# Is Easing the Labels on Products Ethical if it Helps Sell Waste Originated Products for the Purpose of Preserving the Planets Resources

A Research paper submitted to the Department of Engineering and Society Presented to the Faculty of the School of Engineering and Applied Science University of Virginia – Charlottesville, Virginia

> In Partial Fulfillment of the Requirements for the Degree: Bachelor of Science, School of Engineering

> > Nicholas Eric Hoessle Spring 2023

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Advisor:

Joshua Earle, Assistant Professor of Engineering and Society

#### Introduction

"To waste, to destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed" (University of Houston, 2021) is how Theodore Roosevelt addressed the topic of using our resources to their fullest in his message to congress in 1907. There has been increasing concern for natural resources around the world, but the question that really must be asked is if the resources are being fully used or wasted. Modern technology has made great strides in the ability to recycle resources, but sometimes these resources are avoided due to how they came to be reused. Consumable resources, such as water or food grade carbon dioxide (CO2) are two primary examples, as wastewater can be safely cleansed to safe drinking purity, and pollution-based CO2 can be purified to levels deemed safe for use with food.

The reusage of these resources can go a long way in helping to preserve the planet's fresh water and take a prominent greenhouse gas out of the atmosphere for use. However, when products are made via recycling of waste resources, there needs to be a specific label to identify their origin. This can potentially pose a hinderance to fully utilizing them, as consuming a product made from "waste" can pose a mental barrier for people. While these labels are important for many products, preserving resources and utilizing the tools that modern technology has provided may outweigh the current transparency.

In this paper, I provide a general overview of reusing waste products, and use both social construction of technology and philosophical frameworks relating to business ethics to analyze the ethics of removing product labels if the removal would provide benefits. I focus on the reuse of water through case studies of both direct and indirect reuse. This research will use Thomas Carson's book, "Lying and deception: Theory and practice," (2012) to analyze the business ethics point of the analysis, and

approved legislation from the Colorado Department of Public Health & Environment as a case study on current implementations of reusing wastewater. Utilizing business ethics to analyze labeling practices, I argue that while removing these labels could help preserve resources, companies could abuse the reduction of labels to a greater extent than the good that could be done. I argue that this abuse would eventually pose more harm than the good done by preserving the resources, and pose that the best answer would be to fight the stigma around the reuse of waste through education, thus increasing the usage while the labels remain.

# How are products currently labeled, and what is the goal of labels, and are waste-based resources really safe?

When you go to a store, every product has some kind of label, or labels, on it. These labels range from the company name, to where the product was made, to the ingredients or resources that went into making the product. These labels exist to protect the consumer, as well as to identify imported products for taxation.

# Basics of Labeling in the United States for Consumer Products

The United States has a well-established set of regulations for labeling and will be used as a basis for the case studies relating to existing legislation. The Fair Packaging and Labeling Act (FPLA) was enacted in 1967, directing the Federal Trade Commission (FTC) and the Food and Drug Administration (FDA) to issue regulation requiring consumer products to be labeled and disclose net contents, identity of commodity, and name and place of business of the product's manufacturer, packer, or distributor (FTC 2023). The FPLA also provides extra stipulations for the FTC and FDA to enact more strict regulations for the labeling to avoid consumer deception. In 2015, the FPLA was modernized to better address the technological status of the modern world and acknowledge the weights-and-measures laws of different states (FTC, 2015). While different states may enact more strict legislation for the labeling of some products, the Federal Food, Drug, and Cosmetic Act (FFDCA) established a different standard for food labels to promote national uniformity (International Bottled Water Association 2023). As stated in section 403A(a)(1), ""no State or political subdivision of a State may directly or indirectly establish . . . or continue in effect as to any food in interstate commerce . . . any requirement for a food which is the subject of a standard of identity under section 401 that is not identical to such standard of identity" (FFDCA 1990). Then, in 1995, the FDA established a standard for bottled water that requires, a general description of bottled water, the names that may be used to identify bottled water products (e.g., "bottled water," "drinking water," or alternative terms such as "purified water" or "spring water"), and source labeling (International Bottled Water Association 2023).

#### Ethical Justifications of Labeling

Consumer protection is important, and labels are established to protect the consumer. A company's goal is generally to sell products, and while it is not the most ethical, customer deception can be a method to sell a product. As Carson puts it, "there is a clear distinction between withholding information and deception" (Carson pg. 56, 2010). Carson argues that withholding information can avoid being deceptive if there was no expectation for the information in question to be given. Thus, withholding information does not immediately qualify as deception, however in the case of withholding a label, for example labeling the origin of a bottle of water purified from wastewater, would qualify as deception because of the promise from legal standards to provide this information. From this justification, by base definition, the withholding of the waste origin label would be unethical and deceptive and must then be weighed against the big picture of the benefits it may provide.

Case Study: Wastewater turned into drinkable water.

The primary case for the purpose of the paper is reused water. Reused water is water that is taken from a waste stream, primarily sewage, and purifies this water to levels that would be safe for a person to drink. Currently, there are two methods for this, direct and indirect potable reuse. Direct potable reuse, DPR, takes the recycled water directly into a water system to the tap of a household or business while indirect potable reuse, IPR, bottles the recycled water for consumer use. Based on research done on the concept of potable reuse, recycled water utilized in bother DPR and IPR does indeed meet all of the standards established in the Sage Drinking Water Act of 1974. This data is nationally accepted and accredited, and as of 2016, there were 8 states that had approved IPR projects and 2 states that had approved DPR projects (American Water Works Association 2016). While there are currently no federal regulations on potable reuse, some states, such as Colorado, have introduced legislation to establish DPR and IPR as reputable water sources, as well as establish how the water will be used. As shown in figure 1, the current accepted use for DPR is to mix the recycled, clean water with surface or ground water, helping to provide a clean and safe drinking source for consumers.



Figure 1: Proposed flow of water for Direct Potable Reuse via Integration with Surface or Ground water at a Treatment Facility (American Water Works Association 2016)

Methods: Using social construction of technology and philosophical frameworks to understand the ethics of providing or withholding a label.

#### Social Construction of Technology

The ethics behind labels involves complex analysis as whether the label does protect people, and if the label is beneficial to everyone on a larger scale than just that one moment. While a label may protect a consumer in the moment, if more good could be done by withholding the label for resource preservation, then could it still qualify as ethical? This look at labels brings in social construction of technology, as the actions behind the labels are human driven rather than being driven by the label itself. Technology can be described as, "an extension of the human organism" (Brey pg. 1, 2000), showing the flexibility in what is defined as "technology." When described this way, I argue that the labels themselves are technology, as they are an application of the scientific knowledge of the materials that make up a product. Labels are utilized as a means to relay information, mark products, and give the details required for something to be offered for sale.

Companies have long twisted the meanings behind labels to try and sell products, with food being one of the biggest offenders. Food item labels about the amount of sugar, sodium, or other ingredients are downplayed by having a "serving size" per the amount given, even when the serving could be well under what one would typically consume. This shows a strong use of the technology of labeling to manipulate customers or consumers, and the knowledge of how labels can be used poses a threat of pushback to trying to reduce or remove labels on waste-recycled products.

Ethics can be defined in various ways depending on the ethical framework used to analyze a situation. Ethics can relate to the final outcome of an action, the side effects, or even just the implications of one of the actions, depending on what ethical frameworks are used to analyze a situation. Tying ethics into social construction of technology, the use of labels plays the role of the

determining factor of how ethical it would be to remove them. At its base, the intended purpose of looking to remove a label from waste-originated consumer products is to conserve resources. While the concept of "good" and "bad" tie into the philosophical debate that will be discussed later in this paper, it is inarguable that conserving resources to preserve the planet is an inherently good idea. However, the other side of this argument becomes where does the removal of labels stop. Since this argument is based around the removal of the origin of a product, the removal becomes a very loose descriptor.

In accordance with Corporate Law, a publicly traded company must do whatever is within their legal power to benefit the shareholder (Harvard 2009). Furthermore, the current capitalist economy of the United States, when relating to companies with stock and shareholders, revolves around shareholder primacy. Shareholder primacy is a shareholder-centric form of corporate governance that focuses on maximizing the value of shareholders before considering the interests of other corporate stakeholders, such as society, the community, consumers, and employees (CFI 2023). Thus, under a policy of shareholder primacy, the ethics of decision-making can be tossed out the window if the company believes the company could increase their shareholder profits. Putting this responsibility to shareholders into context with the removing of labels, many companies may begin to argue that they can reduce labels too. When looked at from a legal stance, this argument may not be too far off, as again, the "origin" label provides a loose overarching category. If this lapse were to be taken advantage of, there is the potential for companies to cause hard to their consumers through deception.

# Philosophical Frameworks

For philosophical frameworks, my focus will be on moral philosophy. The frameworks of philosophy relating to moral decisions that play the biggest role in the argument of removing labels or not are consequentialism and utilitarianism. Consequentialism is described as an ethical theory that judges whether or not something is right by what the consequences are, while utilitarianism is described as an ethical theory that determines right and wrong based on the outcome (University of Texas 2023). While these seem very similar at first, consequentialism does not specify a desired outcome, while utilitarianism specifies "good" as the desired outcome. For this analysis, the focus will continue to be on the ethics relating to the culture of the United States, but it should be noted that other cultures may have different priorities that could affect moral guidelines that may result in a different answer than the one presented here.

Using consequentialism, the easing on labels becomes a hazy ethical decision. One consequence could be the preservation of the planet via protecting the fresh water of the planet, in this case a morally good outcome. Another consequence could be the harm to consumers and everyday people around the country via abuse from large corporations. With this, and the larger picture of there being many other options to take for helping protect the planet, the analysis of the labels specifically comes down to is the amount of good done for the planet enough to outweigh the harm that this change could pose to people.

Through utilitarianism, one might argue that removing labels would be ethical because wastewater products could be used more widely, preserving resources and helping the dwindling resources of the planet. While some consumers may be hurt along the way by big companies looking to take advantage of the easing on their labels, the overall goal of the action to reduce the labels was for the specified outcome of doing "good" through conserving fresh water. Furthermore, it is not even a guarantee that a company would take advantage of this ease in labels, so when utilitarianism is used as the framework, this potential downside becomes heavily outweighed by the benefits it may bring. The ends justify the means, and this ease on labels could indeed help to protect the planet's resources, doing good.

# Results: While there is good in easing labels to help resources, there is a better way to go about encouraging the use of waste-resources

#### Discussing the impact of labels as a technology

The use of labels on consumer products is designed to protect consumers. Changing labels can be a difficult decision, specifically a lax on them, when taking in the big picture impact. The goal of labels is to ensure that a customer knows what is in their product and where it comes from, and removing the label takes away this right. However, this right was initially established to make sure that all of the products people purchased were safe and consumers were not taken advantage of, and for potable reuse water specifically, the research clearly shows the water is safe. Furthermore, the purpose of easing the origin labels of waste products is not to deceive customers for profit, but instead to help preserve the planets via protecting freshwater. Looking at the impact outside of the preservation, the potential for abuse by companies looking to increase their profits. Using labels as a technology, companies can be focused on increasing profits and will look for any way to increase these profits, regardless of potential harm.

Analyzing these two conflicting outcomes of the reducing labeling requirements, the conflicting views of consequentialism and utilitarianism play a determining role in the ethical implication. A utilitarianist would most likely claim that the reduction of labels would be ethical due to achieving the goal of having potable reuse used more widely, thus conserving fresh water. However, a consequentialist takes a look at the big picture, and sees that there are some harmful impacts that come with the good. As much of the drawback is related to how the easing of origin labels could be abused by companies, a primary example is that part of product origin labels revolves around the labor that went into the product. A company could have a product that comes from a place that does not follow fair labor laws, and could hide this from consumers through the same argument of hiding the waste-origin for potable

reuse water. This could potentially make these kinds of production facilities more appealing, as consumers wouldn't know to avoid these products as much. Furthermore, if these production facilities became more popular, production workers may lose jobs at fair labor locations due to a lack of work with this shift, having to sacrifice their pay in order to actually have a job.

One major factor that falls outside of the label itself is the stigma around consuming wasteoriginated products. My original argument for the labeling requirements was to avoid this stigma, but what if the stigma itself was targeted as a means to increase potable reuse? A study done in 2015 found that 13% of people would refuse to try recycled water, 38% of people are uncertain about the prospect, and 49% of people would be willing to give recycled water a try (Constantino 2022). If almost half of the people polled would already be willing to try the water, focusing on increasing this percentage poses as a more significant impactor than hiding the label. Utilizing resources from the FDA and EPA, an active effort to educate the public on the safety of this water source and the cleanliness of the water could be an effective means at increasing the use of potable reuse water across the country. This effort could even potentially lead to states that currently do not have established facilities to develop them and further the benefits. If this effort could come to fruition and fight the stigma around potable reuse, then the easing of origin labels wouldn't even need to be a consideration, and all of the drawbacks mentioned through this paper would be avoided.

Analyzing the benefit of protecting the fresh water of the planet versus the potential harm that could come to people via the easing of origin labels on consumer products, the results found depend on the ethical framework used. Consequentialism shows that the potential impact could be significant while utilitarianism sees the downsides as less impactful. My research has found these two conflicting answers, but with the big picture involved, I believe that the consequentialism framework is a better way of judging the situation. This shows how companies may be able to abuse the leeway given by a reduction in labeling requirements, hurting the general population around the United States. This outcome should be avoided, and with the statistics of just under half of the country being willing to try this water, the more feasible route looks to be fighting the stigma around recycled products meant for human consumption. Thus, since there is a more feasible route to increase the use of water, and specifically a route that would not harm the working class, it is deduced that an easing of the origin labels on products would be unethical and should not be done.

## Conclusion

The purpose of this research was not to claim whether recycled water should be drunk or not, but instead to analyze how ethical it is to relax labeling requirements in order to avoid stigma, which increases use of recycled water, and thus helps to preserve the planet. Ethics and morals are complicated, and may shift depending on the communities involved. Furthermore, only two philosophical frameworks were used to analyze the ethics of changing the labels, and someone following the same line of reasoning of this paper may come to a different conclusion using a different framework. This research adds one perspective, and that perspective being to fight the stigma around waste-based resources rather than trying to deceive people into preserving resources via the exclusion of the origin label.

In today's world, preserving resources is of utmost importance. An ever-rising population consumes more and more resources every year, and every little bit helps. However, this help should not come at the cost of the quality of life for a multitude of people, as this defeats the purpose altogether. Looking at the big picture of changing labels poses as the best way of understanding if a change would be ethical, making sure that the population as a whole would benefit from a decision.

### References

Brey, P. (2000). Technology as Extension of Human Faculties. Metaphysics, Epistemology, and Technology. Research in Philosophy and Technology, vol 19. Ed. C. Mitcham. London: Elsevier/JAI Press.

Carson, T. L. (2010). Lying and Deception: Theory and Practice. Oxford Unicersity Press.

CFI Education Inc. (2023). Shareholder Primacy.

https://corporatefinanceinstitute.com/resources/equities/what-is-shareholder-primacy/

- Regulation 11—Direct potable reuse., (2023) (testimony of Colorado Department of Public Health & Environment). https://cdphe.colorado.gov/Regulation\_11\_Direct\_Potable\_Reuse
- Constantino, A. K. (2022). What's in your drinking water? If you live in one of these states, it might soon be recycled sewage. https://www.cnbc.com/2022/08/19/direct-potable-reuse-why-drinkingwater-could-include-recycled-sewage.html
- Environmental Protection Agency. (2023). News in Water Reuse Regulations and.

https://www.epa.gov/waterreuse/news-water-reuse-regulations-and-guidelines

- Federal Trade Comission. (2023). Fair Packaging and Labeling Act: Regulations Under Section 4 of the Fair Packaging and Labeling Act. https://www.ftc.gov/legal-library/browse/rules/fair-packaginglabeling-act-regulations-under-section-4-fair-packaging-labeling-act
- International Bottled Water Association. (2023). Bottled Water Labeling.

https://bottledwater.org/bottled-water-labeling

Leverenz, H. L., Tchobanoglous, G., & Asano, T. (2010). *Direct potable reuse: A future imperative*. https://doi.org/10.2166/wrd.2011.000

Rules, Regulations, Statements of General Policy or Interpretation and Exemptions Under the Fair Packaging and Labeling Act, 16 CFR, 80 6750-01-P (2015). https://www.ftc.gov/system/files/documents/federal\_register\_notices/2015/11/151117fplafrn. pdf University of Houston. (2021) Theodore Roosevelt's Seventh Annual Message to Congress.

https://www.digitalhistory.uh.edu

University of Texas. (2023). Moral Philosophy. https://ethicsunwrapped.utexas.edu

Utrecht University. (2021). Half of global wastewater treated, rates in developing countries still lagging.

https://www.sciencedaily.com/releases/2021/02/210208085457.htm