear complex may be surprisingly manageable when they are well designed and properly supported. Other media that appear familiar may require far more time, expertise, and coordination than expected. The safest approach is to ask people with relevant experience before committing to a format, budget, or production schedule.

Do not assume difficulty from the technology alone

At the beginning of the project, immersive headset-based experiences seemed likely to be difficult for museum staff to support. There were reasonable concerns about technical confidence, visitor guidance, troubleshooting, maintenance, and the general practicality of using headsets in an exhibition setting. In practice, the experience was more manageable than expected because the technical setup was designed with facilitation in mind.

Working with the VR team at Tindved showed the value of a well-prepared “boutique mode” setup. Museum staff did not need to understand every technical detail of the system. Their main responsibilities were to make sure that headsets were charged, help visitors enter the experience, and know how to reboot equipment if something failed. This did not remove the need for staffing, but it made the technology much less intimidating for both facilitators and visitors.

This is an important lesson for heritage organisations and tourism SMEs. A digital method should not be rejected simply because it sounds advanced. The real question is whether the experience can be packaged, supported, and maintained in a way that fits the organisation. A headset experience may be feasible if the interface is simple, the visitor flow is clear, the hardware is robust, and staff are given confidence through training and simple troubleshooting routines.

Do not underestimate familiar media

The opposite lesson is just as important. Some formats can appear familiar and therefore easy, but may be complex and time-consuming to produce well. Animated film is a good example from the DACCHE project.

Because audiences are used to watching animation, it can be tempting to think of it as flexible and easily adjustable. During production, feedback may arrive in the form of apparently simple requests: can you just change this character, replace this object, adjust this sequence, swap that landscape element, or alter the timing? In reality, animation involves a chain of decisions and dependencies. A small change may affect modelling, rigging, texturing, lighting, camera work, rendering, sound, editing, narrative continuity, and delivery schedules.

The animated film *The Skier* was central to Gaskelaante – the land in between. It carried the main narrative arc, moving between present-day Hansmyra, historical moments, and future-facing questions. It also drew on digital production work connected to the site, including the drone-scanned landscape of Hansmyra and 3D elements such as trees created through photogrammetry. This made the film a powerful storytelling component, but also a demanding production process.

For organisations commissioning or developing animation, the practical lesson is clear: plan feedback carefully. Agree early on what kind of feedback is needed at each stage, who has authority to approve changes, and when the project moves from open revision to production lock. Once modelling, animation, rendering, and editing are underway, late changes can become expensive, disruptive, or impossible within the available time.

Ask experienced people early

A useful principle for implementation is:

Do not guess what a technology or production method requires. Ask someone who has done it before.

This applies to both advanced and familiar formats. Before deciding to use XR, ask how staff will support visitors, how equipment will be charged, how often devices fail, and what the simplest recovery procedure is. Before commissioning an animation, ask when feedback is needed, which changes are easy, which are difficult, and what approval stages are required. Before creating a digital map, ask about data formats, hosting, updates, and long-term access. Before recording oral histories, ask about consent, archiving, translation, and public use.

Experienced practitioners can often identify hidden work that is invisible at the idea stage. They can also suggest simpler alternatives. Sometimes the answer will be that an ambitious technology is more feasible than expected. Sometimes the answer will be that a seemingly simple media product needs more time, money, or planning than the organisation has available.

Plan staffing and facilitation

Digital exhibitions often require human support. This is especially true when visitors are using headsets, interactive displays, unfamiliar interfaces, or multi-user experiences. Staff may need to welcome visitors, explain what to do, manage queues, support accessibility needs, clean or charge equipment, respond to technical issues, and help visitors understand the purpose of the experience.

The Gaskelaante exhibition showed that immersive and mixed-reality elements can create strong engagement, but they also need facilitation. Visitors could not simply be left to use the headsets independently. They often needed guidance, and the equipment needed supervision, charging, and troubleshooting.

Facilitation should therefore be designed as part of the experience. Staff should not only know how the technology works; they should understand the story it supports. A good facilitator can help visitors move beyond novelty by asking questions, connecting the digital experience to the exhibition themes, and encouraging reflection.

Useful planning questions include:

- Who welcomes visitors into the experience?*
- What instructions do visitors need?*
- What should staff do if something fails?*
- How many visitors can participate at once?*
- What happens when people are waiting?*
- How does facilitation support the story, not only the equipment?*

Design for visitor flow

Visitor flow is often underestimated in digital installations. A headset experience, interactive screen, or live compositing setup may work well for one person or a small group, but create bottlenecks when placed inside an exhibition. If only one visitor can participate at a time, the experience needs a plan for waiting, observing, booking, or rotating visitors. If several visitors can participate together, staff need to know how to manage entry, exit, timing, and transitions.

The two XR components in Gaskelaante created different visitor-flow requirements. The Circle supported a shared experience, allowing multiple visitors to interact with scanned artefacts while still seeing one another through pass-through. The live compositing green room, by contrast, was designed for one visitor at a time. Both were meaningful, but they required different forms of facilitation, timing, and expectation-setting.

When designing digital experiences, organisations should consider:

- How long does the experience take?*
- Can visitors watch while others participate?*
- Is the experience individual, shared, or sequential?*
- What happens during busy periods?*
- How will families, school groups, or tour groups move through it?*

Consider accessibility and inclusion

Digital tools can increase access, but they can also create new barriers. Some visitors may be uncomfortable using headsets. Others may experience motion sickness, have mobility limitations, use hearing aids, need subtitles, require clear physical pathways, or prefer non-digital forms of engagement. Children, older visitors, neurodivergent visitors, and visitors with visual or auditory impairments may all encounter digital installations differently.

The earlier considerations document notes this double character of technology: it can support accessibility and inclusivity through virtual tours and online experiences, but it can also create accessibility challenges for some users. This means organisations should provide alternative ways into the story wherever possible.

A strong digital climate story should not depend on one format only. If visitors cannot or do not want to use a headset, they should still be able to engage through film, text, images, objects, audio, guided conversation, or online resources. The layered structure of Gaskelaante is useful here: visitors could engage through animation, historical photographs, youth workshop clips, manifesto excerpts, contextual resources, and XR elements rather than through one single mode.

Manage rights, consent, and cultural sensitivity

Climate heritage stories often involve people, communities, traditional knowledge, Indigenous heritage, local memories, and sensitive places. This creates responsibilities around consent, representation, ownership, and access. Not everything that can be digitised should necessarily be made public. Not every story should be told by the organisation alone.

The technology considerations document highlights the importance of cultural sensitivity and warns against oversimplifying or misrepresenting cultural heritage in digital reconstructions and narratives. This is especially important when working with Sámi heritage, traditional knowledge, oral histories, or community practices connected to land and identity.

Organisations should ask:

Who has contributed knowledge, images, voices, or objects?

What permissions are needed?

How will contributors be credited?

Are there limits on what should be shown, stored, translated, or shared online?

Who should review the material before publication?

What happens to the material after the project ends?

Budget for maintenance, not only production

A common mistake is to budget for creating a digital experience but not for maintaining it. Equipment may need replacement. Software may need updates. Hosting may require annual fees. Files may need migration. Staff may need training. Content may become outdated. Partners may change. A digital exhibition that works well at launch can become unusable if no one owns the maintenance responsibility.

Adam Palmquist's DACCHE workshop explicitly asked participants to think about practical frames such as maintenance responsibility, premises, finance, opportunities, and barriers. It also asked groups to create a roadmap from concept to launch and operation, considering both short-term and long-term needs.

This kind of planning should be part of every digital climate story. Organisations should identify who is responsible for: hardware, software, content updates, visitor support, data storage, rights management, evaluation, long-term access, and decommissioning or reuse.

Preserve and reuse digital assets

Digital assets created for one exhibition may have value beyond the initial display. Photogrammetry models, 360° recordings, drone footage, animation assets, interview clips, maps, photographs, scripts, and educational resources can be reused in online exhibitions, school materials, guided tours, social media, research, archives, and future projects.

The DACCHE work plan emphasised the creation of archived data and content collections, digital twins, 3D models, and virtual museum resources that could be used for research, visualisations, communication, immersive exhibits, virtual tours, social media, and websites. This is a useful reminder that digital production should be planned with reuse in mind.

Organisations should therefore consider file formats, naming conventions, metadata, rights, storage, backups, and future access. A digital asset is more valuable if it can be found, understood, reused, and legally shared later.

Keep the story visible

Finally, implementation should always return to the purpose of the toolkit: communicating climate change through heritage. Technical planning is essential, but the goal is not simply to make the technology work. The goal is to help audiences understand and care about a changing place, practice, object, landscape, or future.

This means that every implementation decision should be tested against the story:

Does this make the story clearer?

Does it help visitors connect climate change to heritage?

Does it support dialogue, memory, care, or action?

Does it include the people who should be involved?

Can the organisation realistically maintain it?

The main lesson is simple: do not make assumptions. Ask experienced people early, test ideas before committing, plan for facilitation, and think beyond launch. Some things will be easier than expected. Others will be much harder. The strongest digital climate stories are those that combine imagination with grounded practical knowledge.

Evaluation: knowing whether the story works

Evaluation is an important part of climate heritage communication, but it needs to be approached carefully. A digital climate story may have several different aims at once: raising awareness, increasing visitor engagement, communicating cultural heritage, supporting learning, encouraging dialogue, reaching new audiences, testing new technologies, or motivating longer-term reflection and action. These aims are related, but they are not identical. An exhibition may succeed strongly in one area while raising questions in another.

For this reason, evaluation should begin by asking what the communication was intended to do. Was the main aim to help visitors understand a climate risk? To connect climate change to a specific cultural landscape? To increase knowledge of a community or practice? To encourage discussion about the future? To attract new audiences? To test whether immersive technologies could support heritage interpretation? The clearer the aim, the easier it becomes to interpret the results.

The DACCHE exhibition *Gaskelaante – the land in between* offers a useful example. At Stiklestad, visitor survey feedback suggested that the main learning outcome for many visitors was about Sámi culture rather than climate change. This is an important reflection. In relation to the project's climate communication aims, it may suggest that the exhibition did not always foreground climate change as clearly as intended. Visitors may have left with a stronger immediate impression of Sámi history, reindeer herding, cultural landscape, objects, and traditions than of climate risk or climate action.

However, this does not mean that the exhibition failed as climate communication. It may indicate that the climate message worked more indirectly. The exhibition placed Sámi culture,

reindeer herding, landscape use, historical memory, youth perspectives, and climate pressure in relation to one another. The DACCHE best-practice document emphasises precisely this layered approach: the exhibition was designed to show the interaction between landscapes, people, objects, and climate change, challenging the idea of untouched wilderness and presenting the mountains as a cultural landscape shaped by relationships between humans and nature.

This raises an important point for evaluation: climate awareness may not always appear immediately as “I learned about climate change.” A visitor may first learn about a place, a community, a tradition, or a practice. That learning may later shape how they understand climate change, care about cultural landscapes, or respond to future climate communication. Long-term effects are difficult to measure, but they should not be dismissed. Heritage communication often works through memory, association, and reflection over time.

At Gaaltije, the exhibition was considered a major success. Visitor throughput increased by more than 40% compared with the same period in the previous year, suggesting that the exhibition reached a significantly wider audience. This kind of result matters. For heritage organisations and tourism SMEs, attracting visitors is not separate from communication impact. If a climate heritage story brings more people into contact with cultural heritage, community voices, digital interpretation, and climate-related questions, then audience reach becomes part of the evaluation.

The exhibition also had an impact beyond the two museum venues. Several pop-up versions were presented, including at the Northern Periphery and Arctic Programme’s 25th Anniversary Conference, Connecting the Dots, in Bodø. There, the DACCHE exhibition received special praise, a formal thank-you letter from the NPA, and an award for Reimagining Cultural Heritage. The NPA highlighted how the initiative showed that immersive storytelling and technology can bring heritage to life while raising awareness about climate change, and described it as setting a benchmark for reimagining cultural heritage in the digital age.

This recognition points to another form of evaluation: professional and sectoral impact. A project may influence not only visitors, but also museums, funders, public authorities, cultural organisations, educators, tourism actors, and other practitioners. If an exhibition inspires other organisations to experiment with digital storytelling, rethink cultural heritage interpretation, or connect climate communication with immersive experience, then the project has had a wider field-level effect.

Evaluating different kinds of success

A useful evaluation approach is to separate different kinds of success rather than asking whether the project “worked” in general.

Evaluation area	Key question	Possible evidence
Audience reach	Did the story reach people?	Visitor numbers, online views, attendance, social media reach, repeat visits

Visitor engagement	Did people spend time with the experience and respond actively?	Observation, dwell time, staff reflections, visitor comments, participation levels
Learning	What did visitors say they learned?	Surveys, interviews, guestbook comments, school feedback
Climate awareness	Did visitors connect the heritage story to climate change?	Survey questions, discussion prompts, facilitated reflection
Cultural understanding	Did visitors better understand the heritage, community, landscape, or practice?	Visitor feedback, qualitative comments, partner reflections
Emotional response	Did the story create care, curiosity, concern, or connection?	Visitor comments, staff observation, group discussion
Dialogue and participation	Did the experience generate conversation?	Workshop outputs, visitor questions, community contributions, facilitated dialogue
Technical success	Did the digital elements function reliably and feel usable?	Staff logs, troubleshooting records, visitor ease of use, downtime
Organisational learning	Did the organisation gain skills, confidence, or new partnerships?	Staff reflections, partner evaluation, future project plans
Sectoral impact	Did the project influence others?	Awards, invitations, press, professional feedback, reuse of methods

This kind of framework helps organisations see that a project can produce multiple outcomes. For example, Gaskelaante may have been most immediately effective in communicating Sámi culture and cultural landscape, highly successful in increasing visitor numbers at Gaaltije, valuable in testing XR and transmedia approaches, and influential in demonstrating new possibilities for the museum sector. At the same time, it raises a useful design question for future climate heritage projects: how can the climate message be made visible enough without flattening the cultural story into a climate case study?

Short-term and long-term evaluation

Not all impacts appear at the same time. Some can be measured during or immediately after a visit. Others may only become visible later.

Short-term evaluation can ask:

What did visitors notice?

What did they say they learned?

Which parts of the experience attracted attention?

Did they understand the relationship between heritage and climate change?

Did the technology support or distract from the story?

Long-term evaluation can ask:

Did visitors remember the story?

Did the experience change how they think about the landscape?

Did it influence later conversations, teaching, tourism activity, or community engagement?

Did the organisation reuse the material?

Did the project lead to new partnerships, exhibitions, or communication methods?

Long-term effects are harder to prove, but they are important for climate heritage communication. A visitor may leave remembering Sámi culture, reindeer herding, a winter landscape, a digital object, a youth manifesto, or a conversation with staff. Later, those memories may shape how they understand climate vulnerability, land use, cultural resilience, or the importance of traditional knowledge.

Evaluation methods

Evaluation does not need to be complicated. Organisations can combine simple quantitative measures with qualitative reflection.

Useful methods include:

visitor counts and comparison with previous periods
short exit surveys
open-ended questions in guestbooks or digital forms
staff observation logs
group reflection after workshops
interviews with guides, facilitators, or partners
school or teacher feedback
social media responses
technical logs for digital installations
follow-up conversations with community
representatives
documentation of invitations, awards, media coverage,
or sector feedback

Open-ended questions are especially useful because they show what visitors actually took from the experience, not only whether they agreed with predefined statements. For example:

What is one thing you will remember from this exhibition?

What did this exhibition help you understand about the landscape?

Did the exhibition change how you think about climate change and cultural heritage?

Which part of the experience felt most meaningful?

Was anything unclear, difficult, or missing?
What questions did the exhibition leave you with?

Learning from evaluation

Evaluation should not be used only to prove success. It should help organisations learn. If visitors mainly remember the digital technology, the story may need to be more clearly framed. If visitors mainly remember the cultural heritage but not the climate issue, the climate connection may need to be made more explicit at key points. If visitors understand the climate issue but feel overwhelmed, the story may need stronger elements of care, agency, or future possibility. If staff find the technology difficult to support, the implementation model may need simplifying.

In this sense, evaluation is part of the storytelling process. It helps organisations understand how the audience actually experienced the story, which may differ from what the project team intended. That difference is valuable. It shows where the story is working, where it is being interpreted differently, and where future versions can be strengthened.

For climate heritage communication, the most useful evaluation question may be:

What did this experience make possible?

It may have made a new audience curious about Sámi culture. It may have helped visitors understand that a mountain landscape is not untouched wilderness, but a cultural landscape. It may have shown museum staff that XR can be manageable. It may have helped young people see their voices included in heritage communication. It may have inspired the wider museum sector to imagine new forms of digital cultural storytelling. It may also, over time, help people connect climate change to places, practices, and futures that matter.

Evaluation should therefore recognise both immediate learning and slower forms of impact. A successful climate heritage story is not only one that delivers a message clearly in the moment. It is also one that stays with people, invites further thought, and creates conditions for future dialogue, care, and action.

Theme bank: starting points for climate stories

Climate heritage stories can begin in many different ways. Some begin with a place that is visibly changing. Others begin with an object, a memory, a traditional practice, a threatened building, a community concern, a route through the landscape, or a question about the future. The purpose of this theme bank is to help heritage organisations and tourism SMEs identify possible entry points for their own climate stories.

The themes below are not separate categories. They can be combined, adapted, or used as prompts for workshops, exhibitions, guided tours, digital media, school activities, visitor engagement, or community dialogue.

Past, present, and future

Heritage gives climate communication a long view of time. It can help audiences see that landscapes have histories, that people have adapted to change before, and that the future is still being shaped by present choices.

A climate story might ask:

What did this place look like 100, 300, or 1000 years ago?

What is changing now?

What might this place become in 50 or 100 years?

What should be remembered, protected, adapted, or passed on?

This theme was central to Gaskelaante – the land in between, where the story moved between historical landscape use, present-day climate pressure, and future responsibility.

A specific place as a gateway

A large climate issue can become more understandable when told through one specific place. A single site, path, beach, river, farm, building, harbour, mountain pass, or archaeological feature can become a gateway into wider questions about climate change, heritage, and community life.

For example:

A coastal path can open a story about erosion.

A mountain grazing area can open a story about changing snow and seasonal movement.

A historic building can open a story about flooding, maintenance, and adaptation.

A pilgrimage route can open a story about movement, memory, weather, and landscape change.

The key is to choose a place that helps audiences see the wider issue more clearly.

Care for places and landscapes

Climate communication often focuses on loss, risk, and urgency. These are important, but they can also become overwhelming. Heritage organisations can also begin from care: care for places, care for objects, care for memory, care for knowledge, care for future generations.

A story based on care might ask:

What does this place need from us?

Who has cared for it in the past?

What forms of care are needed now?

How can visitors, communities, or organisations take part in that care?

This can create a more constructive and relational form of climate communication. Rather than presenting visitors only with damage or guilt, it invites them to consider responsibility, attachment, stewardship, and continuity.

Objects as symbols

Objects can make large issues tangible. A tool, garment, vessel, photograph, boat, fishing net, farming implement, ski, household item, or ceremonial object can act as a symbol of a wider relationship between people, place, knowledge, and environment.

In Gaskelaante, Sámi objects connected to reindeer herding were digitised using photogrammetry and presented as interactive 3D models. Visitors could inspect and handle the digital objects in ways that would not be possible with fragile museum artefacts. These objects helped connect material culture to traditional knowledge, landscape use, and climate vulnerability.

Useful questions include:

What object can help tell this climate story?

What practice, skill, material, route, or season is connected to it?

What does the object reveal about sustainable use, adaptation, repair, or care?

What happens to the object's meaning if the landscape or practice changes?

Intangible heritage

Climate change does not only threaten physical heritage. It also affects skills, memories, stories, seasonal rhythms, local knowledge, food practices, crafts, songs, language, routes, rituals, and ways of reading the landscape.

The DACCHE best-practice work notes that intangible heritage proved especially powerful for engagement. Although the project began with tangible heritage at risk, traditions, knowledge, and stories connected to cultural landscapes helped people connect with climate change on a more personal level.

A climate story might therefore focus on:

a seasonal practice that is becoming harder to continue
a skill that depends on particular materials or weather conditions
place names that preserve environmental knowledge
family memories of changing winters, harvests, journeys, or coastlines
oral histories of how people used to move, work, gather, fish, farm, herd, or travel

Intangible heritage can help audiences understand that climate change affects not only what we see, but also what we know, do, remember, and pass on.

Traditional and local knowledge

Traditional and local knowledge can be a powerful resource for climate adaptation and environmental care. People who work closely with landscapes often notice changes before they

appear in formal reports: shifts in snow, grazing, fish, birds, plants, weather, water, soil, paths, or seasonal timing.

A story based on traditional or local knowledge might ask:

What do local knowledge holders notice changing?

How have people adapted to environmental change in the past?

What knowledge is at risk of being lost?

What can this knowledge contribute to climate adaptation today?

This theme requires careful collaboration. Traditional and local knowledge should not be extracted or simplified. Organisations should work with knowledge holders to decide what can be shared, how it should be represented, and what should remain protected.

Nature and culture together

Many climate stories are weakened by treating nature and culture as separate. A cultural landscape is both. It may be shaped by geology, weather, plants, animals, water, and climate, but also by labour, memory, ownership, spiritual meaning, conflict, tourism, routes, settlement, and tradition.

The Gaskelaante material explicitly challenges the idea of the mountain landscape as untouched wilderness. Instead, it presents the region as a cultural landscape shaped by long histories of Sámi presence, reindeer herding, pilgrimage, trade, seasonal use, and ecological relationships.

This theme can help audiences ask:

Where do we see nature and culture interacting?

How have people shaped this landscape?

How has the landscape shaped people's lives?

What happens when climate change disrupts that relationship?

Changing seasonal rhythms

Climate change is often felt through changes in timing: winters arrive later, snow melts earlier, floods come more often, summers become drier, storms become stronger, plants bloom differently, animals move differently, and familiar seasonal routines become less predictable.

This is a strong theme because it connects climate change to lived experience. It can be explored through farming, fishing, reindeer herding, festivals, travel, food, crafts, tourism, outdoor recreation, or school activities.

Useful questions include:

Which seasonal signs do people remember?

What no longer happens when expected?

Which practices depend on snow, ice, rain, wind, water, or temperature?

What happens to cultural life when the seasons become less reliable?

Routes, movement, and access

Many heritage stories are stories of movement: migration, pilgrimage, trade, herding, fishing, commuting, tourism, seasonal travel, or family journeys. Climate change can affect routes and access through erosion, flooding, snow loss, landslides, damaged paths, changing ice, or new infrastructure.

A climate story might focus on:

a route that is harder to use
a path that is disappearing
a journey that depends on seasonal conditions
a landscape where access creates both opportunity and pressure
a historic route that connects past movement to future change

This theme is especially useful for tourism SMEs because it connects visitor experience with landscape responsibility.

Youth perspectives and future responsibility

Young people have a particular stake in climate futures. Their perspectives can help heritage communication move beyond preservation of the past and toward questions of responsibility, imagination, and action.

In DACCHE, youth workshops and the Northern Youth Manifesto became part of the exhibition experience. Video clips from workshops with young people in Ireland and students in Norway and Sweden, together with manifesto excerpts displayed around The Circle, helped connect cultural heritage to future-oriented dialogue.

A story using this theme might ask:

What do young people want future generations to inherit?

What do they think should change?

What places, practices, or memories matter to them?

What would they include in a manifesto for this landscape?

Youth perspectives can also help organisations avoid speaking only from institutional authority. They create space for dialogue, uncertainty, imagination, and hope.

Climate adaptation and green transition

Some climate heritage stories focus not only on what is threatened, but on what communities, organisations, and visitors can do. This may include adaptation of buildings, changes in land management, renewable energy, sustainable tourism, conservation planning, community monitoring, or new forms of local cooperation.

This theme can be challenging because climate action may involve disagreement. Renewable energy, tourism development, conservation, transport, land use, and infrastructure projects can all create tensions. Heritage organisations can contribute by creating spaces for informed, balanced dialogue.

Useful questions include:

What choices are being made about this landscape?

Who is affected by those choices?

What heritage values need to be considered?

How can digital tools help people understand possible futures?

What forms of action are realistic for visitors, communities, or institutions?

Hidden, fragile, or inaccessible heritage

Some heritage is difficult to experience directly. It may be too fragile to handle, too remote to visit, underwater, eroding, seasonally inaccessible, stored in collections, or visible only to trained specialists. Digital tools can help make this heritage more accessible while also communicating why it is vulnerable.

Possible approaches include:

3D models of fragile objects
digital reconstructions of damaged places
virtual tours of inaccessible sites
interactive maps of threatened landscapes
oral histories connected to places that are changing or disappearing

This theme connects strongly to preservation and documentation. It allows organisations to create records of heritage while also using those records for interpretation, learning, and public engagement.

Everyday climate heritage

Not every climate story needs to begin with a dramatic site or spectacular technology. Everyday heritage can be just as powerful: a garden, a kitchen, a fishing place, a school route, a local festival, a family photograph, a food tradition, a tool, a weather saying, or a remembered winter.

Everyday heritage helps audiences see that climate change is not only happening in distant or exceptional places. It is connected to ordinary routines, familiar landscapes, and small acts of knowledge and care.

A story might ask:

What everyday practice is changing?

What did people used to notice, say, make, grow, eat, repair, or prepare?

What knowledge is hidden in ordinary routines?

How might everyday heritage help people talk about climate change without feeling overwhelmed?

Using the theme bank

These themes are starting points, not finished stories. Organisations can use them in workshops, planning meetings, or community conversations. One useful exercise is to choose three themes and test each against a local site, object, practice, or audience.

For each theme, ask:

What specific example could we use?

Whose knowledge or memory would help tell the story?

What climate issue does it reveal?

What digital or non-digital method could support it?

What should visitors remember, discuss, or do afterwards?

A strong climate heritage story usually emerges where several themes overlap. For example, a changing winter route may connect seasonal rhythms, traditional knowledge, youth futures, digital mapping, and questions of access. A fragile object may connect collection care, intangible practice, photogrammetry, and landscape change. A coastal ruin may connect erosion, memory, community identity, visitor responsibility, and adaptation planning.

The theme bank is therefore best used as a tool for discovery. It helps organisations move from the broad question “How can we communicate climate change?” toward the more useful question:

What climate story can only be told from here?

Returning to the central question

This toolkit has presented climate heritage communication as a process of moving from place to story, from story to media, and from media to dialogue. It has emphasised that digital technology can be powerful, but only when it helps people encounter something meaningful: a landscape under pressure, a practice that is changing, an object that carries memory, a community voice, or a future that remains open.

The most useful starting point is therefore not a technology, platform, or exhibition format. It is a question:

What climate story can only be told from here?

This question helps organisations stay grounded in their own landscapes, collections, communities, and audiences. It resists generic climate communication and invites stories that are specific, situated, and meaningful. A coastal museum, a mountain visitor centre, a local history group, a tourism SME, and an Indigenous heritage organisation will not tell the same climate story. Each works from different places, responsibilities, memories, risks, and relationships.

The following worksheets are intended to help organisations answer that question in practical ways. They can be printed, copied, adapted, or used in workshops and planning meetings. They

are not designed to produce identical outcomes. Their purpose is to support careful thinking, creative development, respectful collaboration, and realistic planning.

Appendix: Toolkit resources and worksheets

These printable resources are designed to help heritage organisations, tourism SMEs, community groups, educators, and project partners develop climate heritage stories in a structured and practical way. They can be used in workshops, planning meetings, funding applications, educational activities, or internal project development.

The worksheets do not need to be completed in order, but they are arranged as a suggested pathway: begin with the story and audience, consider appropriate digital methods, identify the people and knowledge that should be involved, assess organisational readiness, plan implementation, evaluate impact, and consider long-term sustainability.

They are not intended to produce identical outcomes. Their purpose is to support careful thinking, creative development, respectful collaboration, and realistic planning, while allowing each organisation to adapt the process to its own place, audience, resources, and climate challenges.

- 1. Climate Story Canvas**
- 2. Audience and Engagement Map**
- 3. Story-First Digital Tool Checklist**
- 4. Digital Method Comparison Sheet**
- 5. Knowledge Holder and Stakeholder Map**
- 6. Digital Climate Story Concept Canvas**
- 7. Organisational Readiness Map**
- 8. Implementation Roadmap**
- 9. Evaluation Planning Sheet**
- 10. Post-Project Sustainability Checklist**

Climate Story Canvas

Use this worksheet to move from a broad climate concern to a specific heritage story.

Prompt	Notes
What place, object, practice, route, building, landscape, or memory are we focusing on?	
What climate-related change is connected to it?	
Why does this matter culturally, historically, socially, or environmentally?	
Who is affected by this change?	
What tangible heritage is involved?	
What intangible heritage is involved?	
What local, traditional, expert, or community knowledge should inform the story?	
What past, present, and future dimensions can the story include?	
What should audiences understand or remember?	
What conversation, reflection, or action might the story invite?	

Audience and engagement map

Use this worksheet to clarify who the story is for and how different audiences might engage with it.

Audience	What might matter to them?	How might they encounter the story?	What response do we hope for?
Local residents			
Tourists or visitors			
Schools or young people			
Community groups			
Knowledge holders or practitioners			
Public authorities or decision-makers			
Online audiences			

Useful questions:

Who already cares about this story?

Who needs to be invited into it?

Who might feel excluded, misrepresented, or overlooked?

Who could help tell it well?

Story-first digital tool checklist

Use this checklist before choosing a digital method.

Question	Yes / No / Not sure	Notes
Does the technology strengthen the story rather than distract from it?		
Does it help audiences see, hear, feel, understand, discuss, access, or care about something more clearly?		
Is the technology appropriate for the audience?		
Can visitors use it confidently with reasonable support?		
Is there an accessible alternative for visitors who cannot or do not want to use it?		
Can the organisation afford to create and maintain it?		
Do staff have the confidence and training to support it?		
Are rights, consent, and cultural sensitivity issues addressed?		
Can the digital material be archived, updated, reused, or removed if necessary?		
Have we spoken to someone with experience of this method?		

Decision prompt:

If the technology were removed, would the climate heritage story still work?

If not, what essential role does the technology play?

If yes, does the technology add enough value to justify the cost and effort?

Digital method comparison sheet

Use this when comparing two or more possible methods.

Method	Story value	Audience value	Practical difficulty	Cost	Maintenance	Accessibility	Overall fit
Example: short film							
Example: digital map							
Example: photogrammetry / 3D model							
Example: XR / headset experience							
Example: online exhibition							

Suggested scale:

1 = low / weak fit

2 = moderate

3 = strong / high fit

This can help teams compare options without assuming that the most advanced method is automatically the best choice.

Knowledge holder and stakeholder map

Use this worksheet to identify who should be involved.

Person, group, or organisation	Relationship to the story	Possible role	Permissions or sensitivities
Local knowledge holders			
Community representatives			
Indigenous organisations or representatives			
Museum or heritage staff			
Tourism actors			
Researchers or experts			
Schools or youth groups			
Public authorities			
Technical or creative partners			

Useful questions:

Who has knowledge of this place, object, practice, or landscape?

Who should be consulted before the story is made public?

Who can approve, challenge, or enrich the interpretation?

Are there stories, places, images, or knowledge that should not be publicly shared?

Digital Climate Story Concept Canvas

Use this worksheet once an idea is beginning to take shape.

Prompt	Notes
Working title	
Core story	
Climate issue	
Heritage focus	
Main audience	
Desired visitor experience	
Digital method or methods	
Non-digital supporting elements	
Key partners or contributors	
Material needed	
Skills needed	
Risks or barriers	
Accessibility considerations	
Maintenance needs	
How we will know if it works	

Summary statement:

This concept will help audiences understand...

It will do this by...

The most important thing visitors should remember is...

Organisational readiness map

Use this before committing to production.

What we do well	What we can develop
What we lack	Potential and gaps

Follow-up questions:

What can we do with our current capacity?

What requires external support?

What should be simplified?

What can be developed in phases?

What should wait until we have more resources?

Implementation roadmap

Use this to move from idea to delivery.

Stage	Actions	Responsible person / partner	Resources needed	Risks or dependencies
Now				
0–3 months				
3–6 months				
6–12 months				
Launch				
After launch				
1–3 years				

Key reminder:

Plan for operation, not only launch.

Evaluation planning sheet

Use this before the exhibition, activity, or digital story goes live.

Aim	What evidence will show progress?	How will we collect it?	When?	Who is responsible?
Increase audience reach				
Improve climate awareness				
Communicate cultural heritage				
Encourage dialogue				
Test digital engagement				
Build organisational capacity				
Influence sector practice				

Suggested visitor questions:

What is one thing you will remember from this experience?

What did it help you understand about this place or heritage?

Did it change how you think about climate change?

Which part felt most meaningful?

Was anything unclear, difficult, or missing?

What question did it leave you with?

Post-project sustainability checklist

Use this before the project ends.

Question	Answer / action needed
Who owns the digital assets?	
Where are files stored?	
Are backups in place?	
Are file names, formats, and metadata understandable?	
Are rights and permissions documented?	
Who can reuse the material?	
Who maintains online content?	
Who maintains equipment?	
What happens if software or hardware becomes obsolete?	
Can the material be reused for education, tourism, research, or future exhibitions?	
What should be archived, updated, removed, or decommissioned?	