

PennStateDonald P. Bellisario

College of Communications



Letter to Readers

Few topics are as universal as sustainability. From day-to-day decisions to long-term strategic plans, a principled approach to being sustainable is crucial. Of course, for communicators, sharing sustainability efforts can be challenging but, in today's volatile media environment, doing so clearly and ethically is as important as ever.

Thank you for your interest in the Arthur W. Page Center and our funded work on sustainability communication. From the start, we knew we'd need a diverse selection of studies to tackle such a wide-ranging topic. Out of a large group of submissions, we made a concerted effort to choose projects that offered practical insights for key issues.

From advertising to apps to corporate communication to influencers to news media, each of these 12 projects builds a better understanding of how to effectively and ethically communicate sustainability. We believe the research featured in this Insights Report will help guide strategy and facilitate behavioral change at every level.

Sustainability communication is a chief research initiative at the Page Center. Our talented scholars continue to conduct the innovative work that keeps sustainability at the forefront of our achievements. We are proud of our long history and current role as a leader in this research space.

We hope the work of our scholars boosts awareness and inspires action. You may already understand how important maintaining a sustainable society is to our world. Through this report, we are confident that you'll discover an appreciation for communication's role in building that society.

Many thanks to the Page Center scholars who conducted the research and helped us create this important document.

Holly Overton, Ph.D.
Page Center Research Director

Denise Bortree, Ph.D. Page Center Director

About the Arthur W. Page Center

The Arthur W. Page Center is an international leader in research on ethics and social responsibility. Housed in the Donald P. Bellisario College of Communications at Penn State, we are committed to the enhancement and promotion of integrity in all forms of public communication. Since 2004, we have provided \$1 million in research funding to hundreds of scholars around the world. The work of these Page Center scholars is well represented in public relations literature and related publications. It is our mission to integrate this innovative research with the needs of the profession. We do that by building ethics awareness and offering ethics education for every level of communicator.

Connect with the Page Center

Website: thepagecenter.org Facebook: ThePageCenter X: @ThePageCenter LinkedIn: The Arthur W. Page Center for Integrity in Public Communication



The Insights Report on Sustainability Communication was created by Holly Overton, Page Center Research Director and Associate Professor in the Donald P. Bellisario College of Communications at Penn State, and Cassandra L. C. Troy, Assistant Professor in the Department of Journalism at University of Illinois Urbana-Champaign. Design work by Cassandra L. C. Troy.

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Segmenting Publics for Sustainability Communication

Top 10 Insights

Page Principle #1: Tell the truth.

Combat misinformation proactively.

Preemptively addressing misconceptions can be a powerful strategy for companies when communicating about environmental topics. Through the concept of prebunking, organizations can bolster an audience's willingness to amplify truthful messages and their actions toward products. This helps to ensure that messages resonate authentically, thereby strengthening trust and encouraging truthful engagement.

Page Principle #2: Prove it with action.

Walk the talk.

When companies take a stance on contentious issues like environmental justice, they can impact public opinion and civic action. By taking authentic issue stances with a clear call to action that goes beyond the impact on the corporate bottom line, companies can successfully motivate public action toward issues.

Page Principle #3: Listen to stakeholders.

Don't take a cookie-cutter comms approach.

When communicating about sustainability practices, recognize that various stakeholder groups need different messaging. Segment audiences to understand their interests, concerns, and involvement with specific environmental issues.

4

Champion inclusive dialogue.

Be deliberate about diversity and inclusion efforts. Connect across ages, genders, nationalities, and politics by using nonpartisan terminology.

Page Principle #4: Manage for tomorrow.

If you take a stance on controversial environmental issues, anticipate public reaction.

When communicating about controversial environmental issues, be aware of potential backlash, and understand that stakeholders often separate issue disagreement from their actual behaviors.



Empower influencers as advocates.

Influencer partnerships can lead to behavior change. Sustainability influencers can share personal stories and build connections with audiences around sustainability messages to boost engagement and encourage sustainable behavior.

Page Principle #5: Conduct public relations as if the whole enterprise depends on it.

Embrace employee partnerships.

Collaborate with employees to implement sustainability initiatives. Communicate thoroughly about the values, goals, and vision of sustainability initiatives; lead by example; and engage in two-way dialogue to incorporate employees' feedback.

8 Emphasize community impact.

Companies could benefit from localizing sustainability communication to demonstrate how they are helping the communities around them. This helps with cultivating trust and relationship-building.

Principle #6: Realize an enterprise's true character is expressed by its people.

Make sustainability your company DNA.

Level up your employee partnerships to enhance proenvironmental behaviors in the workplace through dialogic communication and a demonstrating a consistent commitment to initiatives. When employees are motivated by their employer's efforts, they are more likely to actively engage in proenvironmental behaviors at work.

Principle #7: Remain calm, patient, and good-humored.

Respond (not react) constructively.

When companies are depicted in the media as harmful, companies should rebuild trust by building partnerships, prioritizing transparency, and offering more contextual information about their sustainability efforts.

Exploring Interventions for Publics Susceptible to Disinformation

How can prebunking inoculation messages counter effects of disinformation-based greenwashing on different publics?



Prebunking-based inoculation can be a valuable tool with receptive audiences.

A prebunking-based inoculation positively impacted perceptions of message effectiveness and motivation to think critically about greenwashing further while reducing intentions to purchase greenwashed products and share greenwashing content.

Practitioners should prioritize strategies that champion a nuanced and targeted approach. Crafting messages to resonate with unique characteristics of each lacuna public is imperative.

Key Findings

Overall, exposure to an inoculation message reduced intentions to buy products from a greenwashing company compared to not receiving a message.

Receptive audiences, after receiving an inoculation message, demonstrated higher motivation to think critically about greenwashing and perceived the inoculation message as most effective.

Amplifying audiences were most likely to purchase from a greenwashing company and share greenwashing messages, despite the inoculation message.



Courtney Boman Assistant Professor University of Alabama



Matthew VanDyke Associate Professor University of Alabama

Method

Researchers conducted a two-part study focused on 774 participants' motivation, attitudes, and knowledge deficiency around greenwashing to explore the concept of lacuna publics.

Lacuna publics are extreme subgroups characterized by intense attitudes and knowledge deficiency on controversial issues, which are at risk for being susceptible to disinformation.

First, the survey revealed breakdowns of Lacuna publics:

.5% Amplifying disinformation17.4% Receptive to disinformation

23.1% Vulnerable to disinformation

59% Immune to disinformation

Next, researchers conducted an experiment to test the effectiveness of a prebunking-based inoculation message among the same participants. Outcomes examined included motivation threat (thinking about the issue further), perceived message effectiveness, and behavioral intentions.



Connecting with Influencers for Sustainable Behavior Change

How can influencers best connect with audiences to encourage sustainable behavior change through sponsored content?

Takeaways

Organizations can take full advantage of influencer partnerships by offering influencers the opportunity to **share personal stories** in sponsored posts.

Sustainability influencer content that showcases influencers' *unique voices* can support audience confidence for enacting environmentally friendly behaviors while boosting engagement with sponsored messaging.

When influencers **build a connection** with an audience around a sustainability message, the audience is more likely to adopt a recommended behavior.

Method

An online experiment with 405 participants tested the effects of a sustainability influencer's Instagram video describing a brand partnership to promote a "Bring Your Own Cup" initiative focused on reducing waste from single use coffee cups.

A fictitious influencer was created for this study. The experiment compared the impacts of two video types:

- one focused on the corporation and its sustainability program
- a second describing the influencer's experience using a travel mug instead of disposable cups

Key Findings

People felt more connected to an influencer when she shared a personal story about her experiences with sustainability behaviors.

Parasocial interaction is an important variable in mass media research. This idea refers to audience feelings that they have a relationship with a figure in the media like an influencer.

Feelings of parasocial interaction were positively related to self-efficacy, meaning participants' confidence that they could engage in sustainable behaviors themselves, as well as their willingness to share a sponsored post on social media.





Hyosun Kim Assistant Professor Indiana State University

Comparing Reactions to Racial & Environmental Justice Messaging

Does environmental justice function similarly to other corporate social advocacy issues, such as racial justice? How do consumers respond to company stances they disagree with?

Takeaways

For companies engaging in CSA, it is vital to focus on the *moral aspect* of campaigns.

Being *genuine*, *transparent*, and *aligned with stakeholder values* helps gain public support.

CSA efforts perceived as insincere or morally dubious can backfire, so *clear* and *ethical* communication about these initiatives is essential for success.

Key Findings

Simply using moral decoupling (separating a company's actions from its moral stance) doesn't directly influence support for CSA campaigns. Instead, people's moral judgments play a crucial role: if they see the company's advocacy as morally good, they are more likely to support it.

Additionally, certain demographic factors, like political affiliation and minority status, influenced responses to CSA campaigns.



Among *opponents*of the company's
polarizing stance,
many did not
intend to change
their purchasing
choices.



Among supporters of the company's stance, there were higher advocacy, positive wordof-mouth, and purchase intentions.

Method

Researchers conducted an online survey with over 1,200 participants to understand how people react to corporate social advocacy (CSA) campaigns from Ben & Jerry's.

Participants were shown messages about climate justice or racial justice.

Racial Justice a heavily studied topic in CSA research Environmental Justice a less-studied CSA topic

Then they reported thoughts on the company's actions, including judgments of company performance and morality.

The study used the concept of *moral decoupling*, when people separate judgments of company performance from beliefs about its morality, to analyze how these judgments affected people's support for the campaigns.



Luke CapizzoAssistant Professor
Michigan State University



Andrea Martinez Gonzalez Associate Professor James Madison University

How Sport Stewardship Communicates Sustainability

How do motorsport organizations communicate sustainability practices, manage different stakeholder relationships, and promote the Sustainable Development Goals (SDGs)?

Key Findings

Sustainability consists of *real*, *tangible actions* that:

- promote new technology
- · benefit the auto industry,
- reduce the sport's carbon footprint

Sustainability communication has *three key priorities*:

- it must be proactive
- it should be authentic
- it needs to demonstrate long-term and strategic commitment to addressing climate issues

Various stakeholder groups *need* different messaging (e.g., using different terms such as "environmental conservation," "reducing carbon footprint," or "combatting climate change"), especially when segmented by age. Interviewees said young adult fans in particular were vocal supporters of sustainability.

Social sustainability, known as DEI efforts, *naturally aligned* with environmental sustainability initiatives.



Virginia S. Harrison Assistant Professor Clemson University



Rosalynn Vasquez Assistant Professor Baylor University

Method

Researchers interviewed 11 communication practitioners in motorsport organizations in the U.S. and U.K.

They also conducted a thematic topical analysis of 37 documents, like press releases, sustainability reports, and webpages.

Takeaways

Communicating sustainability with the SDGs is particularly effective in connecting publics from global organizations.

Sport is considered an important vehicle for accomplishing multiple SDGS:













Practitioners can connect across ages, genders, nationalities, and politics by using nonpartisan terminology.

Bringing everyone to the conversation also means being deliberate about DEI efforts.

Using different media–from digital to inperson activations—is an impactful way to demonstrate effective sustainability practices across audiences.

Media Coverage of Corporate Sustainability Matters

How does media coverage of corporate sustainability on social issues affect consumers' attitudes and word-of-mouth behavior?

Takeaways

Positive media coverage of corporate sustainability can enhance favorable attitude and word of mouth toward the company.

Corporations' engagement in divisive social issues and earning good media publicity help *affirm the public's certainty* about their relationship with the company.

Corporations can use social sustainability issues as a differentiation mechanism to further earn media publicity and boost perceptions of their authenticity.

Method

Researchers conducted two online studies.

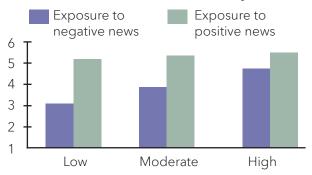
1) The first experiment tested how media coverage impacts outcomes through the factors of valence and perceived authenticity.

Valence involves positive or negative evaluations of sustainability practices.

Perceived authenticity refers to beliefs about a company's actions aligning with their organizational identity and values, as well as societal expectations.

2) The second experiment tested how positive and negative media coverage of corporate social advocacy (CSA) affects individuals' attitudes and engagement among different levels of expectations.

Evaluations of Social Sustainability Efforts



Expectations for a company to be involved in a social sustainability issue

Key Findings

When people do not expect a company to be involved in divisive social issues, good media coverage about a company's social sustainability efforts leads audiences to have favorable feelings toward the company.

Favorable feelings lead people to recognie that a company is being genuine, which encourages them to have a positive attitude toward the company and talk about the company more positively.



Juan LiuAssistant Professor
Towson University



Lingling ZhangProfessor
Towson University





Ruoyu Sun Assistant Professor University of Georgia

University



Enzhu DongPh.D. Candidate
University of Miami

Key Findings

Internal sustainability branding is a comprehensive effort that includes strong communication with employees.

Internal sustainability branding promotes employees' pro-environmental behaviors by strengthening employees' intrinsic motivation, understanding of their role in supporting sustainability efforts, and their relationship with the organization.

The role of leaders and supervisors is crucial for encouraging employees to engage in:



Task-Oriented
Behaviors
Completeing
assigned tasks in
environmentallyfriendly ways



Workplace
Behaviors
Recycling,
choosing
reusable items,
and more at work



Proactive Behaviors

Going beyond required tasks by sharing knowledge, voicing suggestions, and encouraging others to engage in green behaviors

Promoting Pro-Environmental Behaviors in the Workplace

How can corporations collaborate with employees to effectively implement sustainability initiatives?

Takeaways

Thorough communication is key. In addition to providing orientations and rewards for employees, communicating the values, goals, and vision of sustainability initiatives is critical.

Lead by example. Leaders envisioning, inspiring, and taking proactive actions helps employees understand green values and workstyle and motivates them to achieve goals by engaging in pro-environmental behaviors.

Listen and dialogue. Two-way dialogue, seeking and responding to employees' opinions, and incorporating their feedback are ethical ways to better communicate environmental initiatives.

Method

Researchers examined how corporations' internal communication regarding environmental initiatives can promote green behaviors among U.S. employees:

- Study 1 surveyed 443 full time employees from various industries
- Study 2 surveyed 450 full time employees from the hospitality industry



Portrayals of Corporate Sustainability in Hispanic & Black Media

How do U.S. media outlets focused on underrepresented communities discuss companies' environmental sustainability efforts?

Takeaways

Companies could benefit from *localizing sustainability* communication to demonstrate how they are helping (or at least not harming) communities around them.

In light of legacies of harm and distrust among underserved and disproportionately impacted communities, companies should rebuild trust by *diversifying sustainability messaging* and *building partnerships*. This may help repair trust and avoid villain characterizations.

Providing more contextual information around sustainability efforts and prioritizing transparency in response to mistakes may help avoid oversimplified framing (e.g., villain framing) and maintain community relationships.



Ioana Coman Associate Professor Texas Tech University



Gabriel Dominguez Partida Associate Dean Universidad Panamericana



Nihar Sreepada
Assistant Professor
Louisiana State University

Key Findings

Most coverage related to corporate sustainability was international, perhaps indicating a lack of company engagement with local media.

Companies were largely seen as falling into two mutually exclusive categories:



Heroes: Stories highlighted how companies fight climate change and engage in sustainability acts.



Villains: Corporations, often local and typically within the fossil fuel or chemical industries, use unsustainable practices that hurt the environment and communities.

Method

Researchers analyzed 94 news articles about corporate sustainability from Hispanic and Black media outlets.

News outlets and articles of interest were identified using the Newmark J-School Black and Latino News Media mapping initiatives and databases.

Themes included "Companies as Friends" (active social responsibility, internal sustainability practices, and community engagement) and "Companies as Foes" (direct environmental harm and human consequences, and denial or covering up environmental impact).

Leveraging Technology for Sustainable Habit Formation

Takeaways

Mobile apps can help *bridge the gap* between pro-environmental attitudes and enacting personal behaviors for Gen Z. Consistent use of eco-apps can help users learn about sustainability issues and build environmentally friendly habits.

Strategies that foster *empathy* and *hope*, like the use of animal ambassadors, can strengthen feelings of responsibility and commitment to environmental action without making users feel shamed.

Key Findings

Survey

- After a month of using the app, participants reported increases in importance of environmental issues and knowledge about climate change mitigation behaviors (behaviors that reduce or prevent greenhouse gas emissions).
- The app also supported personal behavior changes such as energy conservation and waste reduction.

Focus groups

 Eco Warriors was unique from other apps because it inspired hope instead of guilt or shame. The use of animal ambassadors was particularly engaging.



Ching-Hua Chuan Assistant Professor University of Miami



Michelle I. Seelig Professor University of Miami

How can mobile apps promote eco-friendly behavior change among Gen-Z?

Method

Researchers developed the Eco Warriors app for users to set goals and track behaviors. Goals were organized around helping three animal ambassadors: sea turtles, polar bears, and tigers.

The app sent participants reminders and affirmed progress by sending thank you postcards from the user's chosen animal ambassador.





145 undergraduate students used the app for four weeks and completed a survey at the beginning and end of that timeframe.

Four focus groups examined participants' experiences using the app.



Weiting Tao Associate Professor University of Miami



Wan-Hsiu Tsai Professor University of Miami

Communicating for Economic Benefit & Environmental Impact in Indonesia

How can waste reduction programs build relationships with local communities & women's groups to achieve sustainable outcomes?



Gregoria Arum YudarwatiProfessor
Universitas Atma Jaya
Yoqyakarta

Takeaways

Corporate sustainability communication is about *co-creation* between a corporation and the public.

The **social learning process** offers an alternative approach toward pro-environmental behavior. Social learning emphasizes the importance of observing, modeling, and imitating the behaviors, attitudes, and emotional reactions of others.

Method

This research focused on Danone Aqua's waste bank program as a case study of circular economy initiatives. The waste banks involved partnerships of for-profit companies, NGOs, local communities, and women's groups that pay community members for collecting and depositing plastic waste.

Seven focus groups were conducted with women's groups, and 10 interviews were conducted with corporate, NGO, and local village stakeholders.

Communication Degree of Communication Sustainability Impact Control Intervention **Impact** Individual Livelihood Education **Awareness** Community Knowledge & Concern Experience Benefits Company & Community **Environmental Empowerment** Social Capital Control **Impact Partnerships Transformation** Sustainability

Key Findings

Companies can communicate through NGOs and local leaders to gain community support.

Despite low familiarity with environmental issues among community members, the waste bank program encouraged waste reduction behavior and support for waste management as participants experienced individual and community benefits.

From the perspective of local women, waste banks' most important impacts were not environmental. Instead, they offered economic benefits through compensation for plastic waste, opportunities for women to socialize when they visited the facility, and spiritual encouragement, as waste reduction improved harmony between people and the environment.

The United Nations-BTS Partnership: Activating Fan Activism for Sustainability

How can nonprofit organizations achieve their sustainability communication goals by effectively partnering with celebrities and engaging celebrity fandom?

Key Findings

- Key themes were identified related to perceptions of celebrity credibility, fandom norms, and relational dynamics within the triad of celebrity, fandom, and nonprofits.
- Factors such as celebrity credibility, fandom identification, and strategic fit between celebrity and nonprofits influenced advocacy tendencies.
- Participatory fandom culture influenced engagement in advocacy behaviors related to issues championed by celebrities.
- Social interdependence among fans and the celebrity, fandom norms, and individual identification with the fandom impacted perceptions and behaviors.
- Among BTS fans:

56%

agreed to sign a sustainability petition 55%

were willing to make a donation 65%

reported positive attitudes on the UN

 There were significant effects of collaboration type and celebrity-cause fit on perceived authenticity, with implications for fandom advocacy behaviors.



Baobao Song Assistant Professor Virginia Commonwealth University



Minhee Choi Assistant Professor Texas Tech University

Takeaways

Aligning celebrity endorsements with nonprofit organizations strategically can **enhance authenticity and effectiveness** in mobilizing fan advocacy efforts.

Leveraging online platforms for advocacy requires consideration of factors such as *celebrity credibility* and *fan identification* to optimize engagement.

Acknowledging the influence of participatory fandom culture on advocacy underscores the need to foster a *supportive and inclusive fan community* to drive meaningful action.

BTS is a popular, seven-member South Korean boy band.

Method

A mixed-methods approach was used:

- In-depth interviews were conducted with South Korean and American BTS fans and non-fans who advocate for sustainability issues to understand 1) their assessments of the UN-BTS partnership 2) their perceptions of the role of BTS' celebrity influence and 3) online and offline activism related to environmental sustainability communication.
- Two online surveys were conducted with millennial and Gen Z American BTS fans to measure sustainability behaviors.

Communicating Unequal Impacts of Environmental Issues

How can nonprofit messaging about racial disparities enhance support for clean air initiatives?

Takeaways

Framing environmental health messages in terms of inequality may result in *preaching to the choir* of already impacted or well-informed stakeholders. Instead, practitioners may use a *Trojan horse approach* to frame content for broader appeal while embedding disparity information near the end.

Strategic communicators should use *targeted messaging strategies* known to be effective for a particular group, such as emphasizing Christian values in messages framed around children's health.

Although past research has examined effects of disparity messages, little work has considered who opts to view such content. Studying choice exposure is important in our high choice media environment.

Method

About 1,800 U.S. adults took part in an online experiment. Half of the participants identified as Black, and half were non-Black.

Participants were divided into two groups. They either viewed a video chosen for them (forced exposure) or a video they were able to select (choice exposure).



Chris SkurkaAssistant Professor
Penn State University



Rainer Romero-Canyas
Lead Senior Behavioral
Social Scientist
Environmental Defense Fund



Helen Joo Senior Social Science Analyst Environmental Defense Fund

Key Findings



Racial disparity framing was more appealing to individuals who were younger, Black, and concerned about environmental justice.



Childhood health framing was more appealing to individuals who were younger and Christian.

Seeing a video about health disparities, regardless of how it was framed, strengthened the importance of risk beliefs for pro-environmental outcomes like support for clean air policies.





Segmenting Publics for Sustainability Communication

Takeaways

Organizations and campaigns should segment audiences to understand their *interests, concerns, and involvement* with specific environmental issues in order to communicate most effectively.

People's beliefs about different environmental issues can be connected. Thinking about these connections as *problem networks* and examining the interconnections can help communicators design messaging that taps into the *broader context* of issues and better engage audiences.

Method

305 U.S. residents responded to a survey about their views on three environmental topics: climate change, pollution, and waste.

Researchers also categorized participants into groups to examine how environmental beliefs and motivations might differ:

- Aware publics: People know that an environmental issue is a problem
- Active publics: People already have some level of involvement in addressing an environmental issue

How do different audience segments engage with environmental topics and how do they connect environmental issues to one another?

Key Findings

A high proportion of participants fit the definition of active publics for each topic:







48% Climate

Change

54%
Pollution

+ 7 / C Waste

on Waste Disposal

Compared to aware publics, active publics reported greater communication on environmental topics, pro-environmental attitudes, trust in science, and environmentally friendly behavior intentions.

People's awareness of and desire to learn more about the smaller-scale topics of pollution and waste were positively related to recognition of climate change as an issue that could impact their own lives.



Jeong-Nam KimProfessor
University of Oklahoma



Alessandro Lovari Associate Professor Università degli studi di Cagliari



Hyelim LeeAssistant Professor
Washington State University



Cristina Vaz de Almeida President Portuguese Health Literacy Society



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