

Mis- and disinformation on the green transition

Green Deal Projects Support Office



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Marta Mirambell

CONTENTS

ABOUT THE GREEN DEAL PROJECTS SUPPORT OFFICE	3
1 INTRODUCTION	4
2 POLICY BACKGROUND AND CURRENT LANDSCAPE	6
2.1 THE RISE OF MIS- AND DISINFORMATION AS A THREAT TO DEMOCRACY AND CLIMATE ACTION	6
2.2 COMMUNICATION AND MIS- AND DISINFORMATION AS STRATEGIC PRIORITIES IN THE EU MANDATE	7
3 DRIVERS AND DYNAMICS OF CLIMATE MIS- AND DISINFORMATION	9
4 EU STRATEGIES AND RESEARCH INITIATIVES AGAINST CLIMATE DISINFORMATION	13
5 CONCLUSIONS AND RECOMMENDATIONS	17
6 DISCLAIMER	19

ABOUT THE GREEN DEAL PROJECTS SUPPORT OFFICE

The Green Deal Projects Support Office has been developed to facilitate coordination between projects funded under the Horizon 2020 Green Deal Call and maximise their positive impact in the longer term. The Green Deal Projects Support Office will operate until November 2026, and its key activities include supporting Green Deal projects in effective collaboration, providing networking and knowledge exchange opportunities to develop synergies, and helping projects boost the communication efforts of their results. The Green Deal Projects Support Office support networking, knowledge exchange and common capacity building activities through five working groups:



For more information on the Green Deal Projects Support Office, please contact:
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1 INTRODUCTION

Climate-related misinformation and disinformation have emerged as a significant and growing threat to the success of the green transition, to evidence-based policymaking, and to democratic resilience. False or misleading narratives about climate science, environmental policies, or the socio-economic impacts of the transition circulate widely across digital platforms. Coordinated disinformation campaigns are increasingly targeting climate policies, environmental regulations, and scientific consensus, aiming to erode democratic institutions and delay urgently needed mitigation and adaptation measures.

Misinformation refers to verifiably false or misleading information that is shared unintentionally, while disinformation refers to false or manipulated content that is intentionally created and/or shared to deliberately deceive, manipulate or inflict harm on a person, social group, organisation or country.¹

In the climate context, these phenomena manifest as climate mis- and disinformation. Climate misinformation often arises from misunderstandings, outdated knowledge, or misinterpretations of data, spreading unintentionally. For instance, a common misconception is that climate change is not a concern because temperatures have always increased naturally throughout Earth's history. While it is true that natural climate variations have occurred, this claim is misleading because it overlooks the fact that today's rapid warming is largely driven by human activities, such as the burning of fossil fuels, deforestation, and industrial processes.

Climate disinformation, on the other hand, is deliberately false climate-related information, spread with the intention to deceive people about climate change, typically for political, financial, or ideological reasons. It can take many forms, ranging from outright denial of climate change and conspiracy theories to more subtle claims that question policy feasibility or scientific consensus. Such narratives undermine trust in science, weaken public support for climate action, hinder policy implementation, and ultimately erode democratic processes. A common form of climate disinformation is the false narrative that renewable energy and other climate solutions are scams or ineffective, promoted to sow doubt about the value of climate action despite clear scientific and economic evidence supporting these solutions. Even unintentional climate misinformation contributes to confusion and scepticism, making it harder for people to access accurate information, while intentional climate disinformation is often used to deny or downplay the reality of climate change and its impacts.^{2,3}

1 Organisation for Economic Co-operation and Development. (2024, December 17). *Recommendation of the Council on Information Integrity (OECD/LEGAL/0505)*. OECD Legal Instruments. <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0505>

2 United Nations Development Programme. (2025, May 1). *What are climate misinformation and disinformation and how can we tackle them?* Climate Promise. <https://climatepromise.undp.org/news-and-stories/what-are-climate-misinformation-and-disinformation-and-how-can-we-tackle-them>

3 European Commission. (n.d.). *Climate disinformation*. European Climate Action. https://climate.ec.europa.eu/eu-action/climate-disinformation_en

Responding effectively to these challenges requires not only regulatory and monitoring measures but also broader efforts to strengthen information integrity, media and information literacy, and climate communication. Many citizens currently lack the skills to recognise misleading or manipulative content, making them vulnerable to mis- and disinformation. Strengthening information integrity—ensuring that the information environment is reliable, transparent, and evidence-based—together with adequate media and information literacy, equips people with the tools to critically navigate digital platforms and climate information. In addition, effective climate communication ensures that scientific findings and policy messages are conveyed clearly and transparently. Together, these pillars form the foundation for strengthening public trust and supporting informed democratic debate on the green transition.

Policy responses to climate mis- and disinformation are increasingly emerging across the international community. At the EU level, the European Commission and the European Council have explicitly identified misleading climate narratives as a risk to democratic debate and the success of the green transition, as reflected in actions under the European Democracy Action Plan⁴ and recent Commission work on information integrity and media literacy. International bodies, such as the UNDP and the OECD, also emphasise that societies require stronger media and information literacy, more robust information integrity standards, and clearer climate communication to assist citizens in navigating misleading content. These concerns were reinforced at COP30, where *UNESCO's 2025 Declaration on Information Integrity and Climate Change* emphasised the need for transparent, evidence-based climate information to foster public trust and support effective climate policymaking.⁵

This report aims to provide a concise, evidence-based overview of the problem, recent developments in the information environment and in EU policy, and the implications for research, innovation, and communication practices. The next section provides an overview of the policy context and the growing recognition of mis- and disinformation as a threat. Section 3 examines the drivers and dynamics that shape today's information landscape. Section 4 reviews EU regulatory, monitoring, and R&I initiatives that address climate-related mis- and disinformation. The paper concludes and provides recommendations to support trustworthy and inclusive communication on the green transition.

⁴ European Commission. (2020, December 2). *Communication on the European democracy action plan*. https://commission.europa.eu/document/63918142-7e4c-41ac-b880-6386df1c4f6c_en

⁵ Steering Committee, Global Initiative for Information Integrity on Climate Change. (2025, November 12). *Declaration on Information Integrity on Climate Change*. UNESCO. https://www.unesco.org/sites/default/files/medias/fichiers/2025/11/cop_30_declaration_information_integrity_on_climate_change_12112025.pdf

2 POLICY BACKGROUND AND CURRENT LANDSCAPE

2.1 THE RISE OF MIS- AND DISINFORMATION AS A THREAT TO DEMOCRACY AND CLIMATE ACTION

Misinformation and disinformation have become significant risks for democratic governance and for the implementation of effective climate policy. According to the World Economic Forum Global Risks Report 2024, misinformation and disinformation were ranked as the most severe near-term risk over the next two years, reflecting concerns that widespread false, manipulated, or AI-generated content can significantly influence public opinion, reduce trust in institutions, and increase societal polarisation. At the same time, environmental risks such as climate change, extreme weather events, and ecosystem collapse were identified as the most severe long-term threats over the next ten years. This combination highlights the challenge of addressing long-term environmental crises in a context where information integrity is under threat.⁶

The rapid expansion of social media platforms has fundamentally transformed how information is produced, shared, and consumed. While mis- and disinformation have always existed, the emergence and widespread adoption of social networks have accelerated their spread and impact. Furthermore, the emergence of generative artificial intelligence has enhanced the reach and sophistication of disinformation campaigns. False or misleading content can now be created rapidly and tailored to specific audiences, making it more persuasive and harder to detect. Platforms such as Facebook, X, YouTube, and TikTok amplify this threat through algorithmically curated feeds that prioritise emotionally provocative or controversial content over accuracy, enabling misleading climate narratives to spread rapidly.⁷ In addition, the anonymity afforded by these platforms allows users to share manipulative content without facing consequences, facilitating the rapid dissemination of misleading climate narratives.

The consequences extend well beyond online discourse. Climate-related mis- and disinformation undermine societal cohesion, complicate consensus-building, and weaken evidence-based policymaking. It can be strategically deployed by domestic or foreign actors to obstruct climate regulation or sow doubt about scientific findings for political or financial gain. Hence, disinformation functions as a systemic global risk, not merely a communications problem, as it can destabilise governance, reduce policy effectiveness, and heighten vulnerability to climate-related crises. In this sense, the challenge is not simply that misleading content exists, but that it interacts with broader political, social, and technological systems in ways that hinder collective action.⁸

⁶ World Economic Forum. (2024). *The Global Risks Report 2024*. World Economic Forum. <https://www.weforum.org/publications/global-risks-report-2024/>

⁷ Van den Bulck, H., Hyzen, A., Kulig, M., Paulussen, S., & Puppis, M. (2024). *How to understand trust in news recommender systems*. ALGEP. <https://www.algepi.com/how-to-understand-trust-in-news-recommender-systems/>

⁸ Ibid, pg. 5

2.2 COMMUNICATION AND MIS- AND DISINFORMATION AS STRATEGIC PRIORITIES IN THE EU MANDATE

Public communication and societal engagement have become core components of the EU's climate and environmental policy agenda. Since the launch of the European Green Deal, the Commission has emphasised that the transition requires broad public participation, transparent communication of costs and benefits, and active involvement of local authorities and communities. Initiatives such as the European Climate Pact and the Just Transition Mechanism reflect this logic by embedding social acceptance, fairness, and dialogue directly into policy design and implementation. In the 2024–2029 institutional cycle, climate and environmental objectives remain central, but are now framed within a broader agenda that prioritises resilience, democratic stability, competitiveness, and security. In this context, reliable communication is thus treated as a structural tool for securing legitimacy and long-term public support for the green transition.

Within this policy framework, disinformation and misinformation can affect public acceptance of climate policies and green technologies, posing challenges for the EU's green agenda. Narratives questioning the reliability of renewable energy, exaggerating the costs of climate action, or misrepresenting nature-based solutions as economically harmful have been linked to reduced trust in public authorities and scientific expertise. These dynamics can slow permitting processes, create opposition to renewable infrastructure, and weaken support for biodiversity and adaptation measures. If climate innovations are perceived as risky, costly, or imposed, uptake may be slower, and the impact of EU research and innovation programmes may be limited. Countering mis- and disinformation is therefore relevant not only for communication and public engagement but also for the deployment of climate solutions and the implementation of innovative technology initiatives across Member States.

The EU mandate also recognises the risks posed by mis- and disinformation. The 2024–2029 Political Guidelines⁹ describe information manipulation as a threat that can undermine democratic systems and impede the ability of Member States and EU institutions to implement climate and environmental policies. Disinformation is framed both as a security challenge and a governance issue, reflecting the increasing importance of the information environment for effective policy delivery. In addition, the European Commission's ongoing work on online disinformation highlights how foreign and domestic actors increasingly exploit climate narratives to weaken trust, obstruct regulation, or erode confidence in scientific evidence. Climate-related falsehoods are singled out as particularly susceptible to manipulation because they intersect with economic concerns, identity politics, and geopolitical tensions.¹⁰

National differences in institutional trust strongly shape how climate policies are perceived and debated, and they influence public attitudes toward climate action. According to the 2025 Eurobarometer, a large majority of Europeans view climate change as a serious global threat, with around 85% identifying it as a major problem. At the same time, trust in public institutions

⁹ Von der Leyen, U. (2024). *Europe's choice: Political Guidelines for the next European Commission 2024–2029*. European Commission. https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648_en?filename=Political%20Guidelines%202024-2029_EN.pdf

¹⁰ European Commission. (n.d.). *Tackling online disinformation. Shaping Europe's digital future*. <https://digital-strategy.ec.europa.eu/en/policies/online-disinformation>

varies significantly: trust in the European Union has reached its highest level since 2007, with 52% of respondents expressing trust. In contrast, only about 36% trust their national government, and 37% trust their national parliament. These disparities matter for public support and the implementation of the green transition, as levels of institutional trust influence how citizens perceive climate information, the credibility they attribute to policy measures, and their willingness to engage with climate action. Where trust is higher, transparent and accessible communication can reinforce legitimacy and encourage engagement. Conversely, in contexts where trust is low, inaccurate information may have a greater resonance, which could weaken public support for climate and environmental policies and complicate their adoption.^{11,12}

11 European Commission. (2025). *Eurobarometer survey 3472: Climate change 2025* [Public opinion survey]. European Commission. <https://europa.eu/eurobarometer/surveys/detail/3472>

12 European Commission. (2024). *Eurobarometer survey 3372* [Public opinion survey]. European Commission. <https://europa.eu/eurobarometer/surveys/detail/3372>

3 DRIVERS AND DYNAMICS OF CLIMATE MIS- AND DISINFORMATION

The current information environment amplifies the risks of climate mis- and disinformation through a complex interaction of technological, behavioural, and socio-political factors. Understanding these drivers is essential for designing effective policy, communication, and research interventions. An overview of the key drivers shaping the current information landscape is outlined below.

Digital platform architecture and social media ecosystems

The rise of social media has radically changed how information spreads, including narratives about climate change and the green transition. Platforms where authors are often undefined enable content to be shared instantly with global audiences, allowing misleading or false claims to circulate faster and farther than ever before. Social media systems might amplify such narratives through their algorithmic design and business models, which can prioritise engagement over accuracy. Platforms such as Facebook, X, YouTube, and TikTok are engineered to maximise user interaction, often favouring content that provokes strong emotional reactions. As a result, nuanced, balanced, or scientific information frequently receives lower visibility, while polarising, conspiratorial, or emotionally charged content often spreads more rapidly and widely.¹³ Once misleading or false claims gain traction, they become quite difficult to correct, as initial narratives often remain visible and widely shared, while attempts at correction receive less attention and engagement.

Algorithmic recommendation systems, trending feeds, and personalised content curation can reinforce this amplification by selectively presenting content that aligns with users' prior behaviour and interests, effectively creating structural biases in what users see. The reduced moderation of climate-related content and limited transparency in algorithmic decision-making exacerbate the problem, allowing misleading or false claims to reach a larger audience. Echo chambers and filter bubbles can emerge when users primarily see content that reflects their existing beliefs, reinforcing polarisation and resistance to corrective information.¹⁴

Moreover, emotive or conspiratorial narratives that challenge climate science or climate policy have been proven to receive higher engagement relative to factual content. These dynamics show that platform architecture can influence which claims gain traction, how users engage, and how certain narratives persist. This creates structural conditions that make climate mis- and disinformation more pervasive and more difficult to counter through standard communication or fact-checking approaches.¹⁵

¹³ CAAD. (n.d.). *Climate action against disinformation*. <https://caad.info/>

¹⁴ Essien, E. O. (2025). Climate change disinformation on social media: A meta-synthesis on epistemic welfare in the post-truth era. *Social Sciences*, 14, Article 304. <https://doi.org/10.3390/socsci14050304>

¹⁵ Ibid, pg. 6

Compounding these challenges is the limited governance of social media platforms themselves. Because major platforms operate across borders and fall outside any single national regulatory framework, governments face constraints in enforcing consistent standards for transparency, content moderation, or accountability. This regulatory fragmentation can allow harmful or low-verification climate narratives to circulate largely unchecked, as no single authority can fully oversee or regulate the global flow of information.

AI-driven amplification

The rapid spread of generative AI tools has introduced new dynamics that can accelerate the production and circulation of misleading climate information. These systems can produce large volumes of plausible-sounding text, imagery, and video at low cost and with minimal expertise, enabling both deliberate disinformation campaigns and the spread of unverified content.

AI systems can generate misleading summaries, fabricated scientific claims, or decontextualised data visualisations that are often difficult for general audiences to evaluate. For instance, during extreme weather events, information demand is high as public attention spikes and the need for information increases. In these cases, AI-generated content can fill information gaps with low-quality material faster than official sources can respond.¹⁶

Additionally, AI tools can also amplify the reach of misleading content. Automated accounts or algorithmic agents can strategically boost emotionally charged posts, manipulate trending topics, and target specific user groups through personalised prompts. The integration of generative AI into existing social media ecosystems can thus compound the structural biases already present in platform design, accelerating the circulation of misleading climate narratives and increasing the challenges of verifying content authenticity.

Behavioural drivers

Behavioural factors play a central role in how individuals interpret, share, and retain information. While digital platforms facilitate the circulation of false content, these factors shape how people consume and exchange information online. Emotions are among the most influential psychological drivers. Feelings such as fear, anger, or excitement can reduce deliberation and increase reliance on intuitive judgment. Research on misinformation consistently shows that emotionally charged content is more likely to be believed and shared without verification.¹⁷ In the context of climate change, narratives featuring catastrophic imagery or alarming predictions can trigger anxiety or outrage, making them more likely to be believed and shared without verification. In contrast, content that downplays climate risks may exploit hope, optimism, or ideological alignment to encourage dismissal of scientific evidence.

Cognitive biases also shape how individuals interact with misleading information. Confirmation bias encourages individuals to accept and disseminate information that aligns with their existing beliefs while dismissing or ignoring evidence that challenges them. This tendency is well-

16 Shahbazi, Z., Jalali, R., & Shahbazi, Z. (2025). AI-driven framework for evaluating climate misinformation and data quality on social media. *Future Internet*, 17(6), 231. <https://doi.org/10.3390/fi17060231>

17 Munusamy, S. (2024). Psychological factors contributing to the creation and sharing of fake news. *BMC Psychology*. PubMed Central. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11575416/>

documented across studies of online misinformation, including those related to climate change debates. Anchoring bias amplifies this effect: people tend to rely heavily on initial pieces of information—whether accurate or not—when forming judgments, and they may continue to rely on those anchors even when more reliable or updated information becomes available. Together, these biases may contribute to the persistence of certain narratives, especially in polarised contexts.¹⁸

Another mechanism relevant to the spread of misinformation is the repetition effect. This occurs when repeated exposure to a claim increases the likelihood that individuals will perceive it as true, regardless of its factual accuracy. For instance, claims such as “renewable energy is ineffective” or “climate change is exaggerated” can gain credibility through repeated exposure. Familiarity can create a sense of credibility, and digital platforms often amplify repeated content—whether through algorithms, viral sharing patterns, or coordinated campaigns—thereby reinforcing low-verification claims.¹⁹

These behavioural factors interact closely with platform design. Algorithms that prioritise emotionally charged, familiar, or belief-consistent content can increase the likelihood that users encounter low-verification material. Motivated reasoning and identity-protective cognition may also influence how individuals interpret climate information, making them less receptive to corrections that conflict with their existing social or political identities. In this way, behavioural dynamics can shape belief formation and patterns of participation in public debates, collective action, and responses to policy initiatives—ultimately influencing societal and political responses to the climate crisis.²⁰

Social and political dynamics

Social identity and political orientation play a role in shaping how individuals interpret information, which in turn affects their exposure and vulnerability to mis- and disinformation. People tend to align their views with the norms and expectations of the groups they identify with—whether political parties, ideological communities, social networks, regular media outlets or professional circles. This means that individuals are more inclined to accept information that reinforces their group's beliefs and to reject information perceived as threatening to their identity or worldview. In the climate domain, this process can create strong divides: scientific climate evidence and policy proposals are often filtered through political identities, resulting in different levels of trust in experts, institutions, and climate-related information.

Group norms can reinforce the credibility of shared narratives. Once a belief takes hold within a political or social community, members are more likely to repeat it, defend it and circulate it, even if the information is inaccurate or misleading. Climate-sceptic beliefs are often sustained not by a lack of information, but by group-based motivations to maintain consistency with peers or political leaders. This dynamic helps explain why corrective information can be ineffective when

¹⁸ Organisation for Economic Co-operation and Development. (2022). *Misinformation and disinformation: An international effort using behavioural science to tackle the spread of misinformation* (OECD Public Governance Policy Papers No. 21). OECD Publishing. <https://doi.org/10.1787/b7709d4f-en>

¹⁹ Ibid, pg. 7

²⁰ Stecula, D. A., Cook, J., Roberts, J. T., & others. (2025). Understanding the political and psychological roots of climate misinformation and its impact on public opinion. In J. T. Roberts, D. A. Stecula, & others (Eds.), *Climate obstruction: A global assessment*. Oxford University Press. <https://doi.org/10.1093/oso/9780197787144.003.0007>

it challenges core identity beliefs, as rejecting corrections can become a way of signalling loyalty to one's group.²¹

Social media platforms can amplify these dynamics by clustering users into networks that reflect their political and social identities. In these environments, misleading narratives can spread rapidly, while exposure to alternative perspectives is limited. Coordinated campaigns often focus on specific communities, tailoring messages to resonate with their identity and concerns. This combination of identity, group norms, and networked communication helps to explain why factual corrections alone are often insufficient to counter climate mis- and disinformation.²²

²¹ Ibid, pg. 8

²² Ibid, pg. 6

4 EU STRATEGIES AND RESEARCH INITIATIVES AGAINST CLIMATE DISINFORMATION

In response to the growing threat of climate-related mis- and disinformation outlined above, the European Union has developed a multifaceted strategy that combines regulatory measures, monitoring, strategic communication, and research and innovation. These initiatives are designed to safeguard the integrity of the information environment, strengthen public trust, and support the effective implementation of the green transition. By addressing the technological, behavioural, and social drivers of misinformation, the EU seeks not only to counter false narratives but also to build a resilient, informed, and engaged public that can participate confidently in climate policymaking.

Regulatory and policy frameworks

The EU relies on regulatory frameworks to hold digital platforms accountable for the dissemination of disinformation. The Digital Services Act (DSA) is the central instrument for regulating the digital environment and mitigating the systemic risks created by large online platforms. It imposes obligations on large online platforms to identify, mitigate, and report systemic risks posed by illegal and harmful content, including disinformation. Under the DSA, platforms must assess the risk of their services being used to spread harmful content, implement risk mitigation measures, and provide transparent reporting to regulators. While the DSA does not specifically single out climate-related disinformation, its obligations cover false or misleading content that can influence public debate on climate and environmental policies.²³

Complementing the DSA, the Code of Practice on Disinformation serves as a co-regulatory framework, in which platforms and advertising intermediaries commit to specific, voluntary measures. The Code encourages platforms to enhance transparency in content moderation, provide reliable fact-checking, and minimise the amplification of misleading narratives. For climate narratives, the Code is particularly relevant as it emphasises that climate science must be properly represented in platforms' compliance, and that misleading claims about energy, emissions, or climate policy should be systematically addressed within its obligations. Together, the DSA and the Code form a regulatory environment in which climate mis- and disinformation is treated not as an isolated category of harmful content but as part of broader digital systemic risks that require continuous oversight.²⁴

In addition, in March 2024, the Commission adopted the Communication on Managing climate risks, in which the Commission commits to combating climate disinformation. The Commission emphasises the need to enhance the use of relevant policy tools, digital solutions, and

²³ European Commission. (n.d.). *Digital Services Act package*. Shaping Europe's Digital Future. <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package>

²⁴ European Commission. (2025, February 13). *Code of conduct on disinformation*. Shaping Europe's digital future. <https://digital-strategy.ec.europa.eu/en/library/code-conduct-disinformation>

communication approaches to fight climate disinformation. This includes ensuring that compliance with the Digital Services Act properly covers disinformation and that climate science is properly covered in social media companies' compliance with the Code of Practice on Disinformation.²⁵

Monitoring and strategic communication

These mechanisms are supported by an expanding monitoring infrastructure. The European Digital Media Observatory (EDMO) collects and analyses disinformation trends across Member States, providing verified data and early warnings about emerging false narratives. It plays a key role, bringing together independent researchers, fact-checkers, and media organisations to monitor emerging narratives, detect coordinated campaigns, and analyse cross-platform dynamics. Similarly, the European Democracy Shield consolidates monitoring tools, rapid-response procedures, and communication resources to counter foreign information manipulation and interference.²⁶

The EU also supports anticipatory communication strategies to limit the impact of false or misleading climate narratives. These include “prebunking” approaches, which expose audiences to warnings about potential disinformation before they encounter it, and “debunking” measures, which correct misleading claims after they circulate. By combining monitoring with strategic communication, the Commission aims to enhance public resilience against climate disinformation and maintain trust in climate policies.²⁷

Research and innovation on climate communication

Beyond regulatory oversight and monitoring, research and innovation (R&I) are crucial for developing robust societal resilience to climate-related misinformation. The green transition depends not only on technical and regulatory tools, but also on social acceptance, inclusive communication, a well-informed public and the uptake of new technologies.

A central component of the EU's R&I approach is narrative framing and research translation. Scientific findings on climate change are often complex and highly technical, which can create gaps in public understanding and leave space for misinterpretation or misrepresentation. Research initiatives supported by the EU, such as H2020 and Horizon Europe projects, aim to translate scientific evidence into clear, accessible, and policy-relevant narratives, enabling citizens, media actors, and policymakers to engage with accurate information and counter misleading claims.²⁸

The integration of the social sciences and humanities (SSH) into climate-related R&I is equally important. The EU recognises that climate change is not only a technical problem, but also a social, political and cultural one. The domain of behavioural, social and political sciences provides insights

25 European Commission. (2024). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Managing climate risks – protecting people and prosperity* (COM/2024/91 final). EUR-Lex. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024DC0091>

26 European Commission. (n.d.). *European Digital Media Observatory. Shaping Europe's digital future.* <https://digital-strategy.ec.europa.eu/en/policies/european-digital-media-observatory>

27 European Commission, Joint Research Centre. (2024, October 25). *Misinformation and disinformation: Both prebunking and debunking work for fighting it.* EU Science Hub. https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/misinformation-and-disinformation-both-prebunking-and-debunking-work-fighting-it-2024-10-25_en

28 ScienceBusiness. (n.d.). *How to communicate science in a world of misinformation.* <https://sciencebusiness.net/report/how-communicate-science-world-misinformation>

into how individuals and communities perceive climate risks, how values, beliefs and identities shape responses to transition policies, and what motivates acceptance or resistance. Therefore, integrating SSH helps to design communication strategies and policies that are sensitive to cultural, economic and political contexts, and that can resonate with diverse audiences across Member States.²⁹

Additionally, evidence-based communication is crucial to a socially inclusive and effective green transition. EU policy analyses and R&I agendas highlight the importance of tailoring communication tools and interventions to local contexts, social conditions, as well as cultural norms to ensure equitable participation. Horizon Europe's structure — including thematic clusters, EU missions, joint undertakings and partnerships — supports research and innovation that underpin this objective by generating evidence to inform communication strategies, counter climate mis- and disinformation, and foster societal uptake of climate technologies. Within this framework, Cluster 5: Climate, Energy and Mobility funds interdisciplinary research on climate action, energy transitions, and societal dimensions, including studies on public understanding, engagement, and behaviour, which provide a scientific foundation for accurate, evidence-based communication.³⁰ EU missions, particularly the Adaptation to Climate Change Mission, support research and engagement activities that involve regional and local stakeholders in understanding climate risks and co-developing adaptation solutions. Equally, Mission Ocean and Waters contributes to climate resilience and the development of climate-related technologies. Its work strengthens natural climate buffers and accelerates the uptake of ocean-based climate technologies, while fostering citizen engagement and participatory, science-based climate action. These approaches enhance access to actionable information, strengthen the interface between science, policy, and society, and foster public trust and acceptance of innovative climate solutions.³¹

Similarly, Horizon Europe partnerships bring together the EU, Member States, researchers, industry, and civil society to address cross-cutting challenges, including behavioural, social, and political dimensions of climate action. These collaborative frameworks generate evidence on public perceptions, information flows, and societal responses, which can inform communication strategies, enhance resilience against mis- and disinformation, and support the uptake and deployment of climate technologies. In this context, selected Horizon 2020 Green Deal Call projects play a crucial role in linking climate research with equity, social justice, and inclusiveness in climate policies, thereby enabling policymakers to anticipate potential resistance and tailor their messaging to diverse communities. These projects go beyond information provision by actively involving citizens and local actors in co-creating knowledge, testing solutions and strengthening climate literacy. In doing so, they foster critical thinking and social trust, which are essential for countering climate-related misinformation and disinformation. Box 1 presents the ECF4CLIM project³² as an example of how community- and school-based engagement can support public dialogue on climate change.

29 European Commission. (n.d.). *Social science, citizen science and behavioural science for climate action*. https://research-and-innovation.ec.europa.eu/research-area/environment/climate-change-science/social-science-citizen-science-and-behavioural-science-climate-action_en

30 European Commission. (n.d.). *Cluster 5: Climate, Energy and Mobility*. https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/cluster-5-climate-energy-and-mobility_en

31 European Commission. (n.d.). *EU Mission: Adaptation to Climate Change*. https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en

32 ECF4CLIM (n.d.). <https://ecf4clim.eu/>

Box 1: Project Highlight: ECF4CLIM (European competence framework for a low carbon economy and sustainability through education).

ECF4CLIM aims to develop and validate a European Competence Framework for sustainability and climate action in formal education systems. The project brings together schools, universities, researchers and local stakeholders in several Member States to integrate climate science, sustainability competencies and digital tools into teaching and institutional practice. Its objective is to strengthen the capacity of educational systems to support the green transition by improving climate literacy, critical thinking and the practical use of scientific evidence.

A central element of ECF4CLIM is the application of participatory and data-driven learning approaches in real educational settings. Participating schools and universities establish Sustainability Competence Teams and Committees that involve students, teachers, school staff and external stakeholders. These groups identify locally relevant climate and sustainability challenges, analyse environmental and behavioural data, and co-design and implement tailored interventions, supported by shared digital platforms, learning environments and monitoring tools. This approach links scientific information with everyday decision-making and institutional practice.

While the project does not explicitly target mis- and disinformation, ECF4CLIM contributes to the production and use of reliable climate information by integrating evidence-based reasoning, media literacy and collective problem-solving into education. The project enables schools and local communities to access, interpret, and use climate data directly, thereby contributing to a reduction in reliance on polarised or misleading narratives and supporting trust in scientific and institutional sources.

Lastly, R&I contributes to anticipating and overcoming public pushback on transformative policies, such as the European Green Deal. DG RTD supports and funds research that generates evidence on public perceptions, societal responses, and communication strategies related to climate policies. This research helps identify emerging narratives of scepticism, resistance, or misinformation, enabling policymakers and communicators to design proactive, evidence-based strategies to address societal concerns before they escalate. By linking research insights to public engagement and innovation uptake, R&I can support informed and resilient communities, as well as the adoption of climate technologies and sustainability measures across the EU.

5 CONCLUSIONS AND RECOMMENDATIONS

The green transition depends not only on technological and policy solutions, but also on the integrity and resilience of the information environment. Climate-related misinformation and disinformation exploit structural, behavioural, and social vulnerabilities, undermining public trust in climate policies and delaying societal action. Addressing these challenges requires a holistic approach that integrates regulatory oversight, strategic monitoring, collaboration with social media and media platforms, anticipatory communication, and research-driven insights into the design and implementation of climate policies.

The European Union has established a strong foundation through the Digital Services Act, the Code of Practice on Disinformation, and monitoring infrastructures such as the European Digital Media Observatory and the European Democracy Shield, as well as targeted research and innovation initiatives. These instruments aim to safeguard the reliability of information, enhance public resilience, and ensure that scientific evidence is accurately represented in public discourse. Nevertheless, the rapidly evolving information environment demands that these efforts be complemented by proactive, forward-looking strategies that anticipate emerging narratives, address public scepticism, and reinforce trust in democratic institutions.

Effective communication must therefore be embedded into policy design from the outset. Complex scientific evidence should be translated into clear, accessible, and policy-relevant narratives that resonate with diverse audiences, taking into account socio-economic, cultural, and political contexts. Insights from the social sciences and humanities should be systematically applied to understand public perceptions, values, and motivations, enabling the design of socially inclusive communication strategies that are sensitive to local conditions. In addition, developing sustainability and environmental literacy is critical for empowering citizens to engage with climate and green transition policies. Tools such as the *GreenComp*³³, developed by the JRC, provide a structured framework to assess and strengthen sustainability competences, including the knowledge, skills, and attitudes needed to understand, evaluate, and act on environmental challenges. Pre-bunking and debunking initiatives should be integrated as standard practice, equipping audiences to recognise misleading content before it spreads and to critically evaluate information after exposure, as well as to apply sustainability competencies in interpreting and responding to climate-related information.

Building public trust also requires a deliberate focus on transparency, inclusiveness, and equity. Policymakers should proactively disclose the rationale behind reforms, communicate anticipated impacts, and provide channels for public engagement and feedback. Information and digital literacy programmes should be expanded to equip citizens with the skills to critically evaluate

³³ The Joint Research Centre (2022). *GreenComp. The European sustainability competence framework*. <https://publications.jrc.ec.europa.eu/repository/handle/JRC128040>

online content and assess the credibility of AI-generated media. Strategic monitoring and ongoing research should track emerging misinformation trends, societal concerns, and potential points of resistance, enabling real-time adaptation of communication strategies and rapid response to misinformation campaigns.

In addition, coordination across EU institutions, national authorities, civil society, and media organisations should be strengthened to ensure a coherent and consistent information environment. Sharing best practices, harmonising guidelines for accurate climate communication, and fostering networks of trusted communicators can enhance the reach and credibility of public messaging. Collaboration with social media and news platforms is particularly important for aligning content moderation, promoting the visibility of accurate climate information, and limiting the spread of misleading narratives. Investments in evidence-based training for journalists, educators, and local authorities could further support informed public debate and facilitate societal engagement with climate policies.

Finally, the resilience of the green transition requires that evidence-informed communication be systematically integrated into all phases of policy design, implementation, and evaluation. This includes establishing clear protocols for monitoring and countering misinformation, embedding anticipatory and corrective communication strategies, translating scientific evidence into accessible narratives, and continuously engaging communities to strengthen trust and legitimacy. These measures, aligned with principles outlined in the *COP30 Declaration on Information Integrity for Climate Change*, help mitigate misleading narratives, foster public understanding and support, and safeguard the democratic credibility and effectiveness of climate policies.

6 DISCLAIMER

Under the Horizon 2020 Green Deal Call, the European Union funds 73 research and innovation projects to accelerate a just and sustainable transition to a climate-neutral Europe by 2050. The Green Deal Projects Support Office was established under a contract with the European Union to support the projects funded under the Green Deal Call and to help facilitate collaboration, share best practices and increase their impact.

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