

When trusted sources don't help us address climate change: A grey dilemma

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Abstract

This paper delves into the limitations of trusted grey literature in tackling climate change by scrutinizing available information through case studies on recycling, biomass, and ESG investments, and revealing challenges consumers face relative to the messages they receive about climate change. The recycling scenario reveals the illusion of plastic recycling, with a mere 5% effectively recycled in the U.S., prompting a reevaluation of consumer choices. Examining aviation's pursuit of sustainable fuels, the biomass scenario exposes hurdles in reducing greenhouse gas emissions. The ESG investment scenario probes the impact of anti-ESG political rhetoric, highlighting the clash between environmental responsibility and opposing ideologies.

The author emphasizes the messages consumers receive about their pivotal role in greenhouse gas emissions reduction, citing the significant sway of Scope 3 emissions. The author also stresses the necessity for a new consumer-centric narrative adapting to current climate realities, and advocates for a message that encourages investment in innovative, scalable solutions, aligning with the International Monetary Fund's priorities for achieving net-zero by 2050 through global cooperation, incentivizing clean technologies, and supporting vulnerable nations. The paper issues a call to action for a more impactful and inclusive approach to address climate change, transcending traditional literature and academic discourse.

The Peanut Butter Paradox

Peanut butter is not the first thing one would expect to see in a paper on sustainability or climate change or any of the other topics contained in the amorphous concept Environmental, Social and Governance, ESG for short. However, it is a great place to start an examination about what “we” as in we consumers, are up against when we try to make sustainable choices and buy from companies who care about this planet and its inhabitants. Why peanut butter? It is a staple here in the United States and if there is not a jar in the pantry, it is probably on this week's grocery list. From here, things get pretty complicated, pretty fast. Maybe the trip to the grocery store is by mass transportation, an electric car, or maybe it is easier to use an app and have everything delivered to the front door. Plastic bag? Paper bag? Reuseable bag? Another decision and they just keep coming. Once at the store, there are brand names, private labels, and organic options; enough to fill at least five or six shelves. The catch, almost every single peanut butter choice is in a plastic jar. Reducing plastic use? Need to go with glass. For those who are aware that harvesting palm oil is resulting in deforestation and destroying orangutan habitats, the ingredients list is the next decision point. Only one brand left, and it is one of the most expensive, a sigh of relief, at least it is organic. Not in the budget, take a deep breath, pick another brand, and put it into the shopping cart. When all is said and done, does it really matter which one?

So much to unpack already and we have not even gotten to the supply chain behind every jar of peanut butter.

Doing “our part” can be overwhelming for all of us including this author, a research librarian who prepared a weekly curated news brief on ESG for 18 months for an audience comprised of attorneys and consultants. This paper offers three additional scenarios illustrating dilemmas faced by consumers who are told they need to do their part to prevent global warming, to save the ocean, to ensure a living wage and safe working

conditions for employees, and to pay for sustainable, smart cities that run on clean energy and so much more.

That introduction is a bit dramatic, but purposeful. The ideas included here are supported by grey literature, but are also based on the author's experience, reading about ESG or climate change every day as well as being an informed consumer and voter living in the United States.

The GL25 pre-conference announcement says, "*grey literature communities worldwide are called upon to direct their attention in responding to climate change for the benefit of our vulnerable planet.*" Reminding us, "*In accordance with FAIR data principles, researchers, authors, librarians, and other information professionals and practitioners are tasked to ensure that research outputs are findable, accessible, interoperable, and render potential reuse in furthering research and education in their respective disciplines and sectors of information.*" This purpose is inspired and when it comes to climate change, these efforts are beyond critical. The statement is also insular in that grey literature furthers the aims of scholarship within the academy or other public and private research institutions and government agencies. This paper contends that grey literature does not always clarify issues or lead to a useful course of action, especially for the broader audience we also need to serve, everyday people. Grey literature tells us consumers play an enormously vital role in reducing emissions through direct action and by wielding their influence as customers and voters. Helping them understand what is needed, where investment should be made is just as critical as contributing to the innovative technologies needed to save us. The right message is essential and if the status quo tells us anything at all, it tells us the current narrative is ineffectual.

The Backstory on Emissions

Reducing greenhouse gas emissions is key to reaching global aims including the transition to the net-zero economy or more specifically an agenda like the Paris Climate Accord. Many organizations are working toward providing credible, scientific information about what is happening to the planet and to us. One of the most recognizable is The Intergovernmental Panel on Climate Change. The panel was set up by the World Meteorological Organization and the United Nations to provide an objective source of scientific information. In March 2023, it released the final version of its sixth assessment report, AR6 Synthesis Report: Climate Change 2023 (Climate Change 2023).

In unequivocal terms, Climate Change 2023 says that human beings are responsible for global warming and the chief culprit is greenhouse gas emissions. Page 8 of the 40-page summary (!) for policy makers says, "*Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals.*" Moving to the next page, the summary goes on to say, "*Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people...Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected.*"¹

At a more granular level, there are organizations like the International Sustainability Standards Board (ISSB) who help companies to measure and disclose their greenhouse gas emissions along with their plans to mitigate or off-set these emissions. The ISSB is a private, independent body established in 2021 and is charged with developing and

¹ (Intergovernmental Panel on Climate Change, 2023)

approving IFRS sustainability disclosure standards under the auspices of the IFRS Foundation. On June 30, 2023, the inaugural standards, IFRS S1 and S2 launched.²

These are standards that guide companies on what to disclose to investors and regulators about their sustainability and climate risks and how they are mitigating these risks or in more business-friendly terms, taking advantage of new opportunities in the green economy.

Regulators themselves, like the US Securities and Exchange Commission (SEC) are also working on standards for business. The commission proposed highly controversial sustainability and climate disclosure rules for publicly traded companies in March 2022. Like the IFRS standards, the rules require companies to disclose prospective risk and material impacts to their business caused by climate change including impacts on the company's strategy and outlook. These rules have been delayed for more than a year.³

The SEC rules are for publicly traded companies and this matters. Consider privately held, Minnesota-based Cargill. Established in 1865, the company started out as a grain storage facility. It is now an international producer and distributor of agricultural products such as sugar, refined oil, chocolate, and turkey. It also provides risk management, commodities trading, and transportation services. Employing 155,000 people, Cargill's 2022 revenue is reported to be \$165B.⁴

For private companies it is up to the executive team or board of directors to govern the company's actions around sustainability. Fortunately, Cargill, like many companies, has voluntarily taken a positive stance on ESG. *"Our Executive Team is dedicated to building a company that nourishes the world in a safe, responsible and sustainable way...Together, they are working to make Cargill the most trusted partner in food, agriculture and nutrition."*⁵ How successful Cargill and other companies will be with their ESG efforts requires attention to greenhouse gas emissions.

The Greenhouse Gas Protocol, another voluntary sustainability standards organization, provides the following greenhouse gas (GHG) emissions definitions and classifications usually called scopes.

- Emissions
 - Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity.
 - Indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity but occur at sources owned or controlled by another entity.
- Scopes
 - Scope 1: All direct GHG emissions.
 - Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat, or steam.
 - Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., T&D losses) not covered in Scope 2, outsourced activities, waste disposal, etc. (Greenhouse Gas Protocol, 2023)⁶

Scope 3 emissions also include 'use of products sold' which refers to the scope 1 and scope 2 emissions of end users. End users include both consumers and business customers that use a company's final products. Direct-use emissions by end users includes:

² (Deloitte, 2023)

³ (PricewaterhouseCoopers, 2023)

⁴ (Forbes, 2023)

⁵ (Cargill, 2023)

⁶ (Greenhouse Gas Protocol, 2023)

Products like automobiles, aircraft, engines, motors, power plants, buildings, appliances, electronics, lighting, data centers, and web-based software.

Fuel and feedstocks like petroleum products, natural gas, coal, biofuels, and crude oil.

Greenhouse gases and products that contain or form greenhouse gases emitted during use include CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, refrigeration and air-conditioning equipment, industrial gases, fire extinguishers, and fertilizers.

Including indirect-use-phase emissions by end users is optional when reporting out on scope 3 emissions under the Greenhouse Gas Protocol. These emissions include products that indirectly consume energy (fuels or electricity) during use. Examples:

- Apparel (requires washing and drying)
- Food (requires cooking and refrigeration)
- Pots and pans (require heating), and
- Soaps and detergents (require heated water)⁷

Scope 3 emissions may account for as much as 70% of a company's emissions or more. This is exceptionally problematic because Scope 3 emissions are beyond the individual company's control. In terms of the supply chain, purchasing decisions and product designs by individual suppliers have greater influence over reducing emissions than the company for whom they supply products or materials. Companies have the option of switching suppliers, turning to those whose practices align with the company's net-zero or other sustainability targets, but this strategy is limited at best and extraordinarily difficult for companies that manufacture products. Manufacturers must contend with emissions stemming from extraction and manufacture of raw goods. Companies have even less control over direct-use emissions by the end-user which brings us back to the consumer.⁸

Scope 3 emissions are the foundation of the compelling argument on the large and critical role consumers play in achieving the net-zero economy. However, these now decades old messages, laced with moral imperatives, are not working. The following case studies, or scenarios, provide plausible reasons as to why.

The Scenarios

The **Recycling Scenario** considers the ease at which consumers in the United States can recycle materials relative to how successful these efforts are at keeping materials especially plastics out of landfills here and abroad.

People in the United States are happy to recycle, hauling out their overflowing, ubiquitous blue bins to the curb on the designated day of the week, confident that the contents will be recycled and that they are doing the right thing. A tangible sign that the mythology that plastic is being recycled into something new persists. As of 2021, only about 5% of US plastic waste was recycled while the rest wound up in a landfill, the bulk to be exported with other municipal waste to developing countries where the most likely outcome for plastic is either open dumping or incineration.⁹

How did we get here?

The United States is one of the world's largest consumers of plastics, a habit that has grown consistently since the 1980s. By 2019 on a per capita basis, the US created five times as much plastic waste as their global counterparts. Given the mythology plastic can be recycled, it is easy to see why US consumers keep buying plastic. We only need to look

⁷ (Greenhouse Gas Protocol, 2022)

⁸ (Deloitte, 2023)

⁹ (Statista, 2023)

at the bottom of container to find the familiar recycling symbol. Created in the 1970s by Gary Anderson, a senior at Southern California University, who submitted his logo to a competition sponsored by the Container Corporation of America. An uncomplicated design of three arrows chasing each other round and round in a closed loop. The first arrow represents materials collected, the second represents the manufacture of new products from those materials, and the third the purchase of those products by the consumer.¹⁰ This works well for things that can be readily recycled like paper and glass, but for plastics and other consumer goods like textiles or clothing, reduce and reuse are the only options. Sheer volume shows the impracticality of reuse and returning to our peanut butter example, reducing plastic consumption is difficult at best especially for anyone on a budget.

There is sufficient and readily accessible literature that explains why plastic recycling is not a scalable solution. It comes down to plastic itself. There are all kinds of different plastics. Plastics with different additives and colorants that cannot be recycled together, and separating plastics is prohibitively expensive. Plastics may also contain or absorb toxic chemicals. All of which means that mechanical recycling—the grinding and melting down of plastic—is limited and investment in plastic recycling innovation is needed.¹¹

From a sustainability perspective, until plastic recycling is practicable, plastic production needs to be drastically curtailed, but this is not going to happen any time soon. Per Statista, *“The plastics market is projected to grow in the coming years to reach a value of more than 810 billion U.S. dollars by 2030, registering a CAGR of 3.7 percent during the forecast period of 2022 to 2030.”*¹²

Encouraging consumers to take companies to task on reducing plastic use and efforts to pass legislation to inhibit manufacture of certain plastics might make us feel better but are no more likely to succeed in solving the problem with plastic now than they were before. Plastic products are all too frequently the only economically feasible or available option and that is why people keep buying them. The recycling message keeps us wheeling brightly colored bins full of rubbish to the street, but so far, it is not getting us to net-zero and nothing indicates it ever will.

The **biomass scenario** examines alternatives to fossil fuel starting with aviation as an example. While aviation’s contribution to greenhouse gas emissions is minor compared to other travel and transportation, it is an industry that is growing at a fast pace, and it is difficult to decarbonize. If it is going to meet 2050 net-zero goals, aviation needs to find lower-emissions fuels and increase aircraft efficiency. This may not be enough, which means there is also a need for demand constraint solutions. Bringing the focus even tighter, sustainable aviation fuel (SAF) is coming to the fore; however, based on planned production only a fraction of jet fuel demand in 2027 will be met by sustainable fuel. What is more, according to the US Department of Energy, SAF must be blended with Jet A fuel prior to use in aircraft.¹³ Just like biofuels blended with gasoline for automobiles, SAF causes less pollution, but is still dependent on the fossil fuel industry. Despite the dependence, SAF investment is expected to be worthwhile. The U.S. Department of Energy, the U.S. Department of Transportation, and the U.S. Department of Agriculture are invested in research, development, and analysis of SAF. The widespread adoption of SAF seems likely. If it goes the way of blended biofuels for cars and trucks, the average customer does not have any control over what is in their 747 if they are thinking about it all.

¹⁰ (The Origin of the Recycling Symbol, 2023)

¹¹ (Enck, 2022)

¹² (Statista, 2023)

¹³ (IEA, 2023)

Sustainable fuel is not just about moving people and things around the planet. There are also economical and moral quandaries associated with sustainable long-term use of land for fuel and food. Finding a balance is another “must” because “feeding a growing and increasingly affluent population is clashing with efforts to conserve habitat and natural resources.”¹⁴

Recently, there was a natural experiment around what it would take to reduce greenhouse gas emissions at scale—the COVID-19 pandemic. Diminished leisure and business travel led to well publicized reductions in pollution. Post-pandemic, this simply is not how people live their lives. Previously remote workers have been required to return to the office three days a week or more. The devastated travel and leisure industry is putting out all the stops to encourage people to visit family or take that special vacation. Not to mention celebrities like Taylor Swift taking to the skies in her own private jet to meet the fans who missed live music during lock down. Not “hating on” Taylor here, the point is, it took a global pandemic to reduce greenhouse gas emissions at a scale sufficient to meet net-zero goals. No clever consumer campaign, no narrative, no carpool incentive, has ever come close to what is needed.

The **ESG investment scenario** ostensibly asks whether climate change risk should inform investment decisions and it does. No bait and switch here, but if we move this case study out into the real world, it brings us full circle, ultimately testing our collective ability to provide a trustworthy narrative about climate change, sustainability and other ESG topics as a counter to other messages like the Anti-ESG political rhetoric heard throughout the United States. An executive from the investment giant Morningstar succinctly explains this rhetoric, “Anti-ESG [is] a proxy for opposition to the spread of ‘liberal values’ in civil society.”¹⁵

Pragmatically, investment in sustainability from novel research work to companies bringing innovative technological solutions to the market is the only path to saving the planet because consumers can only choose sustainable options if they are available. When it comes to ESG investment “our part” should lean toward understanding and taking action about where the money goes. However, in recent years, many Republican leaders have turned sustainability into a “liberal agenda” and actively campaigned against ESG. Those who were elected are leading efforts to eliminate consideration of ESG in investment decisions on Capitol Hill and in state houses across the country.

Calling for a specific narrative against a political agenda may feel like a slippery slope, but as film maker Michael Moore is quoted as saying “*Librarians see themselves as the guardians of the First Amendment. You got a thousand Mother Joneses at the barricades!*” Moore is a little more colorful than your average librarian might be, but he is correct that providing information necessary to addressing actions by the government is an ethical obligation and part of the field’s overall advocacy and commitment to intellectual freedom or “the rights of library users to read, seek information, and speak freely as guaranteed by the First Amendment. Intellectual freedom is a core value of the library profession, and a basic right in our democratic society.”¹⁶

Coming from this perspective, we should provide trustworthy information. Gaining an understanding what ESG investment is, what its critics say and what anti-ESG investment laws could mean to the future is the dilemma this scenario presents.

First an incredibly brief history lesson from Harvard Business Review, “*The idea of screening investments on environmental and social issues goes back decades. But in recent years, a critical mass of investors clearly decided that global mega-challenges like climate*

¹⁴ (Sustainable Intensification of Agriculture, 2023)

¹⁵ (Winston, 2023)

¹⁶ (Support for Intellectual Freedom, 2023)

change create economic and business risk that they should understand and include in decision-making.”¹⁷

The ESG agenda has taken its fair share of criticism with commentators reminding everyone at large that the purpose of business is to make as much money as possible while still conforming to basic social norms. Concerns about how companies and their investors could tie ESG to the bottom line is also warranted given how difficult it is to accurately measure, let alone mitigate greenhouse gas emissions as discussed elsewhere in this paper. Another critique involves companies using ESG for marketing and public relations to enhance their reputations or to satisfy customer preferences. Unsurprisingly, this gives rise to accusations of greenwashing, which is a false impression of what or how well a company is doing around its sustainability efforts.

Despite the criticism, ESG is a driving force. According to McKinsey & Company, 90% of companies on the S&P 500 are providing some type of ESG reporting as of December 2022. McKinsey’s consideration does not stop here. Their analysts go on to explain that *“true ESG is consistent with a judicious, well-considered strategy that advances a company’s purpose and business model.”* Moreover, while it may be correct that businesses are in the business of making money, strategy has evolved into companies looking toward long-term value for shareholders. With this comes the need to *“manage and address, massive, paradigm-shifting externalities”* including climate change.¹⁸

As mentioned previously, there is an insistent group of political leaders in the United States who are adamant that investors and the companies in which they invest should not be permitted to consider ESG when it comes to making decisions. By the 2023 legislative cycle, ESG investment was highly politicized to put it mildly with Republicans making good on promises to move forward an anti-ESG agenda. This has played out in 37 states with 165 pieces of proposed legislation including 9 resolutions. The overarching goal, to restrict ESG-related risk considerations in decision-making, often using pension fund and government contract regulation as the means to an end.

Pleiades Strategy is tracking these 165 bills, as of June 2023:

- 83 bills are dead, across 23 states:
 - In 17 states where legislation was introduced, no laws passed. 10 of these states are controlled by Republicans.
- 3 bills were vetoed by the governor in Arizona.
- 42 bills that did not pass will carry over into the 2024 legislative session.
- 22 bills and 6 resolutions were approved by state governments:
 - 19 laws and 6 resolutions have passed in 14 states this year.
 - 3 enrolled bills await governor action in 3 states.
- 12 active bills are pending. 6 have not had committee hearings.

According to Pleiades, there are real world costs to this legislation including higher costs to municipalities and lower pension returns coupled with increased administrative costs. As to government contracts, there was a surge of proposed legislation that if enacted would block states and local governments from contracting with financial institutions that limit engagement with certain industries by categorizing this refusal as a “boycott” or “discrimination.” These industries include fossil fuels, mining, agribusiness, timber, and firearms with all but the last inextricably linked to climate change.¹⁹

¹⁷ (Winston, 2023)

¹⁸ (Perez, 2022)

¹⁹ (Pleiades Strategy, 2023)

The New Narrative

Consumers have been asked to do their part for decades. Ordinary people have been told in many different ways, they can save the planet by recycling, by driving less, by voting for the right people. Yet here we are. The planet is getting too hot. It does not take a meteorologist to recognize extreme weather events are having devastating effects on our lives. Though there is plenty of optimism, we are not moving towards net zero fast enough and the case studies here make it clear, calling for individual action is not adding up as promised.

Fight me on this, as popular memes argue, and I will, armed with nothing more than a plastic straw. Well, more like 127 school buses filled with them every day. The anti-straw movement began more than a decade ago. Started by a nine-year-old, the idea caught fire and it became virtuous to say no thank you to the individually wrapped straw that accompanied your soda. The message was clear, straws do not recycle, they wind up in the ocean, and you do not really need one to drink your soda. To be fair, EU countries and a few others have banned plastic straws and other single use plastic items. Kudos on an amazing grassroots campaign, but yet here we are.

In November 2022, confronted with the reality that the world is not on track to meet net-zero goals by 2050, the International Monetary Fund suggested three priorities, *“steadfast policies to reach net zero by 2050, strong measures to adapt to the global warming that’s already locked in, and staunch financial support to help vulnerable countries pay for these efforts.”* They go on to say that these priorities *“will require a mix of incentives to push firms and households to prioritize clean goods and technologies across all their decisions.”* While the IMF mentions households, these priorities and recommended actions do not mention individual actions or call for everyone to do their part:

- An international carbon price floor agreement
- Private investment in low carbon technologies
- Public investment in green infrastructure
- Broader investment in resiliency—infrastructure, social safety nets, early warning systems, and climate-smart agriculture and the like
- Climate financing—including unlocking capital from pension funds, insurance companies and other long-term investors that collectively manage over \$100 trillion of assets.²⁰

The need for a new consumer narrative, one that focuses on adapting to current climate realities and encourages investment in innovative, scalable solutions, is evident.

²⁰ (Georgieva, 2023)



References

- Cargill. (2023, August 27). *About Cargill*. From Cargill: <https://www.cargill.com/>
- Deloitte. (2023, July 8). *International Sustainability Standards Board*. From IAS Plus: <https://www.iasplus.com>
- Deloitte. (2023, July 13). *Zero in on Scope 1, 2, and 3 emissions*. From Deloitte: <https://www2.deloitte.com/uk/en/focus/climate-change/zero-in-on-scope-1-2-and-3-emissions.html>
- Enck, J. a. (2022, May 30). Plastic Recycling Doesn't Work and Will Never Work. *The Atlantic*.
- Forbes. (2023, July 8). *Profile Cargill Minneapolis, Minnesota*. From Forbes: <https://www.forbes.com/>
- Georgieva, K. (2023, October 14). *Getting Back on Track to Net Zero: Three Critical Priorities for COP27*. From IMF Blog: <https://www.imf.org/>
- Greenhouse Gas Protocol. (2022). Category 11: Use of Sold Products. In G. G. Protocol, *Technical Guidance for Calculating Scope 3 Emissions* (pp. 113-124). Washington, DC: Greenhouse Gass Protocol.
- Greenhouse Gas Protocol. (2023, July 8). *Calculation Tools Frequently Asked Questions*. From Greenhouse Gas Protocol: <https://ghgprotocol.org/>
- IEA. (2023, September 23). *Aviation*. From IEA: <https://www.iea.org>
- Intergovernmental Panel on Climate Change. (2023). *AR6 Synthesis Report Climate Change 2023*. New Yor: Intergovernmental Planel on Climate Change.
- Perez, L. H. (2022, August 10). Does ESG really matter--and why? *McKinsey Quarterly*.
- Pleiades Strategy. (2023). *2023 State House Report: Right-Wing Attacks on the Freedom to Invest Responsibly Falter in Legislatures*.
- PricewaterhouseCoopers. (2023, July 8). *SEC climate disclosures and your company*. From PwC: <https://www.pwc.com/>
- Stastita. (2023, July 22). *Market size value of plastics worldwide from 2021 to 2030*. From Statista: <https://www.statista.com/statistics/1060583/global-market-value-of-plastic/>
- Statista. (2023, July 22). *Consumption volume of plastics in the United States from 1980 to 2019*. From Statista: <https://www.statista.com/>
- Support for Intellectual Freedom*. (2023, September 2). From American Library Association: <https://www.ala.org/>
- Sustainable Intensification of Agriculture*. (2023, September 23). From Nature Sustainability: <https://www.nature.com/collections/jieihecica>
- The Origin of the Recycling Symbol*. (2023, July 22). From Middle Tennessee State University, Center for Energy Efficiency: <https://www.mtsu.edu/>
- Winston, A. (2023, April 5). Why Business Leaders Must Resist the Anti-ESG Movement. *Harvard Business Review*.