

***How to Save a Planet: Communicating Climate Change Efficacy Through Narrative***

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### Abstract

The podcast *How to Save a Planet* represents an emerging form of climate change communication that can be further explored through rhetorical analysis. For people who are interested in climate change but want less doom-and-gloom messaging and more applicable ways to address it, *How to Save a Planet* presents the unique opportunity to listen in on the discussions of science communicators and climate experts as they detangle the complexity that is climate change. By utilizing the podcast form, hosts Alex Blumberg and Dr. Ayana Elizabeth Johnson can reach a large audience of listeners to bridge the gap between the scientists who work on climate issues and the public audience who care about resolving them. In the pentadic analysis of the podcast, its purpose, agents, and agency will be focused on, as these are the narrative elements that reflect the hosts' rhetorical intent. After the analysis, an evaluation of the artifact determines that the implementation of these elements in *How to Save a Planet* bridges a connection between science experts and public audiences, as well as provide efficacy for listeners to act on climate change.

***How to Save a Planet: Communicating Climate Change Efficacy Through Narrative***

“So, we focus a lot on this show on big-picture solutions,” Alex begins. You and Ayana nod your heads. “Things like government policies to limit climate-harming refrigerants, or things that we can do to increase renewable power or change how we farm.”

“But we know - because you tell us - that a lot of you are wondering, what should I be doing as an individual in my daily life? And do those individual actions even matter?” You consider this a moment before Alex interjects.

“One listener even told us about a spreadsheet he made tallying up all his family’s actions.”

“I love a spreadsheet!” Ayana gushes. You chuckle along with them.

Just as Alex starts to talk about carbon footprints, you check the road before crossing it to continue your walk. You pause the podcast to adjust your face mask and rewind it a couple seconds to make sure you catch what he said. After all, you don’t want to miss anything important.

Podcasts offer a way for people to virtually eavesdrop on interesting conversations and stories they may otherwise never have access to. For people who are interested in climate change but want less doom-and-gloom messaging and more applicable ways to address it, the podcast *How to Save a Planet* presents the unique opportunity to listen in on the discussions of science communicators and climate experts as they detangle the complexity that is climate change. Personable hosts like journalist Alex Blumberg and scientist Dr. Ayana Elizabeth Johnson share insights on a myriad of climate-related issues along with an ever-changing cast of relevant guests. For a podcast that emerged on the saturated media landscape in 2020, *How to Save a*

*Planet* holds its own against other science podcasts by providing listeners an opportunity to engage in climate change communication through a narrative-driven format.

The podcast *How to Save a Planet* represents an emerging form of climate change communication that can be further explored through rhetorical analysis. In order to grasp the context of the rhetorical analysis of *How to Save a Planet*, a review of relevant literature will be provided, with an emphasis on climate change communication and the opportunities that podcasts provide in science communication contexts. Burkean methods will be described and employed in the analysis of *How to Save a Planet*'s, specifically the dramatic pentad elements of purpose, agent, and agency. An evaluation of the artifact will determine that the implementation of these element in the podcast to bridge a connection between science experts and public audiences, as well as provide efficacy for listeners to act on climate change.

### ***Literature Review & Methods***

The field of climate change communication has been cultivated for decades to understand the discourse of this wicked problem. According to “Communicating climate change: history, challenges, process and future directions,” climate change communication began forming into a subset of environmental and risk communication in the mid-1980s (Moser, 2009). Climate change communication rhetoric is of special concern to scholars and practitioners, as public acceptance and advocacy is integral to major climate policy action. For instance, a 2015 study published in *Environmental Politics* utilized “bridging” rhetoric to facilitate a climate change policy discussion with a “small deliberative group that contained climate-change deniers,” (Dryzek & Yo, 2015). In this case, rhetoric was used to promote public reasoning related to climate policy. Despite the different individual perceptions that participants had of climate change, a common ground was met on the acceptance of greenhouse-gas mitigation measures

(Dryzek & Yo, 2015). As this study illustrates, rhetoric can bring together stakeholders on key issues that are necessary to address climate change.

In terms of rhetoric, a key dynamic to consider in climate change communication is saliency versus efficacy of messaging. In the context of climate change communication, saliency can be defined as the significance of the issue, while efficacy is the ability to effectively act on the issue. Rhetors develop saliency in messaging by emphasizing the severity or importance of an issue using various appeals. A rhetorical strategy to heighten the saliency of climate change issues, particularly in media settings, is the fear-based appeal. There is debate as to whether fear appeals are truly effective for promoting engagement with the issue of climate change. Reser and Bradley (2017) discuss this debate and the vast amount of research related to it in their 2017 *Oxford Research Encyclopedia of Climate Science* article: "...the use of such fear appeals in climate change communication and engagement has not been demonstrated, to date, to be particularly effective," (p. 21). Too much fear-invoking saliency in the context of a global threat like climate change runs the risk of overwhelming audiences and potentially producing apathy. The primary reason why fear appeals fail to be effective with engaging audiences in climate change issues is the "...disconnect between... self-efficacy and ideally outcome efficacy," (Reser & Bradley, 2017, p. 22). For this reason, efficacy has become a research topic within the climate communication field to promote public engagement with climate issues. In a *Risk Analysis* article, researchers Bostrom, Hayes, and Crosman (2018) test a theory-based measurement approach of climate change mitigation efficacy. Efficacy can be specified in terms of certain facets of climate action, with common types being self-efficacy (reducing risks of climate change is possible) and response efficacy (climate change mitigation efforts are effective) (Bostrom, Hayes, & Crosman, 2018 pp. 805). Several other efficacy types emerged in this study for

personal, government, and collective efficacy; these were found to be associated with more support for climate change risk mitigation (Bostrom, Hayes, & Crosman, 2018 pp. 805).

Integrating efficacy into climate change messaging will be especially relevant to discussing how podcasts engage audiences in climate action.

Podcasting has gained some recognition within the field of communication studies as a viable way to communicate with public audiences. In 2010, *New Media & Society* published the article “Podologues: Conversations created by science podcasts,” with “podologues” being a term for discussions prompted by podcasts. The study included a content analysis of online discussion forums and blogs associated with five popular science podcasts, then conducted interviews with listeners (Birch and Weitkamp, 2010, p. 889). Results of this study indicated that podcasts were perceived as “valuable sources of scientific information and that blogs and forums can act as public spaces for audience members to share knowledge, develop their own ideas about science and provide feedback to media producers,” (Birch and Weitkamp, 2010, p. 889). Presenting an opportunity for interpersonal discussions through podcasts and associated forums is a research area which can be further explored in climate communication. A 2017 *Journal of Environmental Psychology* found that university students and nationally representative samples of aquarium visitors were more likely to engage in climate change discussions and demonstrate higher efficacy beliefs after receiving knowledge-based interventions (Geiger, Swim, & Fraser, 2017). If climate communication podcasts can incorporate this knowledge intervention, then there is potential to promote more regular discussion of climate change and mitigation efforts with enhanced efficacy. In conjunction with virtually mediated interpersonal discussions, podcasts can prompt more engagement between the scientific community and public audiences. A decade after Birch and Weitkamp’s article was published, *Scientific Life* published “How

Podcasts Can Benefit Scientific Communities” (Quintana & Heathers, 2020). In their article, Quintana and Heathers (2020) describe the benefits of science podcasts, chiefly the humanizing of science careers that is usually exclusive to those directly involved in scientific efforts. The potential for podcasts to simultaneously engage public audiences and humanize the scientists who work on issues like climate change present a valuable opportunity for climate change communication.

Since rhetorical analyses of climate-focused podcasts is an emerging research field, there is limited scholarly work that has established a clear method of breaking down the elements of these podcasts. However, a recent study conducted by Fantini and Buist (2021) published in the *Journal of Science Communication* surveyed listener involvement and shared the researchers’ own podcast framework as a “podcast pathway.” The nine elements within the podcast design, production, and distribution provide a foundational understanding of how podcasts are produced and the elements that go into the development process for this communication medium. The podcast pathway elements include: (1) general outline and planning, (2) episode format, (3) preparation, (4) recording, (5) editing, (6) publication, (7) promotion, (8) other uses, and (9) evaluation (Fantini and Buist, 2021, p. 4). These elements demonstrate the complexity of this form of rhetoric and serve as a means of understanding the structure of *How to Save a Planet*.

In addition to referencing Fantini and Buist’s podcast pathway, it is also necessary to incorporate traditional narrative analysis methods to understand *How to Save a Planet*. Burkean methods, such as the dramatistic pentad and identification, will guide the narrative analysis of *How to Save a Planet*. The dramatistic pentad is key to Kenneth Burke’s theory of dramatism as a way of understanding the core elements of all narratives. The pentad consists of the act (what action takes place in the narrative), scene (the setting), agent (who performed the act), agency

(how the act was performed), and purpose (the motive of the agent) (Burke, 1969). The dramatic pentad establishes a framework for analyzing narratives to be analyzed and can be applied to podcasts as pieces of rhetoric. The purpose, agent, and agency will be primarily focused on in the pentadic analysis, as these are the narrative elements that contribute the most to the influence of the podcast. Some scholars suggest that purpose should be the focal point of any pentadic analysis since the goal of dramatism is to uncover and understand the dynamics and root causes of narrative conflict, while others contend that purpose is not intrinsically more important or interesting than other elements of the pentad. (Bowman, 2017, p. 1211) In terms of the podcast *How to Save a Planet*, the purpose is integral to the communicative function of the show. *How to Save a Planet's* purpose of connecting the public with the climate change experts in order to prompt climate action guides the actions of the agents, Blumberg and Johnson, and how they enact their agency as podcast hosts.

Identification will also be considered in the analysis. In *A Rhetoric of Motives* (1969), Burke suggests that one party identifies with another in any form of persuasive rhetoric. As a form of rhetoric, *How to Save a Planet* enacts identification with its listeners in various ways in order to persuade audiences to take climate action. In the analysis portion of this paper, the identification produced by Blumberg and Johnson will be considered as part of their agency in *How to Save a Planet* to determine how it contributes to listener engagement in climate change issues.

### ***Rhetorical Situation***

Podcasts have emerged in the last decade as a versatile mode of media communication that can cover a wide range of topics. There are thousands of podcasts available on popular audio platforms like Apple iTunes and Spotify that cater to almost every interest, whether it be



comedy, sports, politics, or the like. This wealth of podcast options comes from the popularity that this form of media communication has developed in the United States over the past decade. *The New York Times* reports that based on a 2019 podcast statistics report, more than half of people in the U.S. have listened to a podcast, with nearly one out of three people listening to one podcast every month (Pesier, 2019). This report, entitled *The Infinite Dial*, determined that there has been a steady increase in podcast listenership every year since 2006 (Peiser, 2019). Based on these findings, podcasts reach a considerable portion of the U.S. public and present an opportunity for science communicators to engage with the public.

In terms of science podcasts, iTunes has an entire category dedicated to a range of scientific fields from astronomy to social sciences (Apple). Under Spotify's "educational" podcast category, science podcasts abound, with some of the most popular being Shortwave by NPR, Ologies with Alie Ward, and Science VS by Gimlet. Even the prominent science journal Nature hosts its own podcast to provide a platform for listeners to stay up to date on recent scientific findings, all narrated by journalists with immersive sound bites and music to set the mood for critical thought (*Nature*). With a podcast for practically every scientific field, it comes as no surprise that a pressing scientific issue like climate change has podcasts dedicated to it.

In recent decades, the scientific community has reached a consensus as to the reality of climate change and the crisis it presents for human and environmental systems alike. NASA details the evidence supporting the existence of climate change and its effects including, but not limited to, global temperature rise, warming ocean temperatures, shrinking ice sheets, and glacial retreat (NASA, 2021). These symptoms of climate change, perpetuated by human behavior through pollutive industrial processes, were still recognized as a significant issue, even as 2020 brought public health concerns to the forefront with the COVID-19 pandemic. In May 2020, the

Yale Program on Climate Change Communication released a report of their climate change perceptions survey conducted in April 2020, when many Americans were under shelter-at-home orders to reduce further spread of COVID-19. Among the findings, 73% of Americans reported that they believe global warming is occurring, with Americans who believe this outnumbering those who don't at seven to one (Leiserowitz et al., 2020). Over half of Americans understand that most scientists believe that global warming is occurring, but only one in five understand the strength of that consensus (over "90% of scientists agree that human-caused global warming is happening") (Leiserowitz et al., 2020, p. 4). Six in ten Americans are "at least 'moderately interested in global warming,'" but the equivalent amount reports that "they 'rarely' or 'never' discuss global warming with family and friends," (Leiserowitz et al., 2020 p. 4). These are only a small portion of the survey findings, but they speak to the significance that climate change holds on the American conscious. For those Americans who are interested in global warming but don't discuss it with family and friends, especially in the isolation that COVID-19 prompted, a podcast can serve as an outlet to learn and act on climate change concerns.

Enter *How to Save a Planet*. During the summer of 2020, Gimlet, a prominent podcast company, announced its next science podcast series focused on addressing climate change. The following month, *How to Save a Planet* released its first episode, entitled "How Screwed Are We?" Hosted by journalist Alex Blumberg and scientist Dr. Ayana Elizabeth Johnson, the podcast is straightforward and solution oriented. There is variation between episodes, with one instance of Blumberg taking a field trip to a kelp farm and another where actor Julia Louis-Dreyfus narrates an excerpt from a book that Dr. Johnson co-edited. However, the constant is two science communication experts exploring the issues that plague those worried about climate change and unsure of what collective action can be taken to address it. Calls to action are always

provided at the end of episodes and online, listeners can send in ideas and feedback with the listener mail form.

An episode of particular interest exemplifies all of the elements that make *How to Save a Planet* a unique piece of climate change communication. “Is Your Carbon Footprint BS?” incorporates a relevant topic to climate action, interaction with podcast listeners, expert interviews, and encouragement to engage beyond just passive listening. After pondering the title, the listener can hear Dr. Johnson and Blumberg settle the carbon footprint debate between two siblings, with the help of Dr. Katherine Wilkinson, an author and carbon emissions expert. Dr. Anthony Leiserowitz also makes an appearance. He should sound familiar, as he is the director of the Yale Center for Climate Change Communication and led research efforts on the previously mentioned 2020 climate change perceptions survey. Over the course of a deceptively casual conversation, Dr. Johnson and Blumberg, along with their guests, impart scientific findings, statistics, and action items for listeners to consider. This episode of *How to Save a Planet* encapsulates how climate change can be discussed in an empowering way through a podcast format and serves as a representative of the podcast as a whole throughout the rhetorical analysis portion of this paper. (See Appendix A for full episode transcript)

In the analysis of *How to Save a Planet*, three of the five of Burke’s dramatisitic pentad elements are scrutinized: purpose, agent, and agency. These elements are crucial to understanding the rhetorical means by which *How to Save a Planet* functions as they are key components of what drives the podcast and how it effectively engages listeners. The purpose of the podcast balances the public and technical sphere discourse while shifting the focus of climate change communication away from individual action to systemic action. To support this purpose, the primary agents (podcast hosts Dr. Ayana Johnson and Alex Blumberg) foster familiarity and

representation with listeners while disseminating scientific information and engaging listeners in a dialogic manner.

### ***Artifact Analysis & Interpretation***

#### **Purpose**

The intent behind *How to Save a Planet* is one that it shares with many science podcasts; it serves as a vital connection between the public and the experts, or the people with questions and the people who are trying to solve them. It is no wonder why a significant portion of *How to Save a Planet*'s episode titles are framed as questions. "Is Your Carbon Footprint BS?" is one of the many questions that the podcast attempts to answer by sharing expert insight and encouraging conversation around climate change topics.

*How to Save a Planet* serves as a valuable intersection between the public sphere and the technical sphere. In 1962, German philosopher Jürgen Habermas originally coined the term "public sphere" and defined it as "made up of private people gathered together as a public and articulating the needs of society with the state," (Habermas, 1991, p. 176). G. Thomas Goodnight discusses the public sphere as well as the private and technical spheres in the context of their deliberative implications within America in his 1982 article. Goodnight clarifies the divisions between the private, public, and technical spheres: "Differences among the three spheres are plausibly illustrated if we consider the differences between the standards for arguments among friends versus those for judgments of academic arguments versus those for judging political disputes" (Goodnight, 2012, p. 200). The distinctions between these spheres can remain separate based on the norms and the contexts in which they occur, but within a podcast, a connection can be bridged between the spheres. In the case of *How to Save a Planet*, the boundary between the public and the technical spheres falls along the lines of public discussion of climate change issues and the scientific and policy discourses of scientists and journalists. The boundary lines

between these two spheres are constantly shifting, and *How to Save a Planet* blurs the lines even further.

In the podcast setting, a listener with no scientific or journalistic background can listen to technical deliberations on climate action that are created with specific publics in mind. The rigid academic norms of science communication are broken down into a more approachable conversation. Dr. Johnson and Blumberg warmly greet listeners at the beginning of each episode and maintain an upbeat, casual tone throughout their discussions. These small yet influential factors demonstrate an effort to make the science that supports climate change research, action, and policy accessible to the American public in a comfortable format and avoid the potential for “...issues of significant public consequence, what should present live possibilities for argumentation and public choice, disappear into the government technocracy or private hands,” (Goodnight, 2012, 206).

In terms of how the podcast intends to pragmatically influence listener attitudes and behavior regarding climate change, the emphasis is on shifting the dissemination frame of climate change communication from the individual level to the systemic level. For instance, in the episode “Is Your Carbon Footprint BS?” a central topic of debate is whether carbon emission reductions need to be focused on reducing many individuals’ emissions or reducing the emissions of larger systems and institutions (Blumberg & Johnson, 2021). Based on their discussion of carbon emission contributions with carbon emission expert Dr. Katherine Wilkinson, Dr. Johnson and Blumberg conclude that “[Ayana:] ...even if you are the perfect, zero-waste, low-carbon footprint human being, that doesn’t change the world unless you do something bigger than yourself,” (Blumberg & Johnson., 2021). They qualify those individual

efforts are more immediately actionable (they also provide the top five ways to reduce individual emissions), but not necessarily the most effective overall.

Halfway through the podcast, they delve into the broader changes that need to be made, such as viewing individual actions as “a form of communication, as an invitation for others to join you” and citing the example of the changing social norms of reducing air travel in Europe. They go on to note how public norms shifting can lead to policy changes, like the UK proposal of a frequent flier tax. Blumberg encapsulates this sentiment of public influence in a brief statement: “The action’s important, but it’s the talking that gives it power,” (Blumberg & Johnson, 2021). This statement is an acknowledgment of how powerful communication can be to instigating action, an idea that fuels this podcast.

The final crucial element of *How to Save a Planet*’s purpose is the idea of sparking effective change. By the end of each episode, listeners have received knowledge of specific climate change issues, but without resources and encouragement, this valuable information lies dormant. Knowing that the end of an episode is the perfect time to ‘strike while the iron is hot,’ the hosts provide guidance and call to actions to direct listeners to utilize the episode’s information. There is a clear awareness of this strategy in the carbon footprint episode as the hosts discuss how to apply personal passions and skills to communicate about climate change:

AYANA. So Alex, this is really out in left field. I have a crazy idea for you.

ALEX. Yeah?

AYANA. What if...

ALEX. Make a podcast about climate change?

AYANA. [laughs] You made a podcast about climate solutions with calls to action at the end of every episode.

(Blumberg & Johnson, 2021)

Blumberg and Dr. Johnson cast the podcast itself as an example of how to instigate change in terms of climate action. They encourage listeners to create their own personal Venn diagram of what skills and interests that they have and how they could create a “ripple” effect with them (Blumberg & Johnson., 2021). Listeners are also referred to Project Drawdown, a website which tracks the most significant sources of greenhouse gas emissions, to learn more about emission contributions to climate change. Various other calls to actions (CTAs) are available to listeners in the episode’s show notes and the *How to Save a Planet* email newsletter. The show also has an ongoing document dedicated to CTAs, organized by episode. By providing listeners with various climate action methods and resources, *How to Save a Planet* provides efficacy for its audience. This efficacy factor works in tandem with heightening the saliency of carbon emissions as a climate change issue. Listeners are primed to understand the significance of the problem, then given clear direction as to how it can be addressed. This emphasis on prompting climate action feeds into the purpose of the podcast as a form of persuasive rhetoric.

There are multiple facets to the purpose of *How to Save a Planet*. As a bridge between public and technical spheres, the podcast intends to shift audiences’ perceptions of climate change from one of an individual to systemic level while promoting efficacy. To carry out this purpose, the podcast relies on two other pentadic elements: its agents and their agency.

### **Agents**

The primary agents of *How to Save a Planet* are the hosts of the show, marine biologist Dr. Ayana Johnson and radio journalist Alex Blumberg. Both hosts are science communicators. According to the biography on her professional website, Dr. Johnson is an accomplished marine biologist and policy expert who founded the non-profit Urban Ocean Lab and co-founded the

climate initiative The All We Can Save Project (Johnson). While Dr. Johnson brings her expertise as a scientist, Blumberg serves as a radio journalism expert. He has been influential in the podcasting industry as the editorial director and co-founder of Gimlet Media, the company that publishes a variety of popular podcasts, including *How to Save a Planet* (Gimlet Media). Based on their respective fields of experience, Blumberg and Dr. Johnson represent two stakeholder archetypes that are integral to science communication: the scientist and the journalist.

However, Dr. Johnson and Blumberg are simply the faces of this podcast. There is an entire production team supporting the ongoing development of the podcast. This includes reporters, producers, editors, and sound designers, all of whom are credited in the podcast description (Gimlet). It is important to note that the seemingly casual conversations that Dr. Johnson and Blumberg carry on in each episode of *How to Save a Planet* are carefully thought-through and revised for clarity, accuracy, and persuasive value. This is the magic of the podcast form; an immersive experience can be developed and come across as effortless, when there are many moving parts behind-the-scenes carried out by agents who allow the hosts to make the most of the spotlight.

### **Agency**

Dr. Johnson and Blumberg enact their agency by balancing identification with the audience and communicating expertise in a conversational manner. This is a demonstration of how they, as hosts, must walk a fine line between appealing to public listeners when their credibility is derived from experience in the science communication field. There are three facets of agency that are implemented in *How to Save a Planet*: (1) identification through familiarity,



(2) identification through representation, and (3) communication of expertise through deficit and dialogic communication models.

A relatively simple yet effective way of fostering identification is through recurrence and familiarity. As Burke states in *A Rhetoric of Motives*, "...we must think of rhetoric not in terms of some one particular address but as a general body of identifications that owe their convincingness much more to trivial repetition and dull daily reinforcement than to exceptional rhetorical skill," (Burke, 1969, p. 26). The consistency in *How to Save a Planet's* format as a podcast and the characterization of Dr. Johnson and Blumberg as its hosts establishes this 'reinforcement.' Listeners know what to expect when they choose to listen to the podcast; there will be two charismatic hosts who discuss climate change issues and interview experts in various fields. In the podcast medium, like other forms of media, this consistency can breed a sense of familiarity between public figures and audience members. This familiarity can potentially develop into what is called parasocial relations (PSRs), as Schültz and Hedder (2021) discuss in a recent *Journal of Radio & Audio Media* article entitled "Aural Parasocial Relations: Host–Listener Relationships in Podcasts." The article details a survey of German podcast listeners about the host characteristics that foster connection with listeners and the persuasive effects this may have. The survey results indicated that podcasts as a form of audio media are "capable of fostering PSR that can have an impact on listeners' attitudes and behaviors," (Schültz & Hedder, 2021, p. 1). The potential for parasocial relations as a transcendence of identification through familiarity means that the Dr. Johnson and Blumberg as hosts can develop an interpersonal relationship with listeners, making the hosts seem more relatable to the listeners. This can influence the attitude and behavior change, which is integral for purpose of prompting climate action.

Another aspect of identification that Dr. Johnson and Blumberg cultivate throughout *How to Save a Planet* episodes is representation. A listener representation is imbued into *How to Save a Planet* is through the interview process. In the episode “Is Your Carbon Footprint BS?,” the hosts interview Dr. Kathrine Wilkinson, a carbon emissions expert. Through this interview, the listener can hear an expert’s insights on the issue of emissions as it pertains to climate change. Johnson establishes Dr. Wilkinson’s credibility by introducing her as the lead author of *Drawdown*, a book that focuses on identifying major contributors to carbon emissions and emission reduction solutions. She also co-wrote an anthology of women-centered climate stories entitled *All We Can Save* and co-founded a non-profit under the same name with Dr. Johnson. After this introduction, the interview between the hosts and Dr. Wilkinson begins, with asides between Blumberg and Dr. Johnson to clarify certain points. Dr. Johnson and Blumberg pepper the interview with questions about carbon emissions, carbon footprints, and what this means for the effectiveness of individual climate action. These questions are rehearsed and framed to be akin to what a listener may ask Dr. Wilkinson. For instance, when Dr. Wilkinson explains that “globally, food, agriculture and land use is about 24 percent of global emissions,” Blumberg asks that she define “food and land use,” not for his benefit, but for the listeners (Blumberg & Johnson, 2021). Through the question development, Dr. Johnson and Blumberg attempt to simulate what an average listener may be curious about as it relates to Dr. Wilkinson’s field of expertise. Over the course of what seems to be casual conversation, Dr. Johnson and Blumberg draw knowledge from Dr. Wilkinson’s insights in order to inform the debate on reducing carbon emissions and what solutions are the most effective. By asking the questions that listeners may have for these experts, the hosts enact identification by making it appear that they, too, have those questions and are curious to learn along with the listeners.

In terms of how expertise is communicated, Dr. Johnson and Blumberg implement elements of science communication models. In *Communicating Science in Social Contexts*, Brian Trench's (2008) chapter "Towards an Analytical Framework of Science and Communication Models" focuses on developing a framework of the three primary communication models of science-public discourse. Trench identifies the triad of models as the deficit model (a linear model from expert to public audience), the dialogue model (a linear model of communication between scientists and other groups to improve dissemination), and the participation model (a multidirectional model wherein communication takes place between multiple stakeholder groups) (Trench, 2008, pp. 131-132). Elements of the deficit and dialogue models are implemented in *How to Save a Planet*. Scientific information is disseminated as Dr. Johnson and Blumberg interview experts and discuss climate change related issues, while dialogues between scientists and non-scientists (such as Dr. Johnson and Blumberg themselves as hosts) also occur. This opportunity for listener feedback also further supports the integration of dialogic model into the podcast. Both the deficit model and dialogue model fit well in a podcast setting, as the orientation of these models towards public audiences are linear and include the idea that "they [the public] can be persuaded; they talk back; they take on the issue," (Trench, 2008, pp. 131).

*How to Save a Planet* capitalizes specifically on the idea that the audience can "talk back" by encouraging listeners to engage with the show. On the podcast's webpage, there is a statement calling for listeners to communicate with the podcast: "If you take an action we recommend in one of our episodes, do us a favor and tell us about it! [...] Record a short voice memo on your phone and send it to us...We might use it in an upcoming episode," (Gimlet). This communication between the listeners and the podcast platform allowed the carbon footprint-themed episode to focus on a debate between a listener named Anna and her brother about the

effectiveness of individual versus systemic action. Dr. Johnson notes that this is a question that “[they] get a lot from listeners,” implying that discussing the debate between Anna and her brother is more than about addressing one single listener’s issue (Blumberg & Johnson, 2021). Rather, Johnson and Blumberg discuss the individual vs. systemic change debate in the context of carbon footprints to help their listenership at large understand the debate and act on its outcomes. Through integration both dialogic and deficit model of science communication, listeners are prompted to go beyond understanding the climate change issues and feel empowered to act by engaging in broader conversations about it.

### ***Evaluation & Critique***

*How to Save a Planet* demonstrates a unique narrative approach to climate change communication through the podcast medium as a means to promote climate action. The podcast strikes a delicate balance between communicating expertise and developing listener identification to promote audience efficacy. Through the narrative of the podcast, Blumberg and Johnson, as science communication experts, invite listeners to engage in empowering conversations about climate change while providing actionable ways for their audience to address the issues discussed.

The dynamic between agents and agency is the key to this podcast’s rhetorical influence, as it fosters the relationship between expertise and identification throughout each episode. This dynamic relates to the concept of pentadic ratios. Ratios, “or the governing interactions between two elements of the pentad,” serve as a feature of pentadic analysis that allows for more in-depth evaluation of pentadic analysis (Bowman, 2017, p.1212). Focusing on ratios can develop more insight into the elements that are “most central to the author’s overarching motivation,” (Bowman, 2017, p. 1212). In the analysis portion of this paper, the agent and agency are

identified as significant contributors to executing the purpose of the podcast. These elements work together to encourage listeners to engage in climate action. The purpose plays a key role in influencing these narrative elements in both the context of the agents and the agency. This develops purpose-agent and purpose-agency ratios within the podcast, both of which serve different narrative functions by supporting audience response efficacy and self-efficacy.

The purpose-agent ratio cultivates the sense of credibility and expertise necessary to provide listener with response efficacy. Within climate change communication contexts, response efficacy can be defined as an individual feeling that climate change mitigation efforts are effective (Bostrom, Hayes, & Crosman, 2018 pp. 805). Blumberg and Dr. Johnson attempt to support their listener's response efficacy by addressing specific climate change topics with expert insight. In the episode "Is Your Carbon Footprint BS?" the hosts tackle response efficacy of carbon reduction measures head-on: "How much do our individual actions actually matter when it comes to climate change, versus how much is it all about big systems and policies sort of beyond our individual control? [...] On today's episode, we are going to dive into this debate between Anna and her brother..." (Blumberg & Johnson, 2021). Focusing on what their listeners want clarification on allows Blumberg and Johnson to focus their science communication expertise on targeted issues within climate communication. More than this, it provides the opportunity for other experts to join the conversation. By interviewing credible guests like climate scientist Dr. Wilkinson and Dr. Leiserowitz, Blumberg and Dr. Johnson serve as liaisons between scientists who have answers to challenging climate change questions and motivated listeners like Anna who want to know whether climate change mitigation efforts work (Blumberg & Johnson, 2021).

The purpose-agency ratio develops identification between the hosts and the listeners to prompt perceived self-efficacy. Self-efficacy can be defined as an individual believing that reducing the risks of climate change is possible through action (Bostrom, Hayes, & Crosman, 2018 pp. 805). One of the clearest ways that Blumberg and Johnson support self-efficacy is through explicitly stating the ways in which the audience can take climate action. In “Is Your Carbon Footprint BS?”, Blumberg and Dr. Johnson list the “top five actions that can have the greatest impact on your individual carbon footprint” to provide the listener with specific actions that they can take to reduce their carbon impact (Blumberg and Johnson, 2021). However, identification through modeling supports the audiences’ perceived self-efficacy as well. The exchange between Blumberg and Dr. Johnson that was previously analyzed in terms of purpose also demonstrates the host’s agency in developing identification. In this case, identification is produced by modeling how listeners can go beyond education to action. During their conversation about what effective ways individuals can prompt broader climate action, Dr. Johnson suggests that identifying one’s skills and passions that can help communicate on climate change is a valuable form of climate action that anyone can do; “So I would say our first call to action this week is... Draw three circles, write down what you're bringing to the table, which solutions you want to work on and, like, what kinds of things you like to do. And think about whether there might be something new you could be a part of,” (Blumberg & Johnson, 2021). In this conversation, Blumberg explains that this is the approach that he took to creating *How to Save a Planet* and Dr. Johnson took a similar approach when starting her nonprofit Urban Ocean Lab. They also emphasize that “even if it’s not your job, you can still take this approach and [figure out]... how can I involve what I do at work in climate work,” (Blumberg and Johnson, 2021). Blumberg and Dr. Johnson use their own experiences as examples of how individuals can

prompt more systemic actions through utilizing their skills and interests to create their own forms of climate action. This modeling allows the listener to see themselves reflected in the hosts and understand that climate action is not one-size-fits all. Rather, climate action can occur by using one's unique abilities to the prompt broader change.

The implementation of purpose-agent and purpose-agency ratios within *How to Save a Planet* serve to promote response efficacy and self-efficacy. By enacting two forms of efficacy through narrative elements, Blumberg and Dr. Johnson can bolster the persuasiveness of the podcast as a form of rhetoric. With each episode, Blumberg and Dr. Johnson can reach thousands of listeners and instill this efficacy within them as a means to empower more people to act on climate change.

### ***Conclusion***

*How to Save a Planet* establishes a valuable example of what actionable and personable climate change communication looks like in our current media landscape. By utilizing the podcast form, hosts Blumberg and Dr. Johnson can reach a large audience of listeners to bridge the gap between the scientists who work on climate issues and the public audience who care about resolving them. In doing so, *How to Save a Planet* promotes the response efficacy and self-efficacy that holds the potential to prompt more people to take climate action.

Within the field of science communication, there is potential for future research to continue exploring the opportunities that podcasts present as a communication medium beyond the rhetoric used. Potential research avenues include studies looking into the persuasiveness of podcasts to promote public support of scientific endeavors and what rhetorical strategies prove most persuasive in the podcast format. A specific focus on how efficacy is cultivated in other

science podcasts and whether it prompts attitude or behavior change would also be beneficial to establishing more foundational research for this subset of science communication.

It should be noted that there is an aspect of *How to Save a Planet* that should pique the interest of climate change communication scholars and practitioners beyond the public-scientist connection and audience efficacy that the podcast cultivates in its episodes. At one point in “Is Your Carbon Footprint BS?,” Dr. Johnson says this: “... if you instead think about your actions as a form of communication, as an invitation for others to join you, then your action can lead to other actions that can actually lead to change,” (Blumberg and Johnson, 2021). This concept of communication as climate action is a powerful one and a tenet that Blumberg and Johnson rely on the rest of the episode to empower their listeners. This should be an inspiring concept to science communicators as well, as it means that engaging in conversation about climate science with others, whether they are scientists themselves or in a different discipline, is a small act that can instigate further, greater climate action.

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## Appendix A

### *How to Save a Planet* Transcript

“Is Your Climate Footprint BS?” (Blumberg & Johnson, 2021)

**Dr. Ayana Elizabeth Johnson:** This is *How to Save a Planet*. I'm Dr. Ayana Elizabeth Johnson.

**Alex Blumberg:** And I'm Alex Blumberg. And this is the podcast about what we need to do to address the climate crisis, and how to make those things happen.

**Ayana:** So there's this question we get from a lot of listeners, and one listener in particular summed it up perfectly. She wrote in to ask us to settle an argument.

*Anna: Hi, Ayana and Alex. My name is Anna, and I love your podcast. I just listened to the episode about which type of car is better for the environment, and I was wondering if you could weigh in on another debate. So my brother and I, we agree on a lot of things, but one topic that we always argue about is individual versus systemic, policy-based change.*

**Alex:** Oh, this debate.

**Ayana:** This debate.

**Alex:** How much do our individual actions actually matter when it comes to climate change, versus how much is it all about big systems and policies sort of beyond our individual control? Like, how important is it to look at how sustainably sourced our sweatpants are, or how important is it to go deep into the weeds on which LED light is best for the climate, or that sort of thing.

**Ayana:** Yeah, and Anna says her brother thinks none of that stuff is actually gonna get us out of the climate crisis. That climate change is a huge, systemic problem, and the only way to fix it is with big, systemic solutions.

**Alex:** But Anna says in her voicemail, she's not so sure about that.

*Anna: I know that we're not gonna recycle and bike and beyond burger our way out of climate change, but I do have a slightly more optimistic view that individual consumer choices can make a difference. So am I just a sucker, or can individuals actually do something?*

**Alex:** So we focus a lot on this show on big-picture solutions.

**Ayana:** Yeah.

**Alex:** Things like government policies to limit climate-harming refrigerants, or things that we can do to increase renewable power or change how we farm.

**Ayana:** But we know—because you tell us—that a lot of you are wondering, what should I be doing as an individual in my daily life? And do those individual actions even matter?

**Alex:** One listener even told us about a spreadsheet he made tallying up all his family's actions.

**Ayana:** I love a spreadsheet!

**Alex:** And the associated carbon footprint of each action, sort of like trying to winnow their footprint down. And another one of our listeners, this listener named Mark wrote, "Is there just one thing that would make a real impact? Maybe cutting out cheese or something?" Oh, Mark.

[laughs]

**Ayana:** [laughs] Oh Mark, if only it were that simple.

**Alex:** On today's episode, we are going to dive into this debate between Anna and her brother: do individual actions even matter? And if so, which ones are the most important? That's all coming up after the break. Although spoiler alert: cutting out cheese is not at the top of the list. Sorry, Mark.

**Ayana:** Which is really unfortunate, because I'm allergic to cheese. So if that were the answer, I'm a frickin' angel.

**Alex:** You'd be even more of an eco-angel, than you already are.

**Ayana:** I've never eaten cheese in my entire life. All right. Stick around.

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**Ayana:** So we have a debate. Anna says that individual actions matter, her brother says they don't. So today, we're gonna devote half the episode to one side and half to the other, and see who comes out on top.

**Alex:** And in the first half, we're gonna argue Anna's brother's side—that individual actions don't matter that much at all. And to help us in this debate, Ayana, we brought in your friend, friend of the show, Katharine Wilkinson.

**Ayana:** Dr. Katharine Wilkinson is my partner in all things feminist climate renaissance. She and I co-edited the anthology *All We Can Save*, we co-founded a new nonprofit, The All We Can Save Project, to support women leading on climate. And the reason Katharine is the perfect person to talk to about this topic is not because I adore her, it is because she was the lead author on a book called *Drawdown*, and that book looked at what are the biggest sources of carbon emissions, and what are the solutions out there to reduce those.

**Alex:** And Katharine says, in arguing Anna's brother's side of this debate, that part of the reason your individual choices don't matter that much, is because a lot of the ways greenhouse gases get emitted are things you don't have control over as an individual.

**Ayana:** Exactly. And Katharine broke this down for us.

**Katharine Wilkinson:** *At a global level, greenhouse gases are coming from basically six different kind of sectors of the economy, human society, however you want to think about it. So electricity production globally is about 25 percent of the problem.*

**Alex:** *25 percent is just making electricity?*

**Katharine Wilkinson:** *Yep. 25 percent is just burning coal and fossil gas to make electricity.*

**Alex:** *Okay.*

**Katharine Wilkinson:** *And then right behind that globally, food, agriculture and land use is about 24 percent of global emissions.*

**Alex:** *Okay. And what does that mean, food and land use?*

**Katharine Wilkinson:** *So that means what we grow and how we grow it, and kind of to simplify it, the deforestation that gets created by clearing more land to grow more food. And in particular, this is where we see the issue of livestock. So meat and dairy is a big piece of that puzzle.*

**Alex:** *So for example, what's happening in the Amazon, where a lot of rainforest is being cleared to make way for farms or cattle ranches.*

**Katharine Wilkinson:** *Yeah. Or to grow the things that get fed to animals, like corn and soy.*

**Alex:** *Got it. Right.*

**Alex:** Okay, so roughly half our emissions come from making electricity and making food. Or making the food to feed the animals that become our food.

**Ayana:** Yeah. Turns out destroying ecosystems releases a lot of carbon, especially from the soil.

**Alex:** Right. And then Katharine says the rest, the other half, is made up by a few more categories. For example, a category Katharine calls "industry," which is basically, all the factories and businesses making the stuff that we as humans use. Everything from steel to concrete to consumer goods, paper.

**Ayana:** Paper clips.

**Alex:** [laughs] Paper clips, everything.

**Ayana:** All of it.

**Alex:** And this industry category, it accounts for 20 percent of the world's greenhouse gasses.

**Ayana:** And making cement in particular, is a surprisingly big part of this industry category. By some measures making cement is responsible for about eight percent of carbon dioxide emissions globally.

**Alex:** That is crazy. Just from cement.

**Ayana:** Yeah, it's a lot.

**Alex:** Way more than paper clips.

**Ayana:** [laughs]

**Alex:** And then industry also uses lots of refrigerants, many of which are greenhouse gases, which we've talked about in previous episodes as well. That sort of thing. And to be clear, these are direct emissions from the manufacturing and industrial processes. They are in addition to



emissions from the electricity the industries are using. The electricity that is counted under the "Electricity" heading in Katharine's accounting.

**Ayana:** Right. And then there's transportation. All of our internal combustion engines that are powering cars and trucks and buses and boats and planes, all that adds up to about another 15 percent of global greenhouse gas emissions.

**Alex:** And then there's buildings, which is mostly oil burners and gas burners for heating and hot water systems. That's about five percent. And again, that's not counting electricity, it's just the oil and gas that you're using to heat.

**Ayana:** That are in the buildings themselves.

**Alex:** Yeah.

**Ayana:** The emissions at that location, not at the power plant that's powering the rest of it. So rounding to the nearest five percent, agriculture and land use is about 25 percent, electricity is another about 25 percent. And then industry is about 20 percent, transportation 15 percent, buildings another five percent. Collectively, those five categories account for about 90 percent of total emissions. And then there's this other category, the last 10 percent, which is mostly from the extraction and processing and transport of fossil fuels. Things like methane escaping from natural gas wells and storage sites.

**Alex:** So that is where all the carbon is coming from. And here is the point of all this, why this is all an argument for the "individual actions don't matter" side of the debate. What stands out about all these systems that are contributing so much to climate change, is that they're things we don't have a ton of control over as individuals, right? So let's say I live in Florida, it's super hot in

Florida, I'm gonna probably have to run my air conditioning. But if the electricity is coming from coal, just flipping the switch I am already hooked into a fossil fuel carbon system.

**Ayana:** Yeah. Or if you have to get to work and there's not good public transit from where you live to your office, if you don't have an electric vehicle, then your only option really is to use a car with an internal combustion engine. And that is, of course, releasing greenhouse gases out of your tailpipe.

**Alex:** Right. So this is one of the big arguments on the "individual choices don't matter" side of this debate. Like, a lot of this stuff is just outside of our control. We just can't change it ourselves.

**Ayana:** Mm-hmm. And there's a second argument against individual actions mattering, which is that even if we do change the things that are in our control, it only makes the teeniest, tiniest difference.

**Alex:** And I think it's instructive to point out here Ayana, just how teeny we mean. [laughs]

**Ayana:** Put it in perspective for them.

**Alex:** Put it in perspective. How meaningless are we as individuals? We're about to tell you.

**Ayana:** [laughs] How does it feel to be an ant?

**Alex:** [laughs] So we're gonna compare the total amount of global carbon emissions with an individual's carbon footprint.

**Ayana:** So as many of our listeners will be familiar with, this term "carbon footprint," which is when you total up all the greenhouse gas emissions that basically go into making your way of life: your food, your travel, your home. And for the average American that quote unquote "carbon footprint" is about 16 tons of carbon emissions per year.

**Alex:** All right. So that's the average. The average American emits 16 tons. People with lower incomes tend to emit less, wealthier people tend to emit more—in some cases a lot more. Like tens or even hundreds of times more than the average, because of their big houses and lots of air travel and stuff like that. But when you roll all Americans together, our average emissions are 16 tons per person.

**Ayana:** And for context, that is definitely one of the larger national average carbon footprints compared to all the other nations in the world. So globally, it's Americans, Canadians, Australians, and oil rich countries like Saudi Arabia and Kazakhstan that have the most massive carbon footprints as a per-capita average. Meanwhile, the global average is around 4.8 tons per capita, so a little more than one-fourth of the average American footprint.

**Alex:** And if you are focused on reducing your individual carbon footprint, there are lots of lists to look at which rank the highest-impact actions you can take. And all of these lists differ a bit in methodology and accounting and stuff, but the same actions generally make it to the top of each list. So ...

**Ayana:** So drumroll please! Here are the top five actions that can have the greatest impact on your individual carbon footprint. Number one: Make fewer new humans. Also known as have fewer children.

**Alex:** Whoops, already blew that one.

**Ayana:** Which Alex has already blown it on that one. He made two.

**Alex:** Yep, two.

**Ayana:** This is super controversial, and we're not gonna get into it now, but indeed having fewer children can have a big impact, especially if you have what is euphemistically referred to as a high-carbon lifestyle.

**Alex:** So number two: Drive less. Or if you do drive, drive electric.

**Ayana:** Number three: Fly less. Full stop.

**Alex:** Number four: Become more energy efficient, insulate your home. And if you can, put solar panels on your house.

**Ayana:** And number five: Switch to a plant-based diet.

**Alex:** So that's the list, or at least, you know, sort of generally what are the top five items on that list. But remember, we're arguing in this half of the episode that individual actions do not really matter that much.

**Ayana:** Because even if you do all five things on this list perfectly, you as an individual are a tiny, tiny percent of the overall problem.

**Alex:** We did the math.

**Ayana:** Alex loves math, let me remind you.

**Alex:** [laughs] I love doing the math. We compared the average American's carbon footprint to the overall amount of carbon emissions globally. And remember, average American, pretty big footprint, 16 tons. Overall global emissions, 50 billion tons.

**Ayana:** Yeah.

**Alex:** What this means is that the average American's contribution to the total global problem is 0.0000000003. That is a decimal point and then nine zeros and then a three. And statistically ...

**Ayana:** That's basically zero. [laughs]

**Alex:** It rounds to zero. [laughs] So individually, I think the math would suggest that we have zero impact on the larger problem.

**Ayana:** And as professor Dr. Leah Stokes, who's been on the show before puts it, even if you are the perfect, zero-waste, low-carbon footprint human being, that doesn't change the world unless you do something bigger than yourself. Because if you disappear tomorrow, we would still be facing exactly the same magnitude of climate crisis because you're just a rounding error to global carbon emissions.

**Alex:** And this might make certain people feel sad and maybe hopeless and defeated but, you know, Ayana, you and I talked with Katharine Wilkinson about this, and we actually think it is good news. Because it means, if you change the systems, then you're changing millions of people's carbon footprints without them having to do anything.

**Katharine Wilkinson:** *My feeling is, thank goddess we don't have to rely on every individual getting everything right in their own lives, because New Year's resolutions don't even last a month, you know? [laughs]*

**Alex:** *Yes!*

**Katharine Wilkinson:** *Like, we'd really be in a lot of trouble. Like, more trouble than we're in if we were dependent on every single person on the planet doing every single thing right.*

**Alex:** *Yes. But this is what makes people throw up their hands, right? Like, that feels out of my control, right? Like, well, I can't change a coal plant to a wind farm. I can't, you know, make everybody drive an electric car or whatever.*

**Katharine Wilkinson:** *Yeah.*

**Ayana:** *I can't put in bike lanes.*

**Katharine Wilkinson:** *Yeah.*

**Alex:** *But when I look at that, I have the opposite feeling, which is like, we have solutions for lots of things right now.*

**Ayana:** *Oh yeah, big time.*

**Alex:** *If we wanted to, we could, like, convert the grid. Like, we have the technology right now.*

**Katharine Wilkinson:** *Yeah.*

**Ayana:** *Well I mean, it would take approximately 15 years, so they say. You know, so 2035. And you can check out our "[Party Like It's 2035](#)" episode for more details on that.*

**Alex:** *Yeah. But the same thing goes to the transportation sector, right? Like, electric vehicles are sort of well on their way. We know a lot of the industry, a big chunk of it is refrigeration. We have solutions right now to—natural refrigerants that deal with the refrigerant problem. And so this feels actually more doable than if we had to convince every single person through shame and hectoring and sort of like, it's a good thing to ride their bike, you know?*

**Ayana:** *To one by one go vegan.*

**Alex:** *Yeah.*

**Katharine Wilkinson:** *I feel like we have to quote Bill McKibben, right? He's like, climate change is a math problem, and the numbers are really, really big. And now the timelines are very, very tight. So we have to be thinking in terms of, like, our greatest leverage to get the biggest reductions possible.*

**Alex:** *I'm gonna paraphrase Katharine Wilkinson here.*

**Ayana:** Okay.

**Alex:** And perhaps put it more strongly than she would have, but essentially my takeaway from our conversation, is screw your carbon footprint.

**Ayana:** [laughs]

**Alex:** Screw devoting all of this time and energy to sort of like trying to minutely lower your impact.

**Ayana:** Yeah.

**Alex:** Because when you focus all your effort on this, you're focusing all this effort on something that makes a pretty tiny difference in the grand scheme of things. A very tiny difference. And by the way, do you know who else seems really interested in having us focus on our own personal carbon footprints? BP. Or at least, the BP social media account.

**Ayana:** Oh, yeah. They had a tweet in 2019 that was just, like, the most ridiculous. Quote, "The first step to reducing your emissions is to know where you stand. Find out your #carbonfootprint with our new calculator, and share your pledge today!" Exclamation point, end quote.

**Alex:** The chutzpah!

**Ayana:** I mean, how rich is that? They might want to, you know, look in the mirror, as they say.

**Alex:** It's like the, let he who is without sin cast the first stone?

**Ayana:** Oh yeah. Or, you know, whoever smelt it, dealt it? [laughs]

**Alex:** [laughs] I went to the Bible for my quote.

**Ayana:** I went to fart jokes. Cool. High brow.

**Alex:** But you, yes.

**Ayana:** Fossil fuel companies' suggestions aside, it might seem like at this point in the debate, we're coming down super decisively in favor of Anna's brother. But as we promised, we're going to argue both sides. So coming up after the break, we'll make the argument for individual actions, and how they might actually matter a lot. Stick around.

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**Ayana:** Welcome back. We're talking with Dr. Katharine Wilkinson, and we're trying to settle a sibling debate between our listener Anna and her brother about whether your individual actions actually matter when it comes to addressing the climate crisis.

**Alex:** And we spent the first half of the episode arguing in favor of Anna's brother's side, which we did pretty convincingly.

**Ayana:** If you say so yourself. [laughs]

**Alex:** But now we're gonna lay out the case for Anna's position, that our individual choices do matter. And Ayana, let's start here. Our guest, Katharine Wilkinson, who was just arguing that what we do as individuals barely registers against the total amounts of carbon in the atmosphere, when you ask her about her own personal choices, though ...

***Katharine Wilkinson:*** *So I'm vegetarian. I love composting. I'm chipping away at energy efficiency upgrades in my home, blah, blah, blah, right?*

***Alex:*** *Right. All of which will matter not at all, as we just said.*

***Katharine Wilkinson:*** *And there's some research—all of which matter, tiny, tiny, tiny minuscule amounts.*

***Alex:*** *Right.*



**Katharine Wilkinson:** *But, anything that keeps us focused kind of moment to moment on the world that we want to create is a good thing, right? Like, I can't vote three times a day, but I do eat three times a day. And I think every time we do these things, it gives us a chance to reflect on our values, reflect on our connection to the planet's living systems, to think about what it is that we're trying to do here.*

**Alex:** So aligning your actions with your values is part of it, right? But Katharine and a lot of the experts we spoke to about the importance of individual actions emphasized this one thing: you have to think of those actions outside the scope of just lowering your own carbon footprint. You know, because if you're focused only on reducing your own emissions from, you know, I don't know, 16 tons to 12 tons a year, you know, being the best climate gold star sticker winner you can be, you're having a negligible effect.

**Ayana:** But if you instead think about your actions as a form of communication, as an invitation for others to join you, then your action can lead to other actions that can actually lead to change. One great example of this is the trend around flying in Europe.

**Alex:** Starting a few years ago, more and more people in Europe started making the conscious choice to fly less for the climate. Those people included Greta Thunberg, the very famous Swedish climate activist. She very publicly took a boat across the Atlantic to come to a UN conference in 2019 instead of flying.

**Steve Westlake:** *And then in response to that, there's been a movement in Sweden and Europe and beyond, and I'm sure people in America as well, to also change their own behavior.*

**Alex:** This is climate researcher Steve Westlake. Our producer Felix Poon talked to him. And Steve has conducted research where he asks people: do you know anyone who flies less because

of climate concerns? And if so, do you also fly less because you know these people? And he found that yes, 75 percent of the people he surveyed who knew somebody who gave up flying said they also changed their own attitudes about flying and climate change, and about half of them actually started flying less themselves.

**Ayana:** And Steve admits this is a small study, and it was people who wanted to participate, not what is called a stratified random sample. So the people he talked to already cared enough about the issue to answer his questions. But this still might suggest that people taking this individual action led to more people taking that action, and more people and more people, and so ...

**Steve Westlake:** *That sends a message, sends a strong message, that this is what people want, more and more people want systemic change. And that has a ripple effect. And so support for policies, messages to politicians become stronger. So my view on individual change, it's a way of communicating. It's saying this is really important, it has influence on other people.*

**Ayana:** And these changing social norms in Europe around flying? That might be why there are a growing number of policy proposals to address this in Germany and France and Austria. And in the UK in particular, there's a proposal for something called a frequent flier tax. And the idea is that, as you take more and more flights, the tax goes up. So it would be a progressive tax that targets those flying the most, and therefore contributing the most to carbon emissions.

**Alex:** And the fact that these policy changes are being discussed are, at least in some way, due to the actions, individual actions that people took. But it wasn't just taking these actions, it was also communicating about the actions. It was sharing it with their friends, and getting them to take the actions too. And that is the key. The communication, that has to be part of the action. The action's important, but it's the talking about it that gives it power.

**Anthony Leiserowitz:** *And that's one of the single most important things that anyone, anyone can do. When people say, "What can I do about climate change?" My answer first and foremost is talk about it.*

**Ayana:** This is Dr. Anthony Leiserowitz, who runs the Yale Center for Climate Change Communication. They've been doing polling on Americans' opinions on climate for over a decade now, and what they have learned is that people assume there are more climate deniers out there than there actually are, because deniers are just louder. But actually, it's only about 10 percent or so of Americans who are firmly in denial about climate science, and the rest of us can team up and get some really cool things done.

**Alex:** Yeah. And Anthony's research indicates that, like, because we have this feeling that the people who disagree with us are in much greater numbers than they are, we clam up.

**Anthony Leiserowitz:** *And this is something we've called the spiral of silence. That people assume other people don't want to talk about it, so they don't talk about it. So let's take you and I. If we meet, and I may want to talk about climate change, but I don't know what you think, and so I don't want to cause waves. I don't want to get into a fight with a climate denier, so I don't bring it up. Meanwhile, you are actually interested in having a conversation about climate change too, but you're looking at me going, "Well, gosh, I don't know if he thinks about climate change, and so I'm not going to talk about it." So neither of us talk about it. And as a result, we end up in this downward spiral, spiral, spiral of nobody talking about it. And if you're not talking about it, how important can it be?*

**Alex:** So talking about it? Super important. But also super important? How we talk about it.

**Ayana:** Here's Katharine again.

**Katharine Wilkinson:** *We have to be really careful because nobody wants to come to a finger-wagging party, right? And a lot of these, like, individuals ...*

**Ayana:** *That sounds terrible and kind of creepy. You're doing it wrong. You're not a perfect environmentalist.*

**Katharine Wilkinson:** *Right? And that's kind of been what the environmental movement has done. Like, you need to do these things and not do these things. And, like, if I see a light bulb that's not an LED, like, you are off the list, you know? Like, we need to be welcoming people in, inviting them in. And I don't want people consumed with shame and guilt when we should be thinking about how powerful we can be together, right?*

**Alex:** *Right.*

**Ayana:** *Mm-hmm.*

**Katharine Wilkinson:** *And what makes me feel courageous and powerful and keeps me in the work are the wins that we get when we do things together.*

**Ayana:** Katharine has such a way with words.

**Alex:** Yup.

**Ayana:** So put a pin in that gem, and let's zoom out for a minute to think about what we even mean when we say individual actions. Because so far, we've been defining that pretty narrowly. We've been talking about our individual diet and travel, etc. But of course, those aren't the only actions we can take. There are heaps of opportunities for individuals to be part of pushing forward these larger changes that we need, the changes that will affect the major sources of emissions that Katharine laid out at the beginning of this episode. So if you take a step back to think about it, there are individual actions you can take based on your skills and what you can

bring to the table, that could actually make a way bigger difference than even overhauling your diet entirely.

**Alex:** And Ayana, I know you get this question all the time, and I know people ask you, "What's the one thing I should do?" Dr. Ayana Elizabeth Johnson, what do you tell them?

**Ayana:** So here's how I think about this.

**Alex:** Yes.

**Ayana:** What I actually encourage people to do to figure out where they as individuals can be most useful, is to think of it like a Venn diagram. So there's three overlapping circles, and one circle is: what are you good at? Like, what skills, resources, networks, reach, influence are you bringing to the table? What you got? And then the next circle is: what is the work that needs doing? Like, which climate solution are you gonna focus on? And how does that overlap with the skills that you have? And then the third circle would be: what brings you joy? Like, what gets you out of bed in the morning? Because this is the work of our lifetime, right?

**Ayana:** So if you pick a way to contribute or a thing to talk about that you, like, hate and makes you miserable and you're just cranky, you're not gonna attract more people into the work, and you're gonna make yourself miserable and probably burn out on it. So I think we need to include that joy and passion piece in here as well, because there's so many different things we can do that we each get to choose what we're gonna focus on to be most useful.

**Alex:** Yeah! So just to sort of like talk about how this works. I got some paper here. I'm gonna like—I'm gonna start drawing the Venn diagram. Okay, ready?

**Ayana:** Look at you, good student! Let's do it.

**Alex:** Drawing the top circle. Sorry, what is the top circle again?

**Ayana:** I always put joy at the top, but that's just me.

**Alex:** The top, okay. So the top, I'm gonna put joy. So my joy. So I love my family, NBA basketball.

**Ayana:** You do.

**Alex:** And explaining things clearly [laughs]

**Ayana:** Sometimes overexplaining, and then we have to cut whole paragraphs of Alex explaining things.

**Alex:** Sometimes too clearly.

**Ayana:** Yup. Can vouch for those things.

**Alex:** Uh huh. And making podcasts. I love making podcasts. Okay.

**Ayana:** What are you good at?

**Alex:** I'm good at exactly one thing, which is making podcasts. That's literally the only thing I'm good at. And okay.

**Ayana:** And what climate solutions do you want to work on?

**Alex:** Well I want to—I want to work on helping as many people as possible to get involved. You know, build a bigger team. That's what I want to do.

**Ayana:** Build a bigger team.

**Alex:** Build a bigger team.

**Ayana:** So Alex, this is really out in left field. I have a crazy idea for you.

**Alex:** Yeah?

**Ayana:** What if ...

**Alex:** Make a podcast about climate change?

**Ayana:** [laughs] You made a podcast about climate solutions with calls to action at the end of every episode.

**Alex:** So right in the middle—right in the middle of all those things, like, here's what I love, I love making podcasts. I'm good at making podcasts. And I want to, like, sort of communicate with as many people about climate change and build a bigger team.

**Ayana:** And maybe we could interview your favorite NBA player on a future episode or something, just to, you know, really hit the sweet spot.

**Alex:** Well, I'm glad that my Venn diagram didn't come up with something completely different than what I'm doing. That would have been a weird sort of a surprise ending for this episode.

**Ayana:** Your intuition led you in the right direction.

**Alex:** Yeah. And I love this approach, right? What I love about it is it's not cookie cutter. It's not like, oh, just read a list and do what's on the list. It's tailored to you. And when you pick your own personal actions, those actions will have so much more impact than if you're just sort of like following something from a list somewhere.

**Ayana:** Totally. So for me, this is actually how I came up with the idea of starting a think tank for the future of coastal cities, right? I'm a marine biologist. I'm a policy nerd. I'm from Brooklyn. I just really care about design. So clearly, all those things intersect when we think about what is the future of coastal cities in the context of climate change? And there wasn't an organization already doing that. And that's how this new nonprofit Urban Ocean Lab came to be. So I find this to be a very helpful exercise, and it doesn't have to take a long time or be super

complicated. And the answer will be different for everyone. I think this has been a real shortcoming of the environmental movement is asking everyone to do the same thing, right? Everyone march, everyone vote, everyone donate, everyone spread the word. And of course do that, but if we don't ask people to bring, like, their special talents to all this work that needs to be done, then what a waste.

**Alex:** Yeah, exactly. And you know, we're doing this, like, I guess this is our job now. This is my job now: professional climate communicator.

**Ayana:** Here we are, living in the center of our Venn diagrams.

**Alex:** Exactly. But even if it's not your job, you can still take this approach and sort of like figure out, like, what can I do when I'm not at work? Or how can I involve what I do at work in climate work, you know?

**Ayana:** Absolutely. I think that gets really overlooked. This is not about quitting your job, but maybe there's a way that you can bring your skills to the table within your company to change things there. Which would again, be a much bigger difference than just thinking about your own carbon footprint. Think about how to change your company, think about how that might help change the standards of your industry, right? Like, how can we think in these ever-expanding circles of influence?

**Alex:** And that's the approach that Katharine Wilkinson, our debate coach for this episode, takes as well, right? What can I specifically do that will have ripples beyond just myself?

**Katharine Wilkinson:** *And that doesn't have to be at the scale of a federal climate policy. That can be, you know, taking a cafeteria at your school or your workplace and migrating it towards composting and plant-rich food options, right? It can be, no, you can't do those bike lanes, Alex,*



*alone, but you can run a campaign that gets your city council to commit to putting in more bike lanes in your city. You can show up to your public service or utility commission when they're making dodgy decisions in your state about continuing to invest in dirty electricity and make your voice heard. And sometimes it only takes a hundred or two hundred or a thousand people to really shift things.*

**Alex:** *Right. And to that point, like, if your community is, like, powered by a coal plant and it switches to renewable energy, that is gonna have a much greater effect than lowering your individual carbon footprint by five tons, you know?*

**Katharine Wilkinson:** *Yeah. And there are climate decisions being made all around us, right? So something little like, I live in a community of about 30 condos, and I got compost pickup for our homeowners association, right? So it's like, okay, it's more than just me. It's me plus 30.*

**Alex:** *Right. Right.*

**Katharine Wilkinson:** *And that's cool. It also was cheaper for me than doing it alone. So that's nice, right? But, like, even when we're thinking about just these little kind of like ...*

**Ayana:** *What's one circle out from just you?*

**Katharine Wilkinson:** *Totally. And I think that's a really great image to keep in mind. Like, if you're thinking about operating in this one ripple, what might it mean to go one ripple further. Where would that take you?*

**Ayana:** *So, Alex.*

**Alex:** *Mm-hmm.*

**Ayana:** *We've played both sides. We've argued our listener Anna's case that individual actions matter, we've argued Anna's brother's case that individual actions do not really matter. We've*

called in some experts to provide us with some numbers, and the results of the insights gleaned from their rigorous research.

**Alex:** Mm-hmm.

**Ayana:** Who won? Who won and who lost?

**Alex:** [laughs] Well, I mean, I think—I think we're saying they both won?

**Ayana:** I'm not like an acolyte of the participation trophy world, but it seems that where we've landed here is that individual actions can matter, but that's only if they're used as a tool to affect changing the larger systems.

**Alex:** Right. If your individual actions make ripples. So trophies for everyone!

**Ayana:** Trophies for everyone. Yeah. Trophies and plant-based meals and bike lanes for all. As the podcast's resident marine biologist, I do appreciate the aquatic metaphor of the ripples. I think that's really important, because sometimes this carbon footprint stuff gets, like, super navel-gazey and sort of self-centered and, like, obnoxiously holier than thou. And that is not helping.

**Alex:** Not at all.

**Ayana:** That is not actually gonna change things. That is your, like, 0.000000003 scenario.

**Alex:** Right. Yep.

**Ayana:** So—and in fact you might actually be convincing people not to change their behavior because you're just a jerk. So don't be a jerk. Step one to saving the planet: don't be a jerk. So I would say our first call to action this week is try actually writing that out for yourself. Draw three circles, write down what you're bringing to the table, which solutions you want to work on

and, like, what kinds of things you like to do. And think about whether there might be something new you could be a part of.

**Alex:** Yes.

**Ayana:** If you do take our suggestion and make your own Venn diagram of how you want to participate in climate solutions, please show it to us. I would be legit excited to receive a lot of photographs of Venn diagrams. It would make my day. So you can email them to us: [how2saveaplanet@spotify.com](mailto:how2saveaplanet@spotify.com). You can post them on social media and tag [@how2saveaplanet](https://www.instagram.com/how2saveaplanet) with the number two.

**Alex:** And we'll repost some of those that you send to us.

**Ayana:** Oh, for sure. And then hopefully, that will be a part of what Anthony was talking about as a way to start the conversation about how each of us are gonna show up.

**Alex:** Awesome!

**Ayana:** Maybe your Venn diagram will create a ripple.

**Alex:** And if you can't think of anything on your own, our intern Ayo has come up with this amazing idea of putting together every single call to action that we have ever sort of put forward on this podcast and making them all available by episode. We'll be sharing a link to this in our show notes.

**Ayana:** Yep. So you can just scan the list of things that we have recommended over the course of our episodes of the podcast so far, and see if any of those are things that you're jazzed about. And then you can click through to the links, learn more and jump in.

**Alex:** We have another pretty nuts-and-bolts action item that came up while we were in conversation with Dr. Anthony Leiserowitz who, again, runs the Yale Center for Climate Change

Communication. He was in the middle of making the sort of individual actions don't matter point, and he sort of interrupted himself and said, "But there is one thing everyone should do."

*Anthony Leiserowitz:* There's no way that you and I and all of our fellow Americans through good, you know, changing what we eat, buying more fuel efficient cars, becoming more energy efficient, insulating our attics. Please insulate your attic if you haven't. That's one of the best things you can do.

**Ayana:** This is my favorite sidebar of all time. [laughs] You guys, just do me this one solid, just insulate your attic.

**Alex:** For the love of God, people. If you take one thing from this interview, insulate your fucking attics.

*Anthony Leiserowitz:* Insulate your damn attic!

**Alex:** There you go. Aside from insulating your attic, I believe, Ayana, your framework is by far the way more powerful one.

**Ayana:** I am attic-less, but Venn diagram full.

**Alex:** Yeah. And if you're someone who likes to understand the big picture first before you jump in and get involved, another thing you can do is check out [Project Drawdown](#), where our debate guide Katharine Wilkinson used to work. The Project Drawdown website shows the big picture: where are the biggest sources of greenhouse gases, where are the sinks—the parts of our planet that are absorbing the greenhouse gases—and what are the solutions that will get us to the point of drawdown, where we start to actually reduce the amount of greenhouse gases in the atmosphere, rather than adding to it.

**Ayana:** Links to Project Drawdown, and to the podcast *A Matter of Degrees* that Katharine co-hosts with Leah Stokes, and a list of all our calls to action are in our show notes and our newsletter.

**Alex:** You can sign up for the newsletter at [howtosaveaplanet.show](http://howtosaveaplanet.show).

**Ayana:** It's a pretty cool website, a dot show.

**Alex:** Dot show. Dot showbiz, baby. All right. Are we ready for the credits?

**Ayana:** [laughs] Definitely. It's time to call it on this episode.

**Ayana:** *How to Save a Planet* is a Spotify original podcast and a Gimlet production. It's hosted by me, Ayana Elizabeth Johnson.

**Alex:** And me, Alex Blumberg. Our reporters and producers are Kendra Pierre-Lewis, Rachel Waldholz, Anna Ladd and Felix Poon. Our intern is Ayo Oti.

**Ayana:** Extra shoutout to Ayo this week. Thanks for the Google doc.

**Alex:** Yeah! And our listeners thank you as well. Our senior producer is Lauren Silverman. Our editor is Caitlin Kenny. Sound design and mixing by Peter Leonard, with original music by Peter Leonard, Catherine Anderson, and Emma Munger.

**Ayana:** Our fact checker this week is Claudia Geib.

**Alex:** Special thanks to the Stamatogiannakis siblings Anna and Emmanuel for sharing their debate with us. And thanks to Seth Wynes and Nick Pigeon.

**Ayana:** Thanks for listening, and we'll see you next week.

**Alex:** [singing] If my words could glow with the gold of summer.

**Ayana:** What?

**Alex:** It's a Grateful Dead song called "Ripple."