

Lies of the bamboo toothbrush: The plastic industry's perverse greenwashing

November 12 2019, by Sabrina Shih



Bamboo toothbrush and packaging. Credit: Brush with Bamboo

A bamboo toothbrush deconstructed: bamboo handle, paper packaging box, plant-based nylon bristles and plant-based wrapper. It also comes

with disposal instructions.

"Bamboo handle and paper box are compostable." Easy.

"Nylon bristles are not compostable but can be recycled... ask your local recycling facility about the best way to recycle the bristles." More difficult, but still possible.

"Plant-based wrapper is compostable in commercial facilities only (ASTM D6400). Appropriate facilities may not exist in your city." Evidently, this might not be possible at all.

Given labels advertising this brush's sustainable and biodegradable qualities, as well as the seal of USDA biobased certification, this fine print on the packaging is jarring. Doesn't "biobased" mean the toothbrush will eventually decompose on its own no matter its environment? This is the type of worry-free, bioplastic future we are moving towards, right?

[Bioplastics](#) are more complicated than their public image suggests.

"Bioplastic" is an umbrella term for a [plastic material](#) that is biobased, or made partially from biomass like corn or cellulose, biodegradable, or able to break down into organic components, or both. A caveat, however, is that biobased materials are not necessarily biodegradable, nor are all biodegradable materials guaranteed to biodegrade. Bioplastics that end up in anaerobic landfills, cold oceans, or even among recyclable plastics fail to degrade and may do the same harm, disrupting the same natural processes as do traditional plastics. In cases like the toothbrush's plant-based wrapper, even materials listed as biodegradable require extremely specific conditions like those found in industrial composting facilities in order to break down properly, and this proper disposal may not be feasible for the common consumer. So that biobased plastic bag that is reassuringly printed green with images of leaves? It might be

more for your psychological benefit than for the benefit of the environment.

In fact, we are much farther from a green reality than we think we are. Even the United Nations has recognized that [biodegradable plastics are not a viable alternative](#): their current production of [4 million tons per year](#) amounts to only a fraction of a percent of the staggering [9.1 billion tons of plastic](#) that have been produced in the past 70 years. Moreover, their complicated disposal requirements don't inspire much confidence that even a respectable proportion of that tiny amount will degrade as expected. Instead, we must face the uncomfortable reality that virtually all of the plastic that we have created and used (used, by the way, for an [average of 12 minutes](#)) still exists, infiltrating our land, animals, and bodies. Seventy-nine percent of that [plastic waste](#) has been left to fester in landfills, while 12 percent has been burned. Incineration does eradicate plastic, but it also expels toxic fumes and carcinogens dangerous to public health and the environment. A measly 9 percent of global plastic has been [recycled](#).

It's easy to blame the low rates of plastic recycling on consumer ignorance or apathy; it is harder to recognize that the complexities of plastic production by the plastic industry are larger contributors to the issue. Even for the most knowledgeable consumer, always getting it right is impossible. Polyethylene terephthalate, [high-density polyethylene](#), [polyvinyl chloride](#), low-density polyethylene, polypropylene, polystyrene, polycarbonate, polylactide, acrylic, acrylonitrile butadiene, styrene, fiberglass, and nylon: How can the average recycler be expected to know the difference between regular plastics, much less bioplastics?

With the infeasibility of efficient bioplastic use and recycling, it is clear that the only effective solution to our plastic crisis is for companies to produce less plastic in the first place. This point is rarely present, however, in common conversations about waste, which tend to focus on

consumer responsibilities to make individual lifestyle changes. The [zero-waste lifestyle](#), which has gained traction in recent years and has bolstered demand for sustainable alternatives like metal straws and refillable shampoo bottles, is a powerful movement rethinking the individual's responsibility to consume consciously. However, many leaders of the movement have been criticized for failing to acknowledge that having non-plastic options [also relies on privilege](#), since access to bulk-food stores and fresh unpackaged produce is not equal. Most importantly, these individual actions have a minuscule impact on plastic production, which is only projected to [increase by 40 percent](#) in the next ten years.

Bioplastics and the plastic industry

Aware of the heightened public concern over the negative environmental effects of plastic production, the industry can no longer deny the externalities of its activity. In response to this backlash—labeled an "industry challenge" in a recent J.P. Morgan Chase report—the plastic industry has begun to portray recycling and bioplastics as key components in their "[embracing \[of\] an expanded definition of product stewardship that includes dealing with plastics waste.](#)"

Industry leaders deceptively [lobby on Capitol Hill](#) for more recycling infrastructure funding, basking in their declared concern over the environment while they use recycling as justification for trying to integrate plastic into new infrastructure applications like pipes. They neglect to mention that unlike the endlessly recyclable metals traditional pipes are built with, recycling plastic [only delays its ultimate fate as pollution](#), since plastic can only be recycled a few times before it is unusable.

The [Plastics Industry Association \(PLASTICS\)](#), a trade association that represents some of the [largest corporate plastic polluters](#) like Coca-Cola,

PepsiCo, and Nestlé, [hosts misleading social media campaigns](#) about the simple, bright future of bioplastics. Nowhere do they adequately acknowledge the complexities of sustainably disposing of them and the need for a certain amount of new petroleum-based plastic in many bioplastic products.

Among all of the industry's supposedly environmentally conscious declarations, the radical notion of producing less plastic cannot be found.

This should come as no surprise. Since the first waves of opposition, the plastics industry has engaged in underhanded ways to protect its business and to convince the public that consumers are responsible for plastic pollution. In response to Vermont's 1953 Beverage Container Law, which banned the new, more profitable single-use beverage bottles in favor of reusable containers that companies would be responsible for reusing or recycling, notorious companies like Phillip Morris and Coca-Cola formed the non-profit [Keep America Beautiful \(KAB\)](#). KAB has since released decades of [greenwashing propaganda](#) that have been nothing short of culture-defining. From coining the term "litter-bug" and releasing PSAs that blamed consumers for plastic pollution, to lobbying against any type of legislation that would increase producer accountability or threaten their profit margins, KAB has effectively written the popular discourse and regulatory laws to serve themselves.

Today, KAB is still sponsored by some of the most notorious environmentally damaging corporations, like H&M, The Clorox Company, Dow, Northrop Grumman, McDonald's, Coca-Cola, PepsiCo, and Nestlé. They have shifted their agenda from fighting bottle bills to fighting the burgeoning [plastic bag](#) ban movement, which has successfully [decreased the demand for plastic bags](#) by the tens of billions in the cities and states that have already passed such bans. Under various campaign and organization names like Save the Plastic Bag Coalition and the American Progressive Bag Alliance (the lobbying faction of

PLASTICS), the plastics industry has [filed lawsuits](#) against local governments that have banned plastic bags and has [spent millions of dollars](#) to pass preemptive state-wide plastic ban laws that prevent local governments from banning plastic bags in their cities.

In the face of such sinister manipulation by the plastics industry, it almost feels like a voluntary acceptance of their narrative to blame the consumer. Yet, when I dropped my bamboo toothbrush on the dirty dorm bathroom floor at 2 a.m., threw it away in disgust without a second thought, and only recalled the packaging's specific instructions a few days later, the guilt was immense. I felt like a hypocrite for urging my family to transition to more sustainable options when I couldn't even sustainably dispose of them myself. But let's consider if I had remembered. As a current resident of NYC, I have more access to sustainable infrastructure and programs than most of the nation, but there is still no available information online for either recycling nylon bristles nor compostable biobased wrappers in my immediate area. Even if I had wanted, proper disposal of my bamboo toothbrush—the most sustainable option on the current market—would have been next to impossible.

It's true that we all have a duty to reduce waste to the best of our ability and to push our society into a circular economy, but the guilt we are conditioned to feel when we fail is also deceptive and unfair. Consumers should not be expected to solve plastic pollution, especially considering that the crisis is only being perpetuated by the plastics industry. Most of our guilt is not our own but is manufactured and molded by the plastics industry in the same way that it manufactures its own products and molds public opinion to release it from any obligation over the remnants of its business.

We must remember that bioplastics, while promising, are not at a stage for us to place blind faith in their ability to transform the plastic crisis

and that recycling does nothing to prevent all produced plastic from eventually becoming useless trash. We cannot allow the plastics industry to continually greenwash and distract us from the truth: the only solution is for the plastic industry to take responsibility for the byproducts of its profit and to reduce its own production levels for the health of our [plastic](#)-choked planet.

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