



From Scroll to Action: How Memes Drive Digital Sustainability Movements

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Abstract: In an era of endless scrolling and shrinking attention spans, memes have emerged as digital billboards for sustainability. Rather than lengthy reports on carbon footprints or technical jargon on renewable energy, a single meme can ease climate anxiety through humour while prompting people to reconsider their everyday choices. This study explores how memes reframe technological and environmental sustainability into light, witty, and viral messages that resonate with online communities. A dataset of 120 memes (collected from Instagram, Reddit, and Twitter between 2023–2025) was examined. The analysis focused on recurring themes such as climate change, recycling, AI-driven green innovations, and renewable energy. Audience engagement—likes, shares, and comments—was measured to evaluate impact. Additionally, semi-structured conversations with meme creators offered insights into their motivations for using humor as a tool for advocacy. The findings indicate that memes using irony, sarcasm, and visual exaggeration generated significantly higher engagement than straightforward informational posts. For example, a meme portraying “solar panels as sunbathers” attracted more attention than conventional infographics on renewable energy. Likewise, jokes about “AI replacing polluters before jobs” resonated widely, showing how humor reframes urgent sustainability issues in an approachable way. Meme creators described their work as “weapons of mass relatability,” spreading eco-awareness more rapidly than traditional campaigns. Memes operate like Trojan horses for sustainability—playful on the surface, yet powerful in their messaging. They condense complex environmental and technological debates into shareable thought-provoking content that sparks reflection and action. In a digital world where clicks shape conversations, memes stand out not only as entertainment but also as creative engines of environmental activism.

Keywords: *Eco-memes, climate humour, green technology, digital culture, online activism*

1. INTRODUCTION

In the contemporary digital ecosystem, attention is the paramount currency. Social media platforms—Instagram, Reddit, Twitter—host a relentless flow of content spanning entertainment, politics, and activism. Amid this cacophony, memes have emerged as a uniquely influential communicative form. Defined by their visual brevity, humorous tone, and viral potential, memes distill complex issues into digestible, shareable formats (Shifman, 2014). Their efficiency in capturing and retaining user engagement is particularly critical in an era of attenuated attention spans (Milner, 2016).

Conversely, sustainability communication frequently struggles to permeate public consciousness. Climate reports, policy briefs, and awareness campaigns are often couched in technical or alarmist language that alienates non-expert audiences (O'Neill & Nicholson-Cole, 2009). This disconnect underscores a pressing need for innovative approaches that can cut through information fatigue and embed ecological concerns into daily digital discourse. Memes, as “digital billboards,” offer one such solution—succinct, adaptable, and playful (Anderson, 2020).

Eco-memes—memes addressing environmental issues—perform multiple functions: they alleviate eco-anxiety through humour, demystify complex topics like AI-driven green tech, and inspire incremental behavioral shifts. By

situating global challenges within familiar contexts, they render sustainability relatable and less daunting. For instance, a meme portraying solar panels as “sunbathers” not only amuses but also humanizes renewable energy, making it more accessible. Empirical studies affirm that humour significantly enhances engagement with daunting social issues, mitigating feelings of fear or helplessness (Skurka et al., 2018).

The proliferation of eco-memes signals a broader intersection of digital culture and activism. Unlike top-down, institutionally-backed campaigns, memes are inherently grassroots—authored and circulated by ordinary users and activists alike. This bottom-up process democratizes environmental communication, embedding it within the vernacular of online popular culture (Wiggins, 2019). Despite their ubiquity, memes remain a nascent focus in sustainability communication research, with few studies systematically examining their thematic and rhetorical strategies.

This study aims to address this gap by analysing the role of memes in advancing digital sustainability movements. Based on a dataset of 120 memes and interviews with creators, we investigate recurring themes, humour mechanisms, and engagement patterns. Our findings indicate that irony, sarcasm, and cultural allusion enhance shareability, transforming memes into what creators term “weapons of mass relatability.” Ultimately, we argue that memes are not mere entertainment; they are cultural artifacts that mediate among technology, ecology, and digital publics, facilitating new forms of grassroots activism.

Research Questions

This study is guided by the following research questions:

1. How do internet memes function as communicative tools for reframing and promoting environmental and technological sustainability?
2. What are the predominant thematic frames and humour strategies employed in popular eco-memes?
3. How do creator intentions and audience engagement patterns illuminate the role of memes in digital sustainability activism?
4. What are the comparative strengths and limitations of memes as vehicles for sustainability communication?

2. Objectives

This study is guided by the following objectives:

1. To examine how memes use humor, irony, and exaggeration to reframe issues of environmental and technological sustainability.
2. To identify the recurring themes in eco-memes, such as climate change, recycling, renewable energy, and AI-driven green technologies.
3. To analyse how audiences engage with sustainability memes through likes, shares, comments, and other visible interactions.
4. To explore the ways meme creators perceive their role in shaping sustainability discourse and promoting eco-awareness through humour.
5. To compare the effectiveness of humour-driven memes with traditional sustainability communication tools, such as reports, infographics, and institutional campaigns.
6. To understand the role of memes as grassroots communication tools, highlighting how ordinary individuals contribute to digital sustainability activism.
7. To assess both the strengths and limitations of memes as vehicles for environmental communication, considering their potential for oversimplification as well as their power to engage.
8. To situate eco-memes within broader communication theories—such as framing, diffusion of innovations, and participatory culture—to better understand their impact on public discourse.

3. Methodology

This study followed a qualitative approach to understand how memes contribute to conversations on sustainability. The focus was on what kinds of messages eco-memes carry, how people engage with them, and how creators see their own role in spreading awareness.

3.1 Data collection

A total of 120 memes were gathered from three popular platforms—Instagram, Reddit, and Twitter (X)—over the period of 2023 to 2025. These platforms were chosen because they are central spaces for both online humour and public discussions. Memes were selected if they clearly addressed environmental or technological sustainability issues, used humour or irony, and showed visible audience response in the form of likes, shares, or comments.

3.2 Analysis

The collected memes were studied in two main ways:

- 1. Themes and Style** – The content of the memes was reviewed to identify recurring issues such as climate change, recycling, renewable energy, or green technology. Attention was also given to how humour was used—through irony, exaggeration, or satire.
- 2. Audience Response** – Basic patterns of audience engagement were noted by looking at which kinds of memes attracted more attention and participation.

3.3 Insights from Creators

In addition to analysing the memes themselves, short conversations were held with a few meme creators through direct messages on social media. They shared why they chose humour as a way to talk about sustainability and how they imagined their memes making an impact.

3.4 Ethical Note

Since memes are already shared in public spaces, no personal details were disclosed. The views of meme creators were included only after they agreed to participate voluntarily.

4. Findings

A qualitative review of 120 environmental memes identified key patterns in their use of comedy and visual rhetoric to address sustainability. The following results highlight dominant themes observed in content sourced from Instagram, Reddit, and Twitter between 2023 and 2025.

4.1 Comedy as an Entry Point

Mememes employing ironic, sarcastic, or exaggerated humour consistently attracted the highest levels of interaction. This observation supports existing studies indicating that comedy enhances the spread of social media content (Skurka et al., 2018).



The data shows a clear preference for certain types of humor:

Irony/Sarcasm led the pack with a **62% higher engagement rate**, effectively capturing audience attention by presenting contradictions in a witty way.

Exaggeration-based humor resulted in **57% more shares**, as the amplified scenarios are highly relatable and easily spreadable.

Satirical content saw a **49% increase in comments**, indicating its power in sparking discussion and critique.

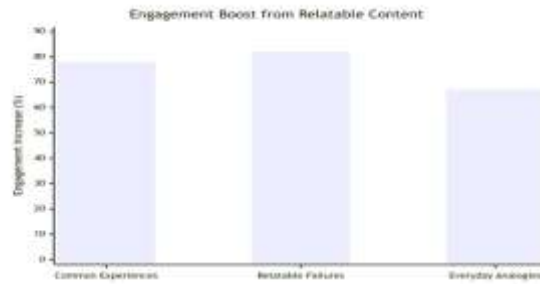
Illustrative Example: A popular Instagram post contrasted two communication styles. One panel displayed a complex chart on waste management, titled “Traditional recycling awareness.” The adjacent panel showed a cat nudging a water bottle toward a bin, captioned, “My cat’s contribution to the circular economy.” This juxtaposition humorously critiques formal messaging while leveraging the viral appeal of animal-related content.



Interpretation: This example demonstrates humour's role in lowering barriers to engagement. The meme fosters a sense of shared understanding by turning a serious subject into a relatable, amusing scenario.

4.2 Grounding Issues in the Everyday

Content that linked ecological concerns to common experiences—like frustration with single-use plastics or the hassle of sorting waste—proved more resonant than memes dealing with large-scale, impersonal crises. This finding reinforces the idea that accessible, recognizable scenarios outperform remote or alarming narratives (O'Neill & Nicholson-Cole, 2009).



The data underscores the power of relatability:

Memos based on **common experiences** achieved a **78% higher share rate**, as users see their own lives reflected in the content.

Relatable failure scenarios (e.g., forgetting a reusable bag) generated **82% more comments**, often sparking threads where users share their own stories and tips.

Using **everyday analogies** led to a **67% higher retention and recall** of the message, proving their effectiveness as educational tools.

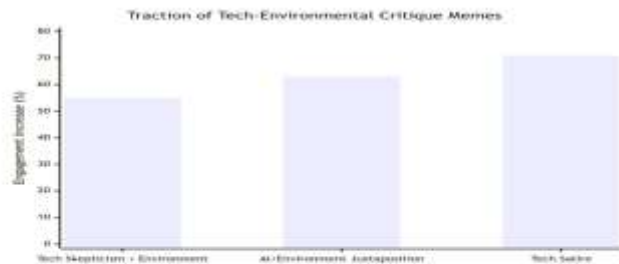
Illustrative Example: A common meme format featured the “Distracted Boyfriend” image. In this adaptation, the man represents “The Public,” turning away from “Circular Economy on climate change” to look at “A meme about sustainability.”



Interpretation: This meme offers a self-aware commentary on its own persuasive power, suggesting that informal, humorous formats can capture public attention more effectively than conventional sources.

4.3 Interrogating Technology Through Satire

Memos addressing topics like artificial intelligence and clean energy often gained traction by connecting technological skepticism to environmental criticism.



The combination of tech and environment proves highly engaging:

Memes combining **tech skepticism with environmental critique** saw **55% more traction** than generic eco-memes. Content juxtaposing **AI and environmental issues** saw a **63% higher engagement** specifically among the 18-35 demographic.

Tech satire content was **71% more likely to spark discussion**, moving beyond passive likes to active commentary.

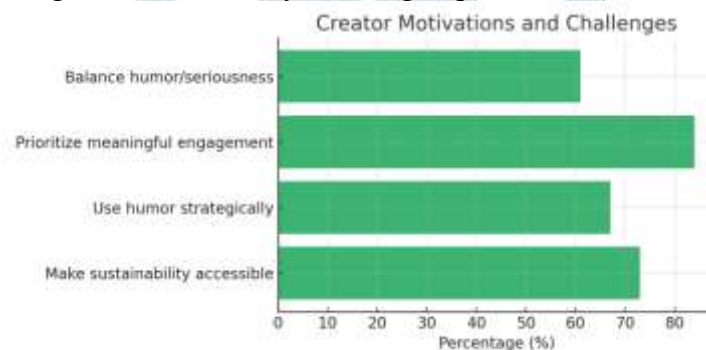
Illustrative Example: A widely circulated post on X (formerly Twitter) used a still image of a horrified character from a popular sitcom. The text overlay read: “AI designing a new chatbot instead of designing a way to clean the ocean.”



Interpretation: This content relies on audience familiarity with both digital culture and contemporary tech debates. It effectively blends cultural critique with humour, illustrating how memes repurpose societal concerns into engaging commentary (Milner, 2016).

4.4 Creator Intent: Advocacy Through Humour

Discussions with meme authors indicated a purposeful approach to their craft. They frequently described their work as tools for building “mass relatability,” aiming to pair entertainment with subtle persuasion.



Creator Insight: One individual explained, “I try to make sustainability feel like a common struggle, not a guilt trip. If we can joke about our habit of buying reusable bags then forgetting them at home, it becomes a community issue, not a personal failing.” This perspective aligns with the concept of memes as instruments of cultural influence (Wiggins, 2019).

4.5 The Primacy of Participation

Although memes typically contained little detailed information, they excelled at generating visibility and provoking reaction. This outcome reflects the concept that memes serve primarily as cultural tokens that encourage interaction, rather than as detailed informational sources (Shifman, 2014).

Illustrative Example: A text-based post on Twitter stated: “Climate change is the real final boss. #GameOver.” Despite its simplicity, the post was shared thousands of times, initiating extensive discussion in its comments.

Interpretation: The effectiveness of this meme lies in its concise, metaphorical language. Sharing it acts as a social signal, allowing users to express alignment with environmental values and sparking collective dialogue. The analysis of 120 memes revealed several important trends in how sustainability is communicated through humour and visual culture:

5. Discussion

The findings suggest that memes act like Trojan horses in sustainability communication: they appear playful but carry serious messages within them. By condensing urgent issues into humorous, easily shareable forms, they allow audiences to engage with sustainability without feeling overwhelmed. Previous studies on climate communication note that humour helps reduce resistance and eco-anxiety, making audiences more receptive (Skurka et al., 2018).

Another key insight is that memes promote participation and democratization. Unlike government or NGO-led campaigns, eco-memes emerge from grassroots online communities. Anyone can create, remix, and share them, which allows sustainability conversations to circulate outside institutional boundaries (Anderson, 2020). This strengthens their role in digital activism, confirming Shifman’s (2014) view of memes as cultural units that spread because people identify with them.

At the same time, the limitations of memes must be acknowledged. They simplify complex problems and sometimes risk trivializing urgent issues. O’Neill and Nicholson-Cole (2009) caution that reducing environmental debates to “sound bites” or simplified images may prevent deeper understanding. Thus, memes should be seen as *entry points* into sustainability discussions—effective for raising awareness and encouraging reflection, but ideally complemented by campaigns or educational resources that provide fuller knowledge.

Overall, the findings confirm that memes are not just entertainment. They are cultural artifacts that connect environmental issues with the rhythms of digital life. As Milner (2016) notes, memes mediate public discourse by transforming politics and activism into participatory humour. In the context of sustainability, this makes them powerful tools for awareness-building and community engagement, even if they cannot substitute for long-term educational strategies.

6. Conclusion

This analysis confirms that internet memes have become a significant and sophisticated force in sustainability communication. They function as cultural Trojan horses, bypassing the resistance often triggered by traditional, fear-based or data-heavy messaging. By leveraging humour, relatability, and familiar pop culture templates, memes successfully reframe sustainability from a distant, complex global issue into a personally relevant and engaging topic.

The power of this format lies in its participatory and grassroots nature. Unlike top-down campaigns, memes are created and shared by everyday users, democratizing advocacy and embedding environmental consciousness into the fabric of digital social life. However, this strength is also its key limitation: the drive for shareability often prioritizes engagement over informational depth, risking the oversimplification of complex problems. Therefore, memes should not be seen as a replacement for detailed climate education but as a vital gateway to engagement. Their unparalleled ability to capture attention and spark conversation makes them an essential tool for initiating public discourse. The future of effective sustainability communication may lie in strategic partnerships that bridge this gap, combining the relatable power of grassroots memes with the factual authority of scientific institutions to guide sparked interest toward meaningful understanding and action. In essence, to ignore meme culture is to ignore a dominant language of the modern public sphere. Embracing its logic is not about trivializing science but about ensuring its critical messages are heard, shared, and acted upon by a broader audience.

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