M5.1 Online workshop "Science communication strategies for climate change research: Sharing best practices"

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PU

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Key messages

- An online workshop was organised for European-funded science projects to gain a deeper understanding of the enabling conditions, barriers and good practices in climate science communication, with a particular focus on hard-to-reach and underserved audiences.
- The workshop provided a valuable platform for participants to compare and explore strategies that lead to successful engagement and communication, especially when targeting difficult-to-reach audiences.
- The significant turnout of participants, with 60 individuals accepting the workshop invitation, clearly highlights the pressing need for experience exchange and skill development in climate science communication.
- The workshop was enriched by two insightful presentations from internationally renowned experts in climate communications, inspiring the attendees to actively share their own experiences and expertise in climate communication.
- The workshop results led to a compilation of good practice examples and guidelines for communication and engagement strategies, to support communicators in reaching diverse audiences. Moreover, the workshop also highlighted important areas requiring further investigation to enhance knowledge uptake.

Summary

One of the primary objectives of MAGICA is to enhance access to scientific knowledge on climate change for policy, practice, and society. To achieve this, we analyse knowledge uptake challenges and draw lessons from the experiences of the Research & Innovation community engaged in projects funded by the European Commission (EC) and JPI Climate member states.

As part of these efforts, we conducted an online workshop titled "Science communication strategies for climate change research: Sharing best practices" on Thursday, 30th March 2023, from 10:30 to 13:00 hours CEST. Organised within WP5 of the Horizon Europe climate action project MAGICA, the workshop brought together communication experts and principal investigators from various European-funded research projects. Participants shared valuable insights on climate science communication based on their extensive experiences in diverse climate research initiatives.

The workshop featured informative presentations by research communication experts: Roger Street (CMCC and University of Oxford; MAGICA), and Johanna Nalau (Griffith University, Australia). Roger Street emphasised the significance of developing a credible, legitimate, relevant, usable, and accessible communications and dissemination strategy to convey scientific information effectively. He highlighted the importance of tailoring strategies to the unique needs of different beneficiary groups, even within the same category. Johanna Nalau stressed the value of having a well-planned strategy for social media communication campaigns, considering the platforms that target audiences are actively using. She also emphasised the importance of monitoring platform analytics and regularly testing strategies for maximum impact.

Following the presentations, participants engaged in constructive discussions within breakout groups. During the workshop, we delved into ways to enhance the usability and relevance of project outputs for target audiences. A significant aspect of the discussions centred on successful strategies to engage underserved and difficult-to-reach audiences. Participants contributed valuable lessons and insights into various aspects of communication practices. Notably, understanding the characteristics of different audience groups and individuals, and actively involving them in the communication process through co-creation, emerged as vital elements. In-person meetings and events were highlighted as opportunities to establish personal connections and trust.

Advice was given to focus on meeting audience demands rather than solely emphasising the output to be presented. Communication methods were suggested to employ engaging techniques, such as visuals and other creative approaches, while being sensitive to language, cultural differences, and varying knowledge levels among the audience.

The outcomes of these discussions were shared during a plenary session. Additionally, before and after the workshop, participants completed questionnaires that provided insights into their backgrounds, expectations, and evaluations of the workshop.

In summary, the workshop proved to be an enriching experience, fostering the exchange of knowledge and expertise in climate science communication. The valuable insights gathered will aid us in refining and implementing effective communication strategies to reach diverse audiences, focusing on reaching difficult-to-reach and underserved audiences, and to create a meaningful impact on climate change knowledge dissemination.

The results of the workshop are discussed in MAGICA WP5 Deliverable 5.1 "Knowledge uptake analysis among the target audience: Exploring effective approaches, discovering best practices, and overcoming barriers".

List of abbreviations

ERA	European Research Area
EU	European Union
KH	Knowledge Hub
NGO	Non-governmental organisation
WP	Work package

1   Introduction

The objective of MAGICA WP5 is to enhance the visibility, accessibility, and utility of research results from scientific and innovation projects within the ERA (European Research Area) to foster synergies between science, policy, and society. The ultimate goal is to make the exchanged knowledge more actionable. WP5 functions as a communication and dissemination gateway to the outside world, supporting MAGICA's other WPs, particularly WP4, which focuses on the Science-Policy-Society Dialogue.

One of the crucial tasks of WP5 is to contribute to a European climate science communication mechanism by establishing Knowledge Hubs (KH) in the field of climate neutrality and climate resilience. To achieve this, we leverage our extensive R&I community, comprising projects funded by both the European Union (EU) and JPI Climate member states. We invited representatives from these projects and relevant institutions to participate in an online workshop to map their target audiences, identifyi knowledge uptake gaps, and share approaches to engaging with their target audiences. Additionally, our aim was to jointly identify audiences that have been overlooked, underserved, or are difficult to reach.

For this workshop, we set the following objectives:
- Create an overview of communication and engagement objectives in European research projects related to climate neutrality and climate resilience, including target audiences, communication and engagement strategies, and methods applied in these projects.
- Identify audiences that have not been adequately addressed or are challenging to include in current efforts.
- Learn about effective practices that can be further developed and applied in the context of MAGICA.
- Identify new models and trends in communication and engagement strategies within the field.
- Share experiences and establish follow-up activities to support continued cooperation with project representatives.

The workshop targeted specific participants, including:
- Representatives of Horizon Europe projects responsible for communication and engagement, as well as researchers working on communication and engagement strategies.
- Representatives of projects funded by JPI Climate Member States responsible for communication, along with researchers working on communication and engagement strategies.
- Representatives of organisations such as Belmont Forum, Future Earth, and Adaptation Research Alliance.
- Experts in the domain of knowledge brokering and representatives of citizens' initiatives.

Through this workshop, we sought to create a collaborative and comprehensive understanding of effective communication and engagement practices in of climate research. By identifying and addressing knowledge gaps, we aim to strengthen the impact of climate-related research on policy and society, advancing progress towards climate neutrality and climate resilience.

To carry out this task, the team of researchers conducted the following activities between November 2022 and July 2023:

- Developing the main objectives of the workshop and designing the programme
    - selecting target participants
    - inviting experts for keynotes
    - preparing discussion questions and tools (Miro boards) to support the discussion
- Managing invitations and participation
    - designing and distributing the flyer and the invitation mail
    - developing the pre-workshop questionnaire
    - managing the invitations and responses
    - processing the pre-workshop questionnaire
- Workshop preparations and technical setup
    - setting up the online platform for the workshop
    - instructing the breakout group facilitators and note takers
- Workshop execution on March 30th, 2023
- Providing feedback to participants
- Processing and analysing the results for the report D5.1
- Completing reporting

2 Selecting and Inviting Workshop Participants

2.1 Participant Selection

The workshop aimed to explore best practices in climate science communication and bring together climate science communication officers involved in research projects funded by the European Union (EU) and JPI Climate member states. To ensure valuable knowledge and experience were represented, we carefully curated an 'invitation-only' list of participants for the workshop.

The target audience comprised science communication experts engaged in climate projects funded by the EU and JPI Climate member states. We identified potential invitees based on the following criteria:

- Serving as a communication officer in an EU-funded research project or JPI Climate member state-funded research project
- Involvement in a research project that utilises advanced communication approaches to reach diverse audiences
- Ongoing or recently completed research projects.

Through online searches and collaboration with MAGICA partners and JPI Climate, we compiled a list of approximately 60 projects and organisations that met these criteria. The selected projects included those funded under JPI Climate's ERA4CS (25) and Solstice call (7), along with Coordination and Support Action projects (6) and projects funded by the LIFE+ climate change adaptation subprogramme (7). Additionally, we added contact persons from other prominent research funders with global outreach, such as Belmont Forum, Future Earth, and Adaptation Research Alliance, as well as from European JPIs like JPI Cultural

Heritage, JPI Oceans, and JPI FACCE. Lastly, the core team included contact details of inspiring peers from their professional network. These selected projects and organisations were extended exclusive invitations to participate in the workshop.

2.2   The workshop invitation

Invitations were extended to the designated contact persons or, if available, directly to the communication officers of the selected projects and organisations. The workshop invitation was shared as a flyer on March 9th, 2023, encouraging individuals to participate in the event. Interested invitees were requested to register for the workshop by completing the registration form provided.

As the workshop date approached, we further engaged the registered participants by sending them an updated programme. This included essential details and timings, allowing them to prepare for the workshop effectively. They also received a workshop request in Outlook to facilitate their scheduling, and a pre-workshop questionnaire was provided to gather essential inputs before the event. (For more details, please refer to Annex 1, 2, 3 and 4).

2.3   Registered participants

We received an unexpectedly high number of 60 registrations for the workshop, surpassing our initial expectations. As a result, the team had to reorganise the programme and increase capacity to ensure sufficient facilitators and note-takers for each breakout session.

To facilitate the workshop, we used Mentimeter at the start of the event, allowing both facilitators and participants to gain an overview of the participants' profiles. Notably, there was a good representation from North, West, and South-Europe. However, Eastern Europe was not represented, likely due to selection bias, as most European funded research projects are not led by organisations from Eastern European countries. Additionally, one participant attended the workshop from Ghana, and three participants joined from Australia. Figure 1 shows the European countries represented in the workshop.

In which country are you now?
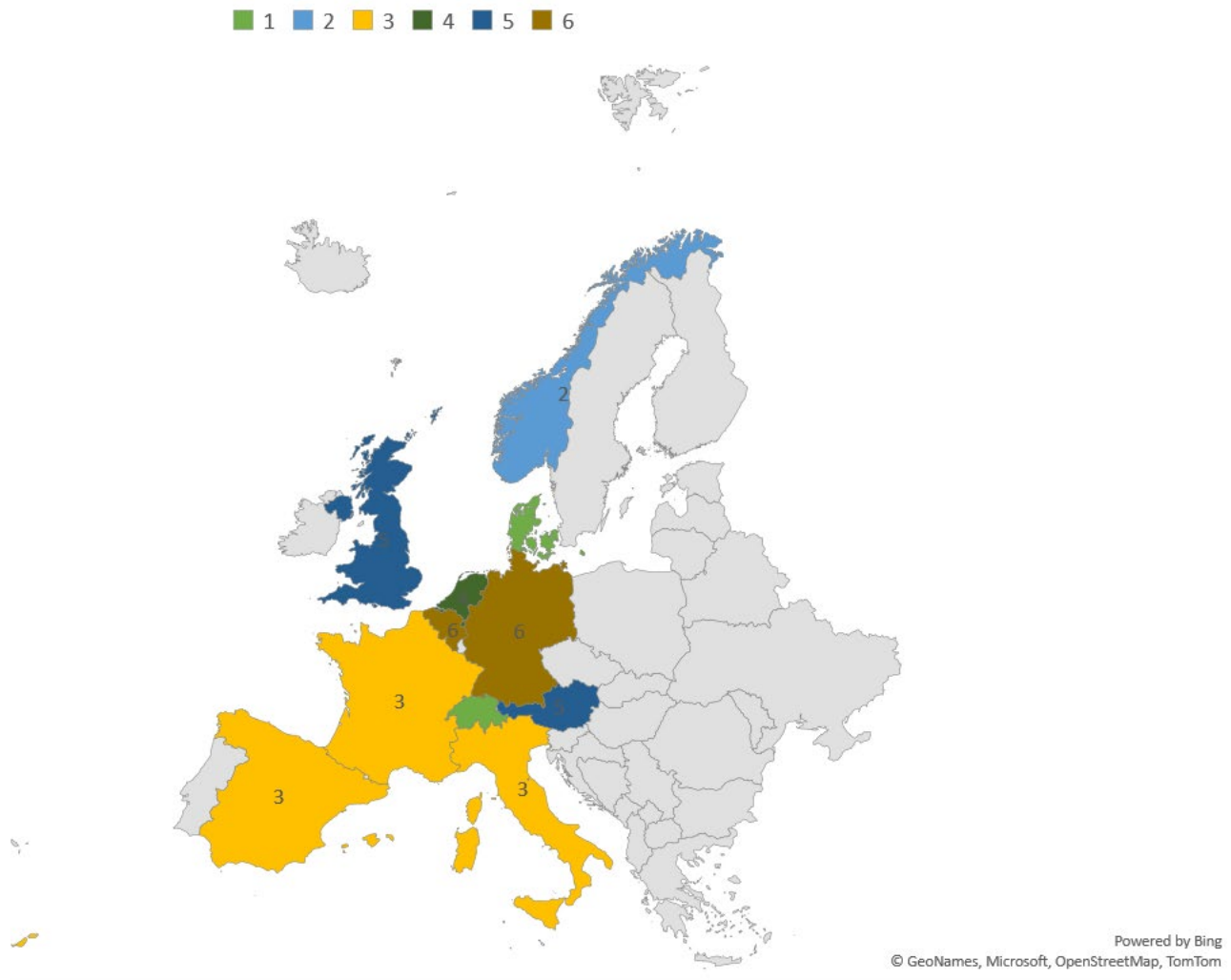Number and location of workshop participants

Fig. 1. Map showing the European countries represented by the workshop participants.

The workshop saw participants from diverse organisations, primarily research institutes. Additionally, representatives from network organisations such as JPI Oceans and Climate KIC, consultancy companies such as LGI Sustainable Innovation, and regional entities such as the Capital Region of Denmark were also in attendance.

3   Pre-workshop questionnaire

Before the workshop, we distributed a questionnaire to registered participants to gather insights for preparing the workshop and organising the breakout group sessions. Of the registered participants, 24 completed the questionnaire, responding to inquiries about their experience with climate science

communication, ideas they wished to share, and their perspective on underserved audiences in Europe. This information was instrumental in refining questions for the breakout sessions and identifying challenging-to-reach and underserved audiences, as suggested by the participants. The complete set of questions can be found in Annex 4.

Upon analysing the registered participants' sample, we observed that the majority of research projects communicated their science results to policymakers at various levels (79% of the research projects) and science organisations (79% of the research projects) (Figure 2). Additionally, communication efforts were directed towards citizens (62.5% of the research projects), NGOs at different levels (46% of the research projects), research funding organisations (42% of the research projects), media/content writers (37.5% of the research projects), and the private sector (33% of the research projects).
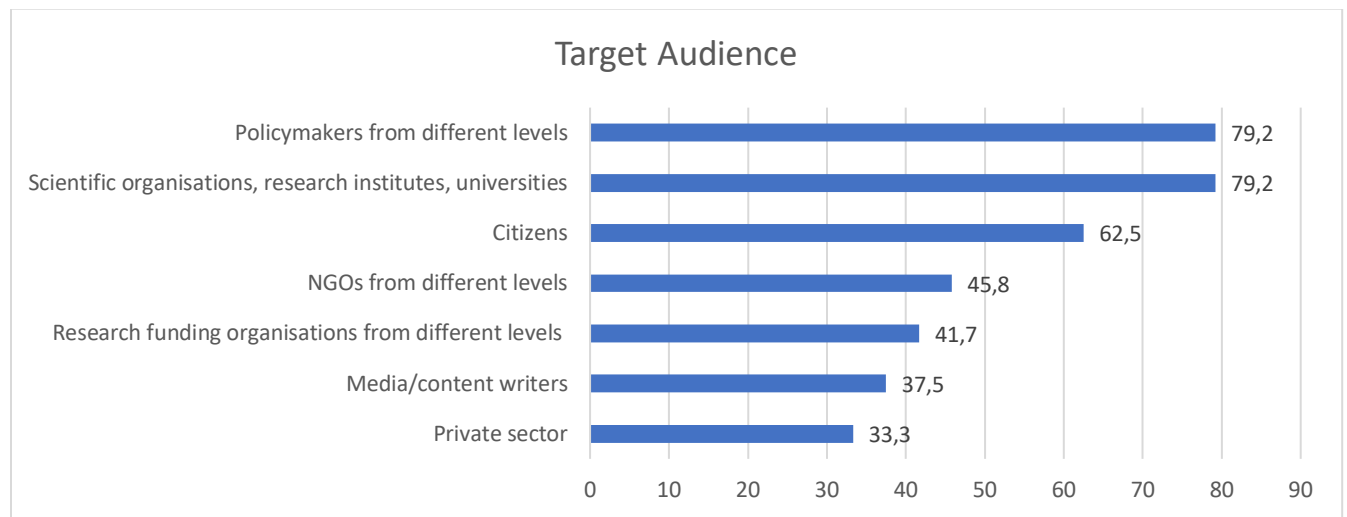

Fig. 2 Target audiences of the participants' projects in the workshop (pre-workshop questionnaire).

In the pre-workshop questionnaire, we also explored the primary purpose of communication within the research projects (Figure 3). Among the sampled research projects, the majority communicated science results to inform and raise awareness (83% of the projects). Furthermore, a significant portion aimed to provide information to support actions (67% of the projects). Other essential purposes for communication included engaging with people (58% of the projects), influencing policy (54% of the projects), and fostering changes in attitudes and behaviours (42% of the projects).
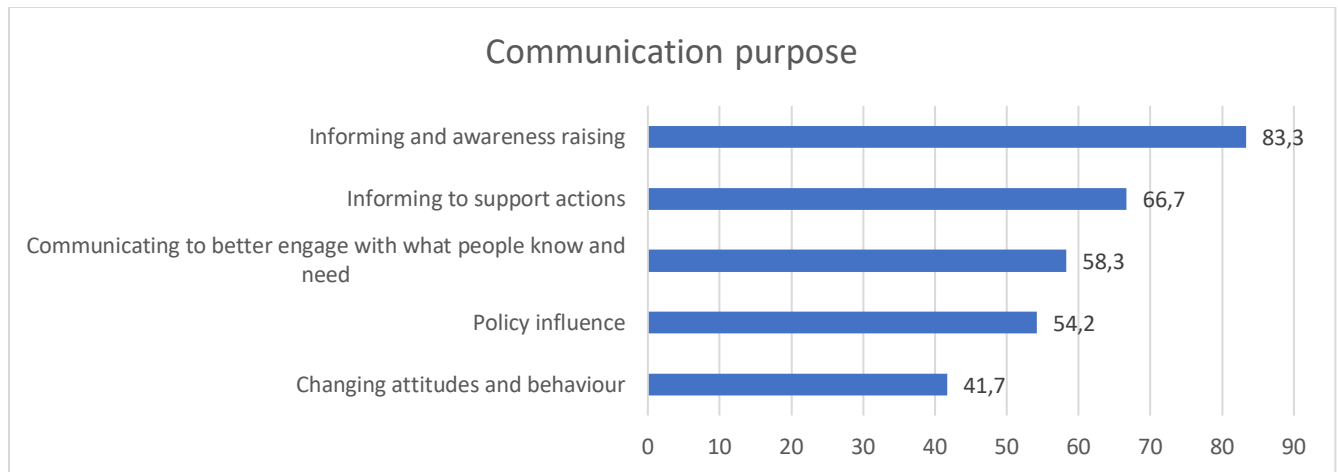
Figure 3. Communication purpose of the participants' projects in the workshop (pre-workshop questionnaire.

In the pre-workshop questionnaire, we also inquired about audiences that, according to the participants, are currently underserved but would benefit from improved access to climate science results. They responded with the following:

- Rural and remote areas, including Eastern Europe
- Economically disadvantaged areas and individuals
- Non-English speakers or those unfamiliar with the local language
- General public/citizens
- Policymakers
- Older generations
- Regions heavily reliant on fossil fuels
- Local decision-makers, planners, and engineers
- Extreme right movements/populist groups
- Individuals disinterested in environmental issues or the future
- Younger generation
- Companies and businesses

4   The workshop

4.1   Workshop approach and process

The online workshop was conducted using the Microsoft Teams platform and lasted 2 hours and 30 minutes. It commenced at 10:30 with an introduction by the MAGICA WP5 manager, followed by a Mentimeter poll to gain insights into the participants' backgrounds.

The workshop programme consisted of three main parts (Figure 4):

- A plenary session with presentations by two experts.
- Seven breakout sessions for small group discussions to collect experiences from participants.
- A concluding plenary session to consolidate insights and recommendations.

The facilitation of the session was led by WP5 partners WENR, BELSPO, and BOKU.

The plenary and breakout sessions were recorded in Teams after participants were informed of the recording. The chat function was used throughout the workshop for questions, comments, and sharing good examples. All recordings, chat history, and Miro boards were saved, used for data processing purposes and later deleted according to GDPR guidelines. The following paragraphs will describe each workshop component in detail.

10:30 – 10:45	Welcome and Introduction
10:45 – 10:55	Who is participating in the workshop? (Mentimeter)
10:55-11:05	"Enhancing the impact and reach of research through targeting communication" by Roger Street (University of Oxford and CMCC) Roger has been involved in adaptation over the past 40 years with a focus on understanding the adaptation process and the knowledge and information inspiring and informing adaptation action. This has included working with groups and organisations in Europe, the UK, Canada, China, Australia and Japan. Much of his activities has included developing and exploring translational science, strategies for provision of the required knowledge and information, and practises for sharing good practices.
11:05 -11:15	"Using social media in the climate adaptation space" by Johanna Nalau (Griffith University, Australia) Johanna Nalau is an adaptation scientist with many years of experience communicating her research results to a broad range of users via podcasts and social media amongst other communication channels. Her research focusses on how, why and when people make decisions to adapt to climate change, and what role science can and should play in that process. Johanna is also Lead Author for the Intergovernmental Panel on Climate Change (IPCC) AR6 and Science Committee Co-chair of the World Adaptation Science Program at United Nations.
11:15 – 11:20	Introduction to the breakout session and split into groups
11.20 - 12:00	Breakout session (Miro boards)
12:00 – 12:15	Coffee break
12:15 -12:45	Plenary - Reporting back and conclusions
12:45-13:00	Wrap up, next steps & follow-up

Fig. 4. The workshop programme presented to participants.

4.2   Workshop programme

4.2.1   Intro and keynote speakers

Keynote Speakers:

- Roger Street (University of Oxford and CMCC): Roger has over 40 years of experience in climate adaptation, focusing on understanding the adaptation process and the knowledge inspiring adaptation action. He has worked with organisations worldwide, developing translational science strategies and sharing good practices.
- Johanna Nalau (Griffith University, Australia): Johanna is an adaptation scientist with extensive experience communicating research results through podcasts and social media. Her research centres on understanding people's decisions to adapt to climate change and the role of science in that process. Johanna is also a Lead Author for the IPCC AR6 and Science Committee Co-Chair of the World Adaptation Science Program at the United Nations.

Roger and Johanna were the first speakers we approached, and we were delighted they could both accept. Their practical and extensive experience covered more traditional climate communication methods and the newer ones, such as social media. They also provided perspectives from both hemispheres, focusing on innovative and practical approaches to overcoming challenges. Overall, the workshop and breakout groups were led by a diverse and balanced team of experienced climate science communicators drawn from MAGICA project organisations, in addition to the excellent credentials of our 2 keynote speakers.

Summary of Roger Street's presentation *'Communications to enhance reach and impacts of climate change research and innovation':*
The goal of climate communicators is to increase the reach and impact of climate change research and innovation to various beneficiaries through effective communication strategies. Each group of beneficiaries requires tailored communication and dissemination strategies that are credible, legitimate, relevant, usable, and accessible. Translational science is crucial for success, as it accelerates the process of turning research into real-world climate actions for non-traditional and hard-to-reach audiences. Key steps to a well-informed strategy include understanding the audience, using familiar language, engaging beneficiaries in strategy development, and building feedback loops for learning and sharing successful approaches.

Summary of Johanna Nalau's presentation *'Social Media & Climate Adaptation':*
To run successful social media communication campaigns, a strategic approach is essential rather than a scattergun approach. Consider the platforms your target audiences are using instead of trying to be present on all platforms. Johanna focuses on Twitter for climate adaptation. She recommends focusing on a narrative in your posts, adding expertise, and monitoring analytics to understand what works best with your audience. Promote not only your work but also others in your field, use consistent posting, include photos, hashtags, and link back to your website. For professional target audiences, LinkedIn is suitable, while podcasts and platforms such as 'The Conversation' offer valuable opportunities for

reaching specific audiences. Johanna emphasises the importance of testing and learning from the social media strategy.

The presentations are included in Annex 5.

4.3   Breakout sessions

We organised seven breakout sessions for intensive discussions to achieve our workshop's goal of sharing, discussing, and collecting experiences on effective climate science communication. Each breakout room had a facilitator and note-taker to guide participants during the 45-minute discussions. Using the virtual whiteboard in Miro, we presented main discussion questions and panels for participants to take notes and respond to the topics.

The first part of the discussion focused on successful practices in climate science communication and addressed the following questions:

Think about some of your good experiences with communication of climate science:

- Which target group(s) have you been working with?
- What communication strategies or mechanisms have you used successfully?

Participants had 10 minutes to note their answers on the Miro board, followed by 10 minutes of facilitated discussion to explore similarities and differences. The questions guiding this part included:

- Why were the activities successful? How do you know they were successful? (Was it monitored? - How?).
- What was the reaction of the target group to the engagement/communication strategy?
- How were the strategies evaluated for effectiveness (from user standpoint and provider standpoint) in your project?
- What challenges did you encounter and how did you overcome them?
- Did you include less traditional strategies, for instance art, poetry, social media, knowledge brokers, journalists? Why do you think it worked?

In the second part, the focus shifted to strategies for engaging hard-to-reach and underserved audiences. Each group selected an underserved audience from the pre-workshop questionnaire, and they discussed the following questions:

- Why would you consider this group underserved? (See possible issues in the Miro board).
- What are their values, beliefs, and interests? Who do they trust?
- What are the barriers and obstacles in reaching and engaging them?
- Looking at the communication strategies that are discussed: which could work well for this group?
- Why do you think they will be successful? How do they align with values, beliefs and interests of these specific audiences?

For a visual example, please refer to Figure 5, which showcases the Miro board of one of the breakout groups.
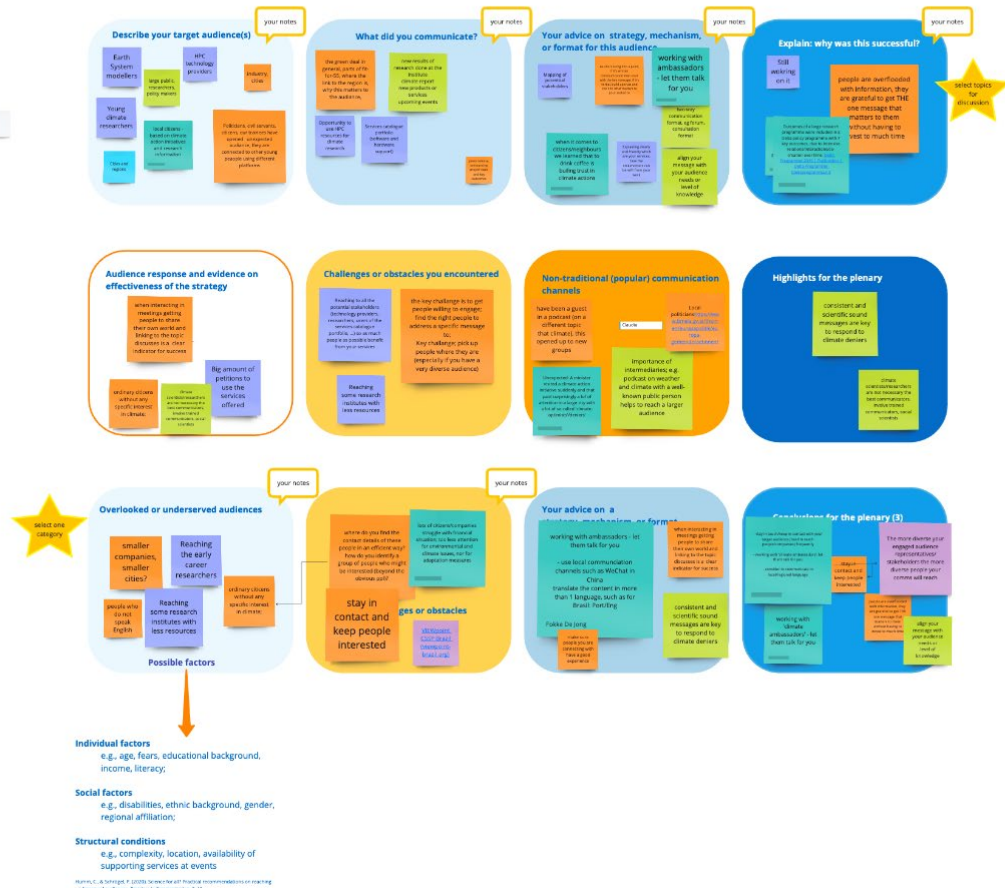
Figure 5: The results of discussion in one of the breakout sessions. Each participant used one colour (anonymised in the left panel).

Not all registered individuals were present throughout the workshop, because some had to leave after the plenary sessions or during the breakouts. Approximately 30 participants actively engaged in the breakout sessions. To ensure balanced discussions, we pre-organised the registered participants into seven groups, each with 8 or 9 members. Moreover, participants from the same organisation were intentionally placed in different breakout groups.

During the breakout sessions, each group had 3 or 4 members actively participating in the discussions and collaborating on the online whiteboard in Miro.

For detailed insights, you can refer to Annex 6, which contains the comprehensive results from the Miro board.

5   Key messages of the workshop

Following a coffee break, participants reconvened in the plenary session. The facilitators presented highlights from each breakout group, and Roger Street, the session chair, provided reflections on these insights. While not explicitly stated, many of the recommendations were crafted with a focus on underserved and hard-to-reach audiences.

Each breakout group facilitator shared three key highlights with the entire workshop, which Roger the synthesised to create a comprehensive overview of the discussions.

Group 1 - **Audience Inclusivity**
- When developing communication strategies, involving the audience in the process is essential.
- Avoid using labels that may cause offence or alienate them, such as terms related to socioeconomic status.
- Additionally, ensure that the content is accessible and inclusive, especially for individuals with specific needs, such as creating social media posts that accommodate various audiences.

Group 2 **- Understanding Target Audiences**:
- Co-creating communication outputs with a representative sample of the target audience helps make the content more relevant and relatable.
- Understanding the structure and characteristics of the target audience is crucial for effective communication.
- Consider generational gaps that may affect IT literacy.

Group 3 - **Two-Way Communication**:
- Avoid assuming that the target audience knows nothing about the subject matter. Emphasise two-way communication rather than just top-down dissemination of information.
- Utilise existing networks and platforms,
- Trusted intermediaries who are familiar with the target group to enhance engagement.

Group 4 - **Diverse Communication Approaches**:
- Employ a mix of creative and scientific methods to reach target groups effectively.
- When producing materials like comic books for children, tailor them to reflect cultural differences and the needs of different communities or countries.
- Don't neglect traditional activities such as face-to-face workshops, as they remain valuable for interaction and engagement.

Group 5 - **Continuous Engagement**:
- Once the audience is engaged, maintain regular contact to sustain and reward their interest.
- Ensure they have a positive experience and feel heard.
- Work with or develop climate ambassadors and champions within the target audience, especially in diverse communities.

Group 6 - **Utilising Technology**:
- Social media can be more of a form of broadcasting than a dialogue and therefore limited in facilitating learning.
- Explore innovative technologies such as AI chatbots for Twitter messages, and virtual reality to enable people to experience the impact of extreme weather events first-hand.
- Clearly define the focus audience to tailor communication effectively.

Group 7 – **Engaging stakeholders and crafting accessible content:**
- Explore traditional methods such as events and workshops.
- Involve stakeholders in communications activities – bring different stakeholders into the process of building knowledge.
- Create simple and easy-t- understand content, carefully crafting messages with regard to language.

Summary of Roger Street's reactions to the breakout group discussions:
1. **Know Your Audience**: Understand your audience thoroughly regardless of which platform(s) chosen, u. One way is to adopt Johanna's suggestion of creating detailed profiles similar to how marketing and sales professionals do, to get a complete understanding of their lives, how they think, what they need, etc. This understanding helps in crafting effective communication strategies and maintaining engagement once established.
2. **Co-design and Co-production**: Involve representatives of your target audience in the development of communication strategies. For example, children can be engaged to reach school children effectively.
3. **Innovative and Trusted Approaches**: Combine new, innovative ideas with trusted sources of information for the audience. This could include using comic books, theatre, social media (taking into account platform preferences in different cultures), short videos, and animations for sharing information.
4. **Children as Change Facilitators**: Children can act as change facilitators by sharing climate learning experiences with their parents and, in turn, influencing broader social change.
5. **Importance of Measurement**: Measure and record the impact of communication strategies to evaluate their effectiveness. Don't overlook traditional communication methods like media and peer-to-peer interactions, as they remain valuable avenues.

Roger called for participants to share links to examples they know of, including examples of communicating the results of research.

The results of the workshop are further discussed in MAGICA WP5 Deliverable 5.1 "Knowledge uptake analysis among the target audience: Exploring effective approaches, discovering best practices, and overcoming barriers".

6   Participants' feedback

After the workshop, we sent an email to all registered participants, including links to a comprehensive questionnaire about the event (Annex 7), along with the MAGICA newsletter and website.

Out of the participants, 11 took the time to respond to the questionnaire. Overall, the feedback on logistics, such as registration, content information, programme details, and using Microsoft Teams, Miro collaboration, and Mentimeter platforms, was 'positive' to 'very positive'. Additionally, most attendees deemed the event's duration   suitable , though a few (4) individuals expressed a desire for more time allocated to breakout group discussions.

Regarding the workshop's presentation quality and interactivity, most participants expressed satisfaction. However, using the Miro board for knowledge-sharing and plenary discussions scored an average of 3.5 on a scale of 1-5, from 'disagree with the statement' to 'agree with the statement'.

The content of the event was well-received, with participants appreciating the knowledge-sharing opportunities and innovative methods for communicating climate change and related issues. The results for the question if 'the participant was able to acquire useful information for their job' ranged from 5 (agree, selected 4 times) to 1 (strongly disagree, selected twice).

While some participants praised the breakout group discussions facilitated by Miro boards, others felt that the set-up did not fully support learning about the practical experiences and practices they desired.

The participants provided suggestions to enhance future workshops:
- Demonstrating collective knowledge by sharing practical activities and real examples of climate change communications and materials, possibly through pitch presentations by participants. This would offer insights into their approaches, recommendations, do's, and don'ts.
- Organising breakout groups based on target audiences to foster more focused and tailored discussions.

These suggestions will be considered to improve the effectiveness and impact of future workshops.

7   Conclusions

We can conclude that there is a significant interest within the climate science communicator community to share knowledge, particularly in practical experiences related to methods and techniques for climate change communication. The primary objective of the workshop, which aimed to explore best practices in climate science communication and unite climate communication officers engaged in research projects funded by the European Union (EU) and JPI Climate member states, was successfully achieved. The outcomes of this workshop stand as a valuable resource for MAGICA WP5 Deliverable 5.1 "Knowledge uptake analysis among the target audience: Exploring effective approaches, discovering best practices, and overcoming barriers".

The level of engagement displayed by participants during the workshop was notably high, and overall, they expressed satisfaction with the organisation of the event. The feedback and constructive suggestions

provided by certain participants will be duly considered and applied in future events, aiming to further enhance their quality and impact.

8 Next steps and follow-up

The workshop has successfully gathered a substantial amount of valuable communication best practices, which the MAGICA team plans to compile into a visually appealing lookbook. This resource will feature inspiring visuals and supporting texts, explaining the key factors behind successful communication efforts.

Moreover, the workshop has identified pending issues currently hindering effective science communication within the climate change community. These critical concerns will be integrated into the relevant MAGICA work packages to ensure that our collective efforts are optimised in overcoming existing barriers in science communication. As a result, specific MAGICA activities will be developed to address these pending issues.

9 Acknowledgements

We thank Roger Street from Oxford University (UK) and Johanna Nalau from Griffith University (Australia) as keynote speakers during the online workshop, and Roger for chairing the plenary discussion. Also, we are grateful for all the assistance of the additional facilitators and notetakers during the breakout sessions: Petra Manderscheid (BELSPO), Parveen Kumar, Connie Meinders, Ineke Weppelman, Mieke Tusveld (WENR), Martina Haindl (BOKU) and Lynette Smith (GRAMMA, Australia). All the participants in the online workshop are thanked for providing their valuable inputs and contributions to take stock of existing and new communication mechanisms for climate change.

10   Annexes

Annex 1 Flyer Online workshop

ONLINE WORKSHOP

SCIENCE COMMUNICATION
STRATEGIES FOR CLIMATE CHANGE
RESEARCH: SHARING BEST PRACTICES

Thursday, 30th March 2023, 10:30 – 13:00 CET

Please click here to register.
The final programme and Microsoft Teams link to join the
workshop will follow shortly via email.

We cordially invite you to our online workshop on science communication strategies and mechanisms in relation to climate change.

MAGICA is an Horizon European project and stands for "Maximizing the synergy of European research Governance and Innovation for Climate Action". One of the project's aims is to improve access to scientific knowledge on adaptation and mitigation to climate change, for policy, practice and society.

There is still so much we can learn from each other. Therefore, we are organising this workshop with the Research & Innovation community involved in projects funded by the European Commission (EC) and by JPI Climate member states.

ABOUT THIS WORKSHOP

The workshop will be led by us, the MAGICA's communication an dissemination team. Furthermore, we have invited two inspiring coaches to the workshops:

Roger Street from Oxford University, UK. He is an internationally renowned science communicator with over 30 years of experience in engaging a wide range of audiences to make use of complex climate information.

Johanna Nalau from Griffith University, Australia. She is adaptation scientist with years of experience to communicate about her research results to a broad range of users via podcasts and social media amongst other communication channels.

Participants will be experts in climate communication, working on European research projects. They will hear about some of the latest communication work across a range of European projects, share their experiences and best practices, take away insights into reaching non-traditional and under-served audiences and contribute to a new open access resource for climate communicators that is being developed by the Horizon project MAGICA.

The workshop is an opportunity for participants to compare and explore strategies for successful engagement and communication, including with hard-to-reach audiences. We will address the question: How does climate communication need to change to reach non-traditional audiences? You will be able to share your successes, learn from others and build new connections.

The workshop results will lead to a collection of good practice examples and guidelines for communication and engagement strategies to support communicators at all levels.

1

Annex 2 Registration Form

Registration:
Workshop "Communication strategies for climate change research: Sharing best practices"

Date: 30 March 2023, 10:30-12:30 (CET)
Venue: Online

Please register before Thursday 23 March 2023

JPI Climate will never share your data with any third parties that are not involved in JPI Climate activities without your permission. Join our community by subscribing to our newsletter.

ingridoonlnx@gmail.com Switch accounts

Not shared

* Indicates required question

MAGICA   Funded by the European Union   JPI Climate

Name *

Your answer

Surname *

Your answer

Organisation *

Your answer

The project(s) name *

Your answer

Your role in the project(s) *

Your answer

E-mail *

Your answer

Country *

Your answer

Request edit access

-

In order to keep JPI Climate compliant with the European General Data Protection * Regulation (GDPR)

☐ I agree that photos taken during this meeting may be used for JPI Climate communication purposes.

☐ I agree that my data may be shared with the partners of the JPI Climate and parties involved

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Annex 3 Programme (updated)

ONLINE WORKSHOP PROGRAM

SCIENCE COMMUNICATION STRATEGIES
FOR CLIMATE CHANGE RESEARCH:
SHARING BEST PRACTICES

Thursday, 30th March 2023, 10:30 – 13:00 CEST

Please join the online workshop at least 5 minutes before the scheduled starting time so you won't miss valuable information. The Microsoft Teams link to join the plenary session will be sent to your email.

We recommend joining through your computer, to have the best sound quality and to have access to the interactive workshop platforms we will use.

Time	
10:30 – 10:45	Welcome and Introduction
10:45 – 10:55	Who is participating in the workshop? (Mentimeter)
10:55 – 11:05	"Enhancing the impact and reach of research through targeting communication" by Roger Street (University of Oxford and CMCC) Roger has been involved in adaptation over the past 40 years with a focus on understanding the adaptation process and the knowledge and information inspiring and informing adaptation action. This has included working with groups and organisations in Europe, the UK, Canada, China, Australia and Japan. Much of his activities has included developing and exploring translational science, strategies for provision of the required knowledge and information, and practises for sharing good practices.
11:05 – 11:15	"Using social media in the climate adaptation space" by Johanna Nalau (Griffith University, Australia) Johanna Nalau is an adaptation scientist with many years of experience communicating her research results to a broad range of users via podcasts and social media amongst other communication channels. Her research focusses on how, why and when people make decisions to adapt to climate change, and what role science can and should play in that process. Johanna is also Lead Author for the Intergovernmental Panel on Climate Change (IPCC) AR6 and Science Committee Co-chair of the World Adaptation Science Program at United Nations.
11:15 – 11:20	Introduction to the breakout session and split into groups
11:20 - 12:00	Breakout session (Miro boards)
12:00 – 12:15	Coffee break
12:15 - 12:45	Plenary - Reporting back and conclusions
12:45 - 13:00	Wrap up, next steps & follow-up

We are looking forward to meeting you on the 30th!

For more information please contact: monserrat.budding@wur.nl

ORGANISING TEAM
Monserrat Budding, Wageningen Environmental Research (WeNR)
Joske Houtkamp, Wageningen Environmental Research (WeNR)
Ingrid Coninx, Wageningen Environmental Research (WeNR)
Maija Malnaca, Belgian Science Policy Office (BELSPO- JPI Climate)
Kanika Singh, Belgian Science Policy Office (BELSPO- JPI Climate)
Sally Stevens, University of Reading (URead)
Mimi Amaichigh, University of Natural Resources and Life Sciences (BOKU)
Roger Street, Oxford University
Johanna Nalau, Griffith University, Australia

https://www.magica-project.eu/   JPI Climate & MAGICA on Twitter   JPI Climate & MAGICA LinkedIn group

Annex 4 Pre- workshop questionnaire

Survey: Your experiences on communicating climate sciences

Dear Workshop Participant,

We will meet on March 30 to exchange on best practices on science communication strategies for climate change.

We ask for your help with the workshop preparations by answering the questions below. Your answers will be also used for our research and the development of the workshop report.

Would you be able to answer the questions below by Tuesday March 28, 2023?

In line with the European GDPR, we assure you that your answers will be used to prepare the workshop, for our research analysis and for the development of the workshop report. MAGICA will never share your data with any third parties that are not involved in MAGICA activities without your permission.

Thank you in advance for your input!

The MAGICA team

P.S.
Join our community by subscribing to our newsletter.

* Indicates required question

From the perspective of the impact of climate communication, what are the acronym and website of the project that you are most proud of?

Your answer

Which audiences were specifically addressed in your projects in which you were involved?

- [ ] Policymakers from different levels: local/national/European/cross border
- [ ] Citizens
- [ ] NGOs from different levels: local/national/European
- [ ] Private sector
- [ ] Media/content writers
- [ ] Scientific organisations, research institutes, universities
- [ ] Research funding organisations from different level: national/European/global

Was communication explicitly directed at

☐ Informing and awareness raising

☐ Informing to support actions

☐ Policy influence

☐ Communicating to better engage with what people know and need

☐ Changing attitudes and behaviour

☐ Other:

What types of information were communicated to these audiences?

☐ Research outcomes, academic information (forecasts, evaluations, etc.)

☐ Recommendations such as in policy briefs, guidelines, handbooks, etc.

☐ General information about the project

☐ News and events

☐ Other:

The information communicated to the audiences concerned

☐ Climate change general– developments and forecasts

☐ Climate change effects on land, biodiversity, marine and fisheries, water, agriculture, forestry, cities, infrastructure, health, finance, etc

☐ Climate change effects on society, economy, policy

☐ Climate mitigation general (local/national/European)

☐ Climate adaptation (general local/national/European)

☐ Other:

Main communication and dissemination mechanisms used

☐ Project website

☐ Social media platforms

☐ Newsletters

☐ Reports/e-publication

☐ Policy briefs

☐ Audio visuals/ Multimedia

☐ Workshops (in-person/online)

☐ Conferences (in-person/online)

☐ Press releases for media publications

☐ Brochures/ leaflets/ posters

☐ Knowledge brokers/peer to peer communication

☐ Other:

Which audiences in Europe are in your view seriously affected by climate change and at the same time underserved or difficult to reach by climate science communication? And why do you think this is so difficult?

Your answer

Do you have a preference to talk about a specific audience/target group during the workshop? And if so, about which audience?

Your answer

What is the highlight or eye-opener that you would like to share with the workshop participants about communication of climate science in your project?

Your answer

What do you hope to learn from the workshop?

Your answer

To keep MAGICA compliant with the European General Data Protection Regulation (GDPR) *

☐ I agree that the answers provided in this questionnaire can be used anonymously for MAGICA's research purposes.

Annex 5 Workshop Presentations

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Slide 1

ONLINE WORKSHOP
SCIENCE COMMUNICATION
STRATEGIES FOR CLIMATE CHANGE
RESEARCH: SHARING BEST PRACTICES

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- Meant for the **R&I community** involved in projects funded by the European Commission (EC) and by JPI Climate member states.
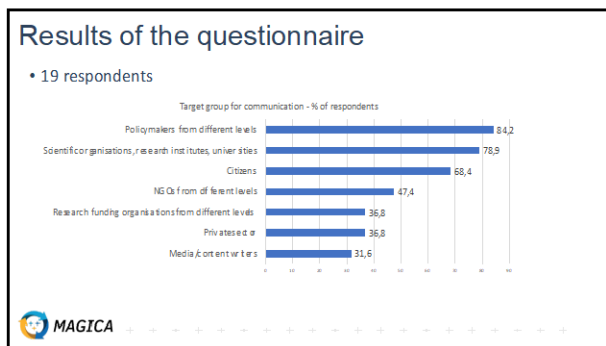
- Participants will:
  - Share about the latest communication work across a range of European projects,
  - Share their experiences and best practices of the impact and reach of projects to targeted audiences,
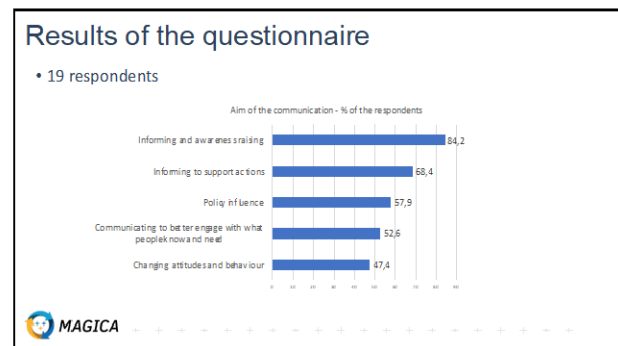 - Take away insights into reaching non-traditional and under-served audiences.

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Slide 2

ONLINE WORKSHOP PROGRAM

MAGICA

10:30 – 10:45	Welcome and introduction
10:45 – 10:55	Who is participating in the workshop? (Mentimeter)
10:55 - 11:05	"Enhancing the impact and reach of research through targeting communication" by Roger Street (University of Oxford and CMCC) Roger has been involved in adaptation over the past 40 years with a focus on understanding the adaptation process and the knowledge and information inspiring and informing adaptation action. This has included working with groups and organisations in Europe, the UK, Canada, China, Australia and Japan. Much of his activities has included developing and exploring translational science, strategies for provision of the required knowledge and information, and practices for sharing good practices.
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12:15 -12:45	Plenary - Reporting back and conclusions
12:45-13:00	Wrap up, next steps & follow-up

2

Slide 3

Results of the questionnaire

- 19 respondents

Target group for communication - % of respondents

Policymakers from different levels	84,2
Scientific organisations, research institutes, universities	78,9
Citizens	68,4
NGOs from different levels	47,4
Research funding organisations from different levels	36,8
Private sector	36,8
Media/content writers	31,6

MAGICA

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Slide 4

Results of the questionnaire

- 19 respondents

Aim of the communication - % of the respondents

Informing and awareness raising	84,2
Informing to support actions	68,4
Policy influence	57,9
Communicating to better engage with what people know and need	52,6
Changing attitudes and behaviour	47,4

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Slide 5

Results of the questionnaire

- 19 respondents

Main communication mean - % of the respondents

Project website	84,2
Workshops (in-person/online)	73,7
Conferences (in-person/online)	52,6
Social media platform	47,4
Newsletters	47,4
Reports/e-publications	47,4
Brochures/leaflets/posters	42,1
policy briefs	42,1
Audio visuals/multimedia	36,8
Press releases for media publication	21,1

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Slide 6

Results of the questionnaire

- Underserved / difficult to reach groups

People living in rural and remote areas
Poor areas/poor people
People that do not speak English or not speak the local language
General opinion/citizens
Politicians
Older generations with technological illiteracy
Those in certain parts of Europe (like Eastern or Southern Europe) that are affected by weather extremes, or still rely on fossil fuels, yet don't speak English and they don't know about EU climate action and how they can benefit.
Local placed based decision makers, planners and engineers
Extreme right movements/populist
Citizens who are not interested by the environment/future or deniers as they do not have climate change in their agenda, are not sensitive to this topic.
Companies and public bodies on a very local level
People with low socioeconomic status (life is too complex and have other problems to handle in their everyday life), children (youth), elderly people, immigrants.

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Slide 1

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Slide 2

Plenary - Reporting back and conclusions

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Slide 3

Wrap up, next steps & follow-up

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Slide 4

- **The workshop results** will lead to a **collection of good practice examples and guidelines for communication and engagement strategies.**

  ➢ They will be shared with you by **email,** in our **website** and in our **Social Media channels**

RESULTS

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Slide 5

- **Do you want to know more about MAGICA?**

  ➢ Website: https://www.magica-project.eu/

  ➢ Social media channels:
    JPI Climate & MAGICA LinkedIn group
    JPI Climate & MAGICA on Twitter

  ➢ Subscribe to our newsletter: https://jpi-climate.us10.list-manage.com/subscribe?u=8e02c3fc0ae452b82ab0e10c3&id=0d29d94a61

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Slide 6

Last but not least ...

- Read our latest news about the **1st Equinox Summit 2023** here:
  https://magica-project.eu/news/1st-equinox-summit-2122-march-brussels

- **ECCA2023** Registration is open!
  Book your place before April 28th to take advantage of our significant early bird discount here:
  https://conference.ucc.ie/european-climate-change-adaption-conference-2023/ecca2023-registration/Site/Register

- Upcoming event 23-28 April 2023: Annual general assembly of the **European Geosciences Union (EGU) 2023.** Read more here:
  https://magica-project.eu/events/latest-research-climate-resilient-europe-european-geosciences-union

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Communicating to Enhance Reach and Impacts of Climate Change R&I

Roger Street

University of Oxford and CMCC

Science communication strategies for climate change research: Sharing best practices
30th March 2023

www.magica-project.eu

Funded by the European Union

JPI Climate

MAGICA
Maximizing the synergy of European research Governance and Innovation for Climate Action

Communicating your Research and Innovation Results

The ultimate goal of your research and innovation activities is to communicate and disseminate your results

- Communicate and disseminate to achieve targeted reach and thereby enhance the impacts – policy, practitioners, innovators and scientific community - beneficiaries
- In doing so your intention is to ensure that the reported results are credible, legitimate, relevant, usable and accessible – in terms of meeting the needs of the targeted audiences
- Doing so, you are translating your R&I results for the intended readership
  - Success in communicating and disseminating your results is dependent on your translation
- Success in achieving the intended reach and impact is dependent on your communication and dissemination strategy and plans for its implementation

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Impact Pathways – Achieving Reach and Impacts

Impact pathways – what you will do to make beneficiaries aware of your research so that impacts can be achieved – causal chain of events leading to identifiable effects

Pathways can include reaching out (engagement and communication) to non-traditional and hard-to-reach beneficiaries.

The scope and nature of beneficiaries (reach) should be identified based on the targeted impacts and the intentions of the funding body(ies) and key partners

Strategy and plans should clearly identify impact pathways for each targeted beneficiary, along with rationale and means of measuring success

- Co-designed and co-developed requiring interdisciplinary (transdisciplinary) engagement

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Communication and Dissemination Strategy and Plans

Challenges different than when communicating and disseminating to your scientific peers

- Strategy and plans should reflect the specific aspects of each targeted beneficiary – relevant, usable, legitimate, accessible and credible from their perspectives
- Targeted audiences are diverse and non-homogeneous – reflect these in the strategy and beneficiary-specific plans
- Use of appropriate and legitimate means for communication and dissemination – more than just papers, reports, briefing notes
  - know your audiences and their communication channels – example of pub nights (pint of science), social groups, u3a, boundary-crossing partnerships – know your audience and work with them to identify effective channels
- Reflecting the different ways people and groups learn - visualisations, including animations – be innovative

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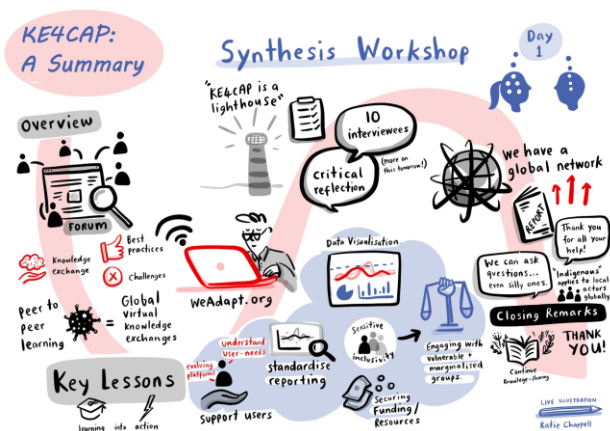
Translational Science: Critical to success

Need to translate – to enable and accelerate the process of turning research and innovation into real-world climate actions

- Not all have skills or experiences in communicating and disseminating, especially when reaching out to non-traditional and hard-to-reach audiences
- There is science that can provide guidance – but may require interdisciplinary and transdisciplinary engagement
- Challenges associated with such efforts:
  - Acceptance by funding bodies that this is a legitimate part of the required research
  - Engaging interdisciplinary team and beneficiaries in that required
  - Recognition within the academic community as to the legitimacy of efforts in this area

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Measuring Success and Learning

Success is gauged by the audience – this is the case for all communication and dissemination activities

- Know who will be evaluating and how (success criteria) you will be judged
- Co-design and co-develop the success criteria, engaging your intended audiences
- Learn from your experiences (include feedback loops) – continuous learning and improvement
- Learn from other's experiences – seek opportunities to learn and share learning – recognise that this is legitimate contributions to the literature that should be shared

MAGICA

Communicating to Enhance Reach and Impacts of Climate Change R&I

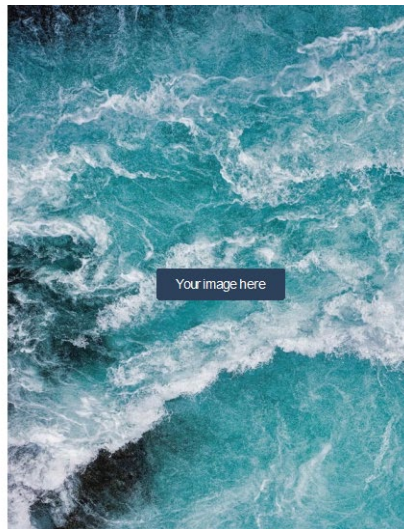The aim is relevant, usable, accessible, legitimate and credible communications and dissemination

Challenges when including non-traditional and hard-to-reach beneficiaries requires an innovative and well-informed strategy and plans

Interdisciplinary and transdisciplinary approaches with feedback and learning loops are crucial

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Your image here

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Annex 6 Input from breakout sessions

Group 1

Participant	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	researchers, municipalities, citizens, EU, national and local policymakers	reports on nature based solutions for urban areas, databases and scientific publications, events and workshops		
2	national and local policymakers, next users, funders-bilateral engagements , private sector, end users, other research organisations/experts		podcasts - anchor topic on international/national day celebrations - record audio and video via teams/zoom if not in person; build story for blogs, reformat for other SM platforms	lots of potential to be evergreen content; partners/experts interviewed can share with their network (not time-sensitive)
3	experts from other disciplines (health, social sector, climate change), school children, health professionals, citizens, policy makers.	google group, audio books (kids), workshops, capacity building, participatory approaches, presentations	Kids/parents: humour, positive pictures Policy makers: be careful with words you use	Kids/parents: co-design, story-telling; benefit for target audience has to be clear
4	Policy makers, general public	webinars with presentations of concrete topics from the project/policy briefs, involvement of local policymakers as presenters of cases	prepare the webinar/seminar (rehearsal) involve stakeholders as presenters; select target audience; use time to find email addresses	managed to gather key stakeholders in the field - build network and future contacts for dissemination

Respondent	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels	
1				
2	build story for blogs, reformat for other SM platforms; low effort, high return for engagement (for researchers)	encouraging researchers/scientists to discuss their work in 'plain' language; language barriers for outputs intended for multiple countries; wanting to do		

		communication work but do not have enough funding		
3				
4	easy to recruit people to other events - but not yet sure of long term effect	presentations should have been popularised more Preparing a webinar/seminar to involve stakeholders as presenters	radio interviews is nice comms channel.	One communication mechanism to be transformed to different other formats. Use the same audience to make the communication strategy. topics from the communication strategy were used to develop more content on similar formats but tailor-made for different audiences

Respondent	Overlooked or underserved audiences	Challenges or Obstacles	Your advice on a strategy, mechanism, or format	Conclusions for plenary
1	Women and youth			use the same audience to make the communication strategy; evergreen content - never gets expired
2	Women and youth	access to emerging platforms	highly collaborative ownership can stay with researchers	
3		we have to think about words we use, they often are very discriminatory (e.g. LOW SES); people have a lot of daily challenges	getting there where they are, not implementing new formats	we have to think about words we use, they are very often discriminatory (e.g Low SES); Dialogue audience (instead of target audience); Be careful on the terms we use like "target audience"
4	people who do not use regular media channels	tiktok unofficial social media channel		

Group 2

Respondent	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	Usually decision makers/policy makers at different levels, end users/stakeholders, organisations/networks/associations effected or with interest, scientific community (mostly handled by the scientists themselves), also general public to a certain degree.	Promotion of scientific conference in project	Rely on project partners and wider network to share and disseminate, good visual material, asking the wide network to help promote,	A wide range of partners beyond the project have been engaged in helping to promote the conference on Twitter etc. Increasing the reach in wider groups than we can reach in our own channels

2	local project: local administration and Building owners	example of an extreme rain event with visualisation of effects on street level	involving the audience right from the beginning of the project, evaluating the exact demand of the audience (how should the information in the end look like, what kind of product they would like to have) => report, leaflet, brochures, fact sheets	audience was directly impacted by an event right after the report was presented. The results were "proven" by this event. This created strong trustfulness
3	academic community and non-academic practitioners who use or are interested in audio-visual media to address climate change solutions	A strategic 5 week campaign to draw attention to a symposium on "climate media for transformative urban futures"	main communication on social media channels; including participants and institutions in the strategy to achieve more outreach; regular but "short" posts	
4	Scientists/researchers Policy makers Specific sectors (e.g. agriculture) "General" public with some background knowledge / interest	Research results Explain scientific concepts related to research Project news and events	Organising events / workshops of interest to audience Documents / reports / other material	

Respondent	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels
1		Buy in and interest of partners - making the material and content you want to share relevant for them	
2	networking effect, neighbouring towns wanted to have similar information (brochures, maps, leaflets)		
3			Organising conference, involved partners & networks to share invitation social media-lot of engagement

Respondents	Overlooked or underserved audiences Selected: local policy makers/politicians	Challenges or Obstacles	Your advice on a strategy, mechanism, or format	Conclusions for plenary
1		Relevance for the audience and bridging	Co-design with them to make the research	Co-creation to make outputs of relevance for

		between the research and the audience Time availability	outputs fit to the policy and administrative needs of the decision-makers Try to understand what is relevant for them and focus on that	the audience that can be difficult to reach
2	individual/social factors: "older generation" in local administration like to do things as usual and as they did the last 20/30 years	local decision makers: willingness but lack of budget and time for actions		local decision makers: willingness but lack of budget and time for actions relevance! know the structure of your audience group (individual / social factors)
3			if you would use TikTok: it is a film based medium- not easy to create engaging messages	e.g. generation gap (IT literacy and reaching virtually)

Notes

- audio-visual media is what climate factory media (? --> company) is using . give people the feeling that they can contribute to future. constantly developing new ideas. Organised event in Potsdam, how to use audio-visual media to engage people. E.g. extreme weather forecasts.
- AV media (including many different forms)- how can you use these media to engage people?
- social media was quite successful (engagement with other researchers in project).
- creating maps, e.g. with extreme rain event, where would water flow? Now working on interactive maps & visuals, citizens can play around with it. two weeks later event occurred: maps seemed quite accurate --> people saw that they were credible. Was specifically aimed at this audience (local).
- Maps; interactive visuals
- weekly outlooks, to communicate extremes in summer. When it stopped, people asked if it could come back. Came out on specific days, people knew and expected.
- medium depends on audience you want to reach, twitter & LinkedIn more relevant for policy makers, TikTok maybe more for youngsters
- TikTok is video based, is very time consuming, hard to make something so short but still easy to grasp the message. have to make creative content. How do you make scientific results appealing for such a platform? Probably relevant, but need to really think this through.
- one challenge to reach (local) decisionmakers / policy makers is availability, needs to be 100% relevant for them to engage.
- challenge to reach different audiences in one project
- important to understand their challenges as well (time, budget, ...) they have a lot of tasks (Local policy makers). How to support them? Downscaling information?
- challenge is to translate research to practice: what is relevant for them??
- citizens, stakeholders & policy makers: how to communicate to all of them? Most work we do is web-based: you're not where your audience is --> no face. Possibly meeting audience online? Much more chaotic to find your way in communication.
- when you don't know who your audience is, it is hard to reach the right people.

- difficult if the comm is web based, not f2f
- European project setup does often not support a good communication strategy (deliverable deadlines etc)
- (within (own) organisations) older generation administration: hard to change behaviour / mindset, now there is change, need to communicate to different generation

Group 3

Respondent	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	Institutional investors (Investment Banks, Fund managers), Multi-lateral decision-makers (Central Banks, EU DGs), Regional to local decisionmakers (Regional & City Councils, Mayors)	1) EU Monetary Policy - Goal: influence EU-level monetary policy to include the interest rate risks to the low-carbon (infrastructure) transition among inflationary pressures and "calming" financial markets. - Approach: snowballing through partner networks, convening expert group, drafting whitepaper & policy brief, disseminate through expert network 2) EU Climate Change Adaptation Policy - Goals: inform global discussion on CC adaptation policy best-practices, generate legitimacy for approaching region- to local-level decision makers - Approach: drafting of high-level policy brief (Science Magazine) in bottom-up approach with all project partners. Expectation that this publication will attract significant news coverage.		Not done yet , work in progress (-;
2	stakeholders managing/using groundwater on a county level in Germany/island level in Croatia	possible changes of groundwater recharge under different climate change scenarios and the uncertainties	Figures and presentations	still not sure if it was successful ;) --> I think successful in terms of raising the awareness of the stakeholders of the uncertainties that are associated with climate change impacts
3	policymakers on climate change in Europe	New reports, conferences, tools, etc. related to climate adaptation in Europe, which are relevant for policy makers.	Short news and event items on a website (Home — Climate-ADAPT (europa.eu), Twitter and LinkedIn.	I didn't measure its success myself, but I believe short messages are attractive for policy makers.

Respondent	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels	Remarks
1		Hard to evaluate what they took out of it	Dinner with a high level guy and put the proposition - Get access to experts in their networks, in influential position	Equal, one on one dialogue close to the context in which people live and work - Influential intermediaries in existing networks boundary riders who can go back and forth between worlds
2		language of target group - English not understood - In the Mediterranean the trends are clearer there than in other parts of Europe Harder to communicate in those places like Germany where trends are not clear - Monitoring the impact: no one for that work		Changing grant-making practices so that people have options other than English
3	I didn't measure its success myself, but I believe short messages are attractive for policy makers.			

Respondent	Overlooked or underserved audiences Selected: people who do not speak English	Challenges or Obstacles	Your advice on a strategy, mechanism, or format
1		Co-design difficult in these circumstances	Auto-translate into other European language Help desk with people who can speak more than one language Open to receive applications in wider range of languages
2		Simultaneous translation—not so viable when you're talking about certain areas of science	
3		In order to invest our time wisely, we target English audience only.	Assess whether you need to make this effort: what will be the benefit to them and to the wider problem of adaptation -

			Make sure you have interesting and relevant information to share across networks, so that other media channels want to pick it up and translate into home languages
		So many roles: all done in parallel	Translation of webinars Pilot project: talked with partners, identified influencers in the place to facilitate the relationships, pave the way, one on one interaction People who don't speak the local language Assess whether you need to make this effort Reach out to young people, older citizens Lessons learned for your own communication practice bias in thinking people don't know enough to act upon. Instead of being top down and thinking the other has a deficit; instead set up for a dialogue

Notes
- So many roles: all done in parallel
- Translation of webinars
- Pilot project: talked with partners, identified influencers in the place to facilitate the relationships, pave the way, one on one interaction
- People who don't speak the local language
- Assess whether you need to make this effort
- Reach out to young people, older citizens
- Lessons learned for your own communication practice
- bias in thinking people don't know enough to act upon. Instead of being top down and thinking the other has a deficit; instead set up for a dialogue

Group 4

Respondents	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	Local and regional policy makers; Scientific community (researchers, academics; Civil society, including citizens from vulnerable; Media as multipliers; Decision-makers at the EU level; Private stakeholders (businesses, investors, an	The importance of the project for this groups' interest; The importance of the topic in general / Awareness raising/Attractive visuals materials and various factsheets	Awareness raising --> Multi days intensive Campaigns; Joint communications with related projects/ networks	Network multiplier, using major events as a lift (green week….)

2	policy makers; citizens/ public; universities/ researchers; youth	first Joint transnational call (part of the Sustainable Blue Economy Partnership); how to engage in the Partnership; intervention areas; deadlines for submitting projects; facts & figures (e.g.: funding, partners, no. of countries)	Websites/emails, newsletter, brochures; advice: different communication per audience type	Website is very successful – you can put all information in 1 place; events – networking opportunities

Respondent	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels	Highlights for the plenary
1	Success: Focus on target channels (not populating all channels); teaming up with other research programs (increase awareness and use existing networks); Success example: Comic made by children - used for ministries level (typical cultural dialogue, animals, etc.) distribution successful; Face to face meetings - within the field; challenge to reach youth: unconventional events needed	Target audience difficult: can include different actors within one group (e.g. ministries can include politicians and technicians, etc.; expectation of target audience: expect policy brief and receive comic (?!?);other challenges: e.g. weather (hurricane), etc.	Traditional rather: Media (twitter), flyers (offline), policy briefs, direct in-person contact within the field	Face to face approach. Using non-traditional channels and tools: e.g. ecomics to reach (e.g. ministries)
2	for website -> KPIs tracking (visits, page views etc); for events -> people sharing from their personal profiles posts	time -> how to "recycle" content in smart ways for so many audiences; skills -> videos/ animation require smart knowledge/ skills	partnering with a gallery to hold events -> art & researcher working together	

Respondent	Overlooked or underserved audiences Selected: youth	Challenges or Obstacles	Your advice on a strategy, mechanism, or format	Conclusions for plenary
1	the most target audience is the most overlooked often (e.g. policy makers -	reaching target audience - e.g. emails not	events: online meetings / events	Mixing different avenues for reaching

		reason: diversity within one target group	read/answered; Fast changing individual people within one target audience (e.g. legislation period); getting audience to follow through communication (e.g. reading communication, platforms); Focus on demand - not only the offer	instead of only emails, etc.	target audience (e.g. Art and Science) Focus on demand – not only the offer Events: online meetings / events of only emails, etc.
2			having the right tools, time to reach them and the right skills (e.g.: TikTok videos)	proper translation of communication results for youth; use visuals or creative ways: an app for example	

Group 5

Respondents	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	Earth system modellers HPC technology providers Young climate researchers	Services catalogue portfolio (software and hardware support) Opportunity to use HPC resources for climate research	Mapping of potential stakeholders Explaining clearly and friendly which are your services, how the stakeholders can benefit from your work	Still working on it!
2	Large public, researchers, policy makers	New results of research done at the institute Climate report New products or services Upcoming events	Two-way communication format, eg. forum, consultation format Align your message with your audience needs or Level of knowledge	
3	Politicians, civil servants, Citizens, our trainees have opened unexpected audiences, they are connected to other	The Green Deal in general, parts of Fit-For-55, where the link to the region is, why this matters to the audience Press release, announcing project	Be short, bring it to a point, if it's written communication then start with the key message; if it's verbal, build up trust and link it to what matters to your audience	People are overflooded with information, they are grateful to get THE one message that matters to them without having to invest too much time

	young people using different platforms Industry, cities	topic and key outcomes		
4	Local citizens - based on climate action initiatives and research information		When it comes to citizens/neighbours we learned that to drink coffee is building trust in climate actions Work with ambassadors - let them talk for you	Meeting around the kitchen table with citizens makes talking easy Outcomes of a large research programme were included in a Delta policy programme with 7 key outcomes, due to intensive relations/interactions/co-creation over time: Delta Programme 2015 | Publication | Delta Programme (deltaprogramma.nl)

Respondents	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels	Highlights for the plenary
1	Big amount of petitions [requests] to use the services offered	Reaching to all the potential stakeholders (technology providers, researchers, users of the services catalogue portfolio, ...) so as much people as possible benefit from your services Reaching some research institutes with less resources		consistent and scientific sound messages are key to respond to climate deniers
2	Climate scientists/ researchers are not necessary the best communicators, involve trained communicators, social scientists		Importance of intermediaries; e.g. podcast on weather and climate with a well-known public person helps to reach a larger audience	climate scientists/researchers are not necessary the best communicators, involve trained communicators, social scientists
3	When interacting in meetings getting people to share their own world and linking to the topic	The key challenge is to get people willing to engage; find the right people to	Have been a guest in a podcast (on a different topic that climate), this opened up to new groups Local politicians	

	discusses is a clear indicator for success Ordinary citizens without any specific interest in climate;	address a specific message to; Key challenge; pick up people where they are (especially if you have a very diverse audience)	https://www.bmeia.gv.at/themen/europapolitik/europa-gemeinderaetinnen/	
4			Unexpected: A minister visited a climate action initiative suddenly and that paid surprisingly a lot of attention in a large city with a lot of so called 'climate-optimists'/deniers'	

Respondents	Overlooked or underserved audiences	Challenges or Obstacles	Your advice on a strategy, mechanism, or format	Conclusions for the plenary
1	Early career researchers Research institutes with fewer resources			- stay in touch/keep in contact with your target audience (hard to reach people/companies) frequently - working with 'climate ambassadors': let them talk for you - consider to communicate in local/regional language
2			Consistent and scientific sound messages are key to respond to climate deniers	working with 'climate ambassadors' - let them talk for you
3	Smaller companies, Smaller cities? People who do not speak English Ordinary citizens without any specific interest in climate	Where do you find the contact details of these people in an efficient way? How do you identify a group of people who might be interested (beyond the obvious people)? Stay in contact and keep people interested	Make sure people you are connecting with have a good experience When interacting in meetings getting people to share their own world and linking to the topic discusses is a clear indicator for success	The more diverse your engaged audience representatives/ stakeholders the more diverse people your comms will reach
4		Lots of citizens/ companies struggle with financial situation; too little attention for environmental and climate issues, nor for adaptation measures	Working with ambassadors - let them talk for you Use local communication channels such as WeChat in China	people are overflooded with information, they are grateful to get THE one message that matters to them without having to invest too much time

			Translate the content into more than 1 language, such as for Brazil: Port/Eng	align your message with your audience needs or level of knowledge

Group 6

No MIRO Board was used

Group 7

Respondent	Describe your target audience	What did you communicate	Your advice on strategy, mechanism, or format for this audience	Why was this successful?
1	General public	Seismic hazards and risks Preparing for and responding to earthquakes Crisis communication: disseminating information following an earthquake	Maintain communication before, during, and after an earthquake Utilize automatic Twitter messages from a bot following an earthquake Engage with social media during "normal times" (non-crisis periods) Provide a communication guide, complete with infographics	The use of Twitter proved successful because, after an earthquake, people are frightened and seek immediate information about what has occurred. Sharing pre-compiled messages on Twitter catered to their need for swift updates. The communication guide was primarily utilized by seismologists and research institutes interested in employing our recommendations for effectively communicating about earthquakes. Engaging with social media enabled us to connect with the general public and discuss earthquakes, aiming to counteract fake news and misinformation that can rapidly spread on social media platforms.
2	Public, researchers, policy makers	"The Anthropocene" and anthropogenic impacts Understanding scientific debates and their implications for society	Oral presentation: Incorporate more visualizations in presentations to help convey the facts, "take the audience to the lab," and minimize the use of cold numbers Online presentation: Utilize visualizations and animations, show yourself frequently, and	Transparency: Create an understanding how the data and its interpretation were generated

			ask questions to maintain the audience's attention during online presentations	
3	Decision makers, young people, journalists, scientific community	Adaptation strategies The significance of climate change awareness Research findings Project progress	In person meetings Conference/visit to the research Centre Infographics/visual materials Webinar with interactive sessions	Using the most appropriate channel for each target audience. Trying to engage each public with the tools they are most comfortable with.
4	People affected by climate change impacts in their profession Policymakers on regional/local level Practitioners in natural resource management	Climate model outputs Impacts of climate change Uncertainties associated with models and ensembles	Get to know their (political) priorities Learning is a back-and-forth mechanism Transdisciplinary has cultural aspects Set aside enough time for ongoing communication Transdisciplinary has cultural aspects Meet them in person, get to know them	Evaluate the success of the intended impact after the project's completion Conduct a survey of priorities to inform the basis of our results Communicate at various levels of complexity Experiment with different communication formats tailored to your target audience

Respondent	Audience response and evidence on effectiveness of the strategy	Challenges or obstacles you encountered	Non-traditional (popular) communication channels	Highlight for the Plenary
All	Launch an engaging awareness campaign aimed at children, partnering with schools to ensure widespread reach Develop a collaborative project that brings together participants from diverse sectors, fostering cooperation and shared learning Organize appealing events and exhibitions in public spaces, using a range of communication techniques to connect with diverse audiences Work together to create educational materials, drawing on the collective knowledge and	Plan and execute activities in the local language when English is not widely spoken, ensuring effective communication and understanding. Bring together a diverse group of stakeholders, addressing their concerns and collaboratively overcoming challenges. Transform complex scientific information into accessible materials for a wide range of audiences, including local communities, policy advisors, and politicians.	Attend a mix of scientific events, like conferences, workshops, and capacity-building sessions, as well as non-scientific activities, such as social gatherings and networking opportunities. Connect with audiences on social media platforms and through project websites to maintain engagement and provide updates. Collaborate with a wide range of stakeholders to establish robust partnerships and foster synergy.	Emphasize the importance of establishing partnerships with a diverse array of stakeholders Ensuring effective communication and inclusivity in the target audience. Stress the need to translate complex scientific information into easily digestible materials that cater to a broad audience. Discuss the benefits of engaging with audiences through social media and project websites to promote awareness, encourage dialogue, and gather feedback from various stakeholders.

	expertise of a variety of contributors			

Respondent	Overlooked or underserved audiences	Challenges or Obstacles	Your advice on a strategy, mechanism, or format	Conclusions for plenary
1	Decision makers and politicians	"convincing" message, not only "facts" Pay attention to tone and wording of the message Overcome challenges such as corruption and political interests Transform scientific findings into people-centered outcomes	Employ diverse communication channels, such as face-to-face meetings, conferences, webinars, social media, infographics, and videos, to cater to the preferences and needs of the target audience. Highlight visual storytelling through visualizations, animations, and infographics. Ensure transparency by communicate outputs in the local language. Promote collaboration by partnering with a variety of stakeholders. Sustain ongoing communication with target audiences to establish trust and nurture long-lasting relationships.	Customizing strategies for co-production of the knowledge and message Using effective visual storytelling techniques. Building partnerships with a diverse array of stakeholders Emphasizing localized communication efforts that take language and cultural aspects into account Ensuring effective communication and inclusivity in the target audience.
2	Pupils, Young people	Address angry or aggressive responses Manage audience inquiries seeking numerous facts while referencing a single contradictory example Determine why someone from an entirely different field or background should be interested in the topic		
3	People with other priorities and basic unfulfilled needs (poor, marginalized, etc.) for those CC is not one of the main issues. People that do not speak English or do not speak the local language and older generations	Overcome lack of interest or engagement Simplify complex topics for better understanding		
4	Practitioners who are impacted by climate change	Bridge the knowledge-action gap by translating communication into tangible actions Address competition with other pressing issues for attention and resources Adapt to changes in policymakers and their priorities Manage time constraints, ensuring continued		

		support even after project completion		

Annex 7 Feedback Form Questionnaire

- What was the main reason for your attendance?
- How did you hear of this event?
- Logistics (1= Strongly disagree , 2 = Disagree, 3 = Somewhat disagree, 4 = Somewhat agree, 5 = Agree)
    - [The registration process was clear and straightforward]
    - [The information about the workshop content and program was clear]
    - [The Microsoft Teams platform worked well]
    - [The Miro collaboration platform worked well]
    - [The Menti meter platform worked well]
- Length of the event
    - [Whole event]
    - [Presentations]
    - [Breakout sessions]
    - [Plenary/Discussion session]
    - [Closing]
- Level of satisfaction with the event (1= Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Somewhat agree, 5 = Agree)
    - [The presentations were relevant and engaging]
    - [There was a high level of interaction in the breakout sessions]
    - [The set up of the Miro board supported knowledge sharing]
    - [The discussions in the plenary session were informative]
- Content of the event (1= Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Somewhat agree, 5 = Agree)
    - [The event lived up to your expectations and reached objectives of the workshop]
    - [You were able to learn something new]
    - [You were able to acquire useful information for your job]
- Are you likely to actively use the insights gained from the workshop in the next 3 months?
- Do you feel there was something that we should have included?
- If yes, what?
- You felt inspired after the event?
- If yes, by what in particular?
- Can we contact you through your e-mail for a follow-up event organised by MAGICA?
- Do you have any comments and/or suggestions for the improvement of future online workshops?
- If yes, what?

Project partners