

AFFORDABLE PACKAGING, BUT AT WHAT **COST?**



RAISING CANE'S MUST
GO FOAM-FREE

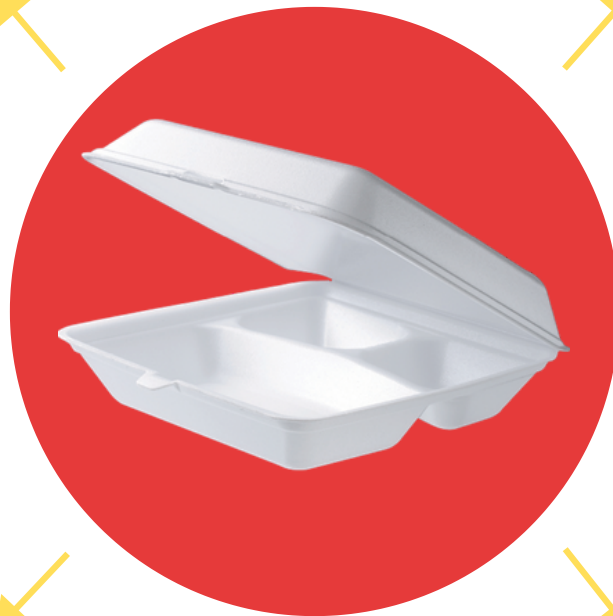
TABLE OF CONTENTS

1. What is Expanded Polystyrene (EPS).....	1
2. Introduction	2
3. Why Raising Cane's Must Transition.....	3
4. Alternatives.....	6
5. Alternative Standards + Timeline Requirements..	8
6. How Raising Cane's Would Benefit.....	9
7. Sources.....	10

WHAT IS EXPANDED POLYSTYRENE (EPS)?

Styrofoam is a brand name for expanded polystyrene

It is a petrochemical plastic and a product of oil and gas



It can take over 500 years for a single piece of expanded polystyrene to biodegrade

It is one of the hardest materials to recycle, and is not accepted at most facilities

INTRODUCTION

EXPANDED POLYSTYRENE (EPS) IS A SERIOUS PROBLEM THAT POSES A DANGER TO HUMAN HEALTH AND THE ENVIRONMENT

Currently, Raising Cane's packages many of its menu items in expanded polystyrene (EPS), colloquially known as "Styrofoam." EPS poses a serious threat to human health and the environment. Louisiana (the birthplace of Raising Cane's) is home to the world's largest manufacturer of polystyrene and therefore, disproportionately bears the burden of pollution-heavy EPS production. Furthermore, EPS litters our communities, does not biodegrade, cannot be recycled, and contains styrene, which is a neurotoxin and probable carcinogen. Coastal Louisiana's vulnerability to sea-level rise and hurricane storm surge is exacerbated by the emissions of oil and gas refining and manufacturing. The entire lifecycle of polystyrene, from production, to consumption, to waste stream, is detrimental to the health and well-being of Louisiana residents, consumers, and the world. Accordingly, Raising Cane's must be a corporate leader in banning toxic, single-use plastics, and introducing a closed loop system for fast food.



WHY RAISING CANE'S SHOULD TRANSITION OUT OF SINGLE USE, POLYSTYRENE PACKAGING

AS IT PERTAINS TO THE STATE OF LOUISIANA

Cancer Alley

Louisiana has one of the highest cancer rates in the US. This is especially apparent in Cancer Alley, the area along the Mississippi River between Baton Rouge and New Orleans that is highly saturated with petrochemical facilities. Oftentimes, it is black/brown, and poor/working class communities that face the brunt of industrial expansion and pollution.

Industrial Tax Exemption Program

Through the State's ITEXP (industrial tax exemption program), which is the largest corporate subsidy program in the US, some petrochemical facilities are up to 99.99% property tax exempt. Communities that would normally benefit from the taxes of wealthy industries instead lose out on billions of dollars in property taxes. They are burdened with the negative health impacts of toxic pollutants without seeing any of the wealth that those emissions create.

Putting it All Together - Carville Styrenics Complex Polystyrene Plant

Louisiana is also home to the world's largest manufacturer of polystyrene, the Carville Styrenics Complex Polystyrene Plant in Iberville parish. In 2018, the complex released 146,550 lbs of toxic chemicals including 69,455 lbs of styrene, 25,948 lbs of ethylbenzene, and 22,705 lbs of benzene. These pollutants have been attached to negative respiratory health impacts, gastrointestinal and central nervous system impacts, and cancer. Benzene is a Group A known human carcinogen. A majority black community less than a mile away from the complex voted to become their own town—St. Gabriel, in part to vote out polluting industries. According to TogetherLA, in 2018, Iberville Parish lost 75 million dollars to ITEXP.

DID YOU KNOW?

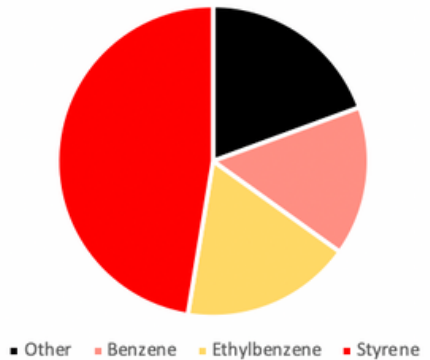
The state ranks **THIRD** in the nation for chemical production with nearly 100 facilities

Louisiana ranks **SECOND** in the nation for crude oil refining with 18 refineries in the state

Louisiana has the **FIFTH** highest cancer rate in the United States

Toxic Release and It's Effects

Releases by Chemical for 2018
Total Releases: 146,550 lbs



According to the EPA's TRI (Toxic Release Index), in 2018, the chemical and petroleum industries in LA released 1,266,221,667 lbs of toxic chemicals, accounting for 73.8% of the toxic chemicals released in the state. The negative health impacts associated with TRI chemicals include: body weight, cancer, cardiovascular, dermal, developmental, endocrine, gastrointestinal, hematological, hepatic, immunological, metabolic, musculoskeletal, neurological, ocular, renal, reproductive, respiratory, other.

WHY RAISING CANE'S SHOULD TRANSITION OUT OF SINGLE USE, POLYSTYRENE PACKAGING

NEGATIVE ENVIRONMENTAL IMPACTS

Microplastic Pollution

Polystyrene doesn't break down—it breaks up. Over time, the plastics become smaller and smaller until they eventually become microplastics. These particles are often less than one-fifth of an inch across. They end up in the water and are eaten by wildlife. Microplastics can easily accumulate inside animals' bodies and cause health issues. Millions of animals are killed by plastics every year, from birds to fish to other marine organisms. Nearly 700 species, including endangered ones, have been negatively impacted by plastics. Nearly every species of seabird consumes plastics.

EPS is Virtually Impossible to Recycle

91% of all plastic isn't recycled at all. In 2017, 90,000 tons of polystyrene containers were generated and less than 5,000 tons were recycled in the United States. Single-use plastics are traditionally difficult to recycle because they fall into the crevices of recycling machinery and therefore are often not accepted by recycling centers.

EPS in Our Water

Single-use plastic pollution is not just an eyesore in our community. Litter is often the beginning of plastics ending up in our waterways. Plastics that are tossed in the street are washed away by rain or travel via storm drains into rivers and streams. Our waterway plastic pollution is particularly concentrated: just ten rivers carry 93% of the world's total amount of plastic that enters the oceans via rivers each year.



WHY RAISING CANE'S SHOULD TRANSITION OUT OF SINGLE USE, POLYSTYRENE PACKAGING

NEGATIVE HUMAN HEALTH IMPACTS

Communities are Polluted by Petrochemical Emissions

Communities that live near petrochemical facilities, often called "fence line communities" bear the burden of toxic emissions in their air, water, and environment. Plant accidents caused by either internal or external agents like equipment malfunctions, fires, flooding, and natural disasters pose a danger to nearby communities. Petrochemical facilities are a major source of toxic air pollutants like benzene, toluene, ethylbenzene and xylene and criteria air pollutants like particulate matter, nitrogen oxide, hydrogen sulfide, and sulfur dioxide. Some of these chemicals cause developmental, reproductive issues and cancer, and can aggravate respiratory issues like childhood asthma.

EPS is an Occupational Hazard

Workers who manufacture EPS are at risk for long-term exposure to styrene, ethylbenzene, and benzene, among other chemicals. These chemicals are listed as toxic by the EPA with benzene listed as a Group A carcinogen. Chronic exposure to these chemicals can negatively impact respiratory, neurological, and reproductive systems, and can increase the occurrence of leukemia and blood disorders. Occupationally exposed workers may experience multiple chemical exposures, of different levels, over different periods of time. This makes it difficult to quantify the full impact of these chemicals, which could be even worse than the proven impacts listed above.



Consumers Risk Ingesting Toxic Chemicals from EPS Packaging

Styrene, a raw ingredient in EPS, can leach from packaging into food. The likelihood of leaching increases with greasy, hot, and high fat foods. The likelihood also increases if foods are microwaved in EPS packaging. Styrene is classified as a toxic chemical by the EPA. Short-term exposure can cause mucous membrane and eye irritation and negative gastrointestinal impacts. Long-term exposure can cause central nervous system impacts such as headache, fatigue, weakness, depression, hearing loss, and peripheral neuropathy. Some studies have linked styrene exposure to an increased frequency of spontaneous abortions, a decreased frequency of births, and an increased risk of leukemia and lymphoma. The public outrage from these health risks has encouraged other fast food providers, like McDonalds, to discontinue its use of EPS. Countless others have made commitments to phase out EPS in the near future.

ALTERNATIVES:

RECYCLED PAPER

Made of: 100% recycled paperboard

Product Description: Containers retain heat and vent steam. They are grease and leak resistant. Microwave safe.

Environmental Benefits: Recycled paper offsets the need for new trees to be taken down. Can be recycled or composted in commercial setting.

Company: Mr. Take Out Bags

About: Recyclable containers made of 100%

recycled paperboard. Contains minimum 90% post consumer recycled content. Made in USA. Customizable.

Price: \$0.53/container

Size: 7.75" x 5.5" x 3.5"
1 compartment

PFAS-FREE COMPOSTABLE

Made of: Sugarcane, a reclaimed + renewable resource

Background: Traditional molded fiber packaging contains PFAS. Any product that contains PFAS can't be compostable or biodegradable.

Product Description: Containers are microwavable and freezable. Hot food friendly.

Environmental Benefits: The sugarcane would otherwise have been burned. These containers are compostable in commercial compost facilities. Compost is a great way to improve vital soil resources and divert waste that would otherwise be landfilled.

Companies: EcoProducts

About: A new Vanguard line of molded fiber containers. Uses proprietary alternative compounds to achieve grease-resistance performance without relying on conventional PFAS. Meets BPI's requirements and ASTM standards for compostability.

Price: \$0.57/container

Size: 9" x 9" x 3"
3 compartments

ALTERNATIVES:

POST-CONSUMER RECYCLED

Made of: 100% PCR

Background: Traditional virgin plastic clamshells are made from petroleum, the world's most valuable, non-renewable resource.

Environmental Benefits: Choosing 100% Recycled Content Premium Containers can help save resources and help keep waste out of landfills and oceans. Instead of heading straight to the landfill, all of the material in this container was repurposed into a new product.

Company: EcoProducts

About: Has containers made entirely from 100% post-consumer recycled plastic bottles. They perform just like a traditional plastic container, while using no virgin petroleum. The secure lid fit reduces risk of leaking.

Price: \$1.16/container

Size: 9" x 9" x 3"
1 compartment

REUSABLE CONTAINERS

Made of: Polypropylene (Plastic #5)

Background: The longer you reuse something, the lower their impacts become over their extended lifetimes. In the U.S., the linear economy produces and disposes of over 180 billion single use takeout packaging products annually.

Environmental Benefits: Saves resources, prevents carbon emissions, reduces landfill waste and litter.

Plan: Pilot program at one store on a college campus with reusable containers that customers can bring back to the store to be washed and reused. Instill a discount for reusable container usage or eventual free meal after so many times. If program deems successful, expand!

Companies: Webstaurant + Ozzi

About: Both BPA free and customizable. Microwave safe + leak resistant. Dishwasher safe.

Price: \$4/container (Webstaurant), \$5/container (OZZI)

Size: 9" x 9" x 3.5" (Webstaurant)
9" by 9" by 2.5" (OZZI)
3 compartments

ALTERNATIVE PACKAGING DON'TS

No virgin materials ✓

No PFAS ✓

No wax ✓

No EPS ✓



STYROFOAM FREE CANE'S TIMELINE

June 2021

November 2021

December 2023

December 2025

Switch from foam to new single-use alternative

Pilot program reusable containers in 1 location

Half of Raising Cane's locations use reusable containers

Raising Cane's achieves zero waste worldwide

HOW CANE'S WOULD BENEFIT

Raising Cane's is a company that prides itself on philanthropy, community engagement, and a commitment to the well-being of the citizens of Louisiana. However, EPS is a hazard to the people of Louisiana, consumers, our environment, and future generations. To stay true to its values, Raising Cane's must take into consideration the hidden costs of EPS and champion a suitable alternative.

Hidden costs of EPS include but are not limited to: environmental degradation, healthcare for affected consumers, communities, and workers, cost of ocean and waterway cleanups, cost of landfills, cost of tax exemptions for petrochemical facilities, cost of hurricane and sea-level rise adaptation from emissions exacerbating climate change, and cost of birding and fishing industry losses.

Accordingly, switching to a sustainable alternative would attract a demographic of environmentally conscious consumers. Customers are becoming more aware of the damaging impacts that food packaging has on the environment, and exhibit this awareness through brand loyalty. In a survey done in 2016, millennials said they would be willing to pay more for sustainable goods. This eco-conscious demographic is growing fast, and competitors such as McDonald's and KFC are beginning to choose more eco-friendly packaging.

Besides competing with other fast food restaurants, Raising Cane's could benefit economically. Coca-Cola has invested in making their packaging more sustainable by adopting more resource-efficient designs, as well as using recycled and renewable materials. Since investing in sustainability, Coca-Cola reports they have saved approximately \$180 million a year. The need, the precedence, and the incentives are all there, now it is up to Cane's to do what is right and stop using EPS.

SOURCES:

- Baurick , Tristan. "Welcome to 'Cancer Alley,' Where Toxic Air Is About to Get Worse." ProPublica, ProPublica, 30 Oct. 2019, www.propublica.org/article/welcome-to-cancer-alley-where-toxic-air-is-about-to-get-worse.
- "Benzene." Environmental Protection Agency, Jan. 2012, <https://www.epa.gov/sites/production/files/2016-09/documents/benzene.pdf>.
- "BioPlus TERRA #4 100% Recycled Brown Kraft Take Out Boxes." MrTakeOutBags, MrTakeOutBags, www.mrtakeoutbags.com/product/bio-plus-terra/04bpterram.html.
- "Environmental Impact of the Petroleum Industry." EPA, Hazardous Substance Research Centers, June 2003, cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.files/fileID/14522.
- "Ethylbenzene." EPA, Environmental Protection Agency, Jan. 2000, www.epa.gov/sites/production/files/2016-09/documents/ethylbenzene.pdf.
- "Fact Sheet Carville Styrenics Complex Polystyrene Plant ." Total Petrochemicals USA, www.totalpetrochemicalsrefiningusa.com/pdf/F_FactsCarville.pdf.
- Fassler, Joe. "The Bowls at Chipotle and Sweetgreen Are Supposed to Be Compostable. They Contain Cancer-Linked 'Forever Chemicals.'" The Counter, The Counter, 2 Sept. 2020, thecounter.org/pfas-forever-chemicals-sweetgreen-chipotle-compostable-biodegradable-bowls/
- "Frequent Questions Regarding EPA's Facts and Figures about Materials, Waste and Recycling." EPA, Environmental Protection Agency, 31 July 2020, www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/frequent-questions-regarding-epas-facts-and.
- "GET EC-09 9' x 9' x 3 1/2' Jade Green Customizable 3-Compartment Reusable Eco-Takeouts Container - 12/Case." WebstaurantStore, WebstaurantStore, www.webstaurantstore.com/get-ec-09-9-x-9-x-3-1-2-jade-green-3-compartment-reusable-eco-takeouts-container-case/375EC09JA.html.

SOURCES:

- Gibbs, Alexandra, and Nancy Hungerford. "Millennials Willing to Pay More for Sustainable, Better Quality Goods: Nestlé Chairman." CNBC, CNBC, 4 Nov. 2016, www.cnbc.com/2016/11/04/millennials-willing-to-pay-more-for-sustainable-better-quality-goods-nestle-chairman.html.
- "Global Greenhouse Gas Emissions Data." EPA, Environmental Protection Agency, 10 Sept. 2020, www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data.
- "Growing Our Footprint." OZZI, AGreenOzzi, 2020, www.planetozzi.com/solutions.
- Huff, James, and Peter F Infante. "Styrene Exposure and Risk of Cancer." Mutagenesis, Oxford University Press, 1 July 2011, www.ncbi.nlm.nih.gov/pmc/articles/PMC3165940/.
- "ITEP's Cost by Parish." Together Louisiana, 2018, www.togetherla.org/costbyparish.
- Korpella , Robert. "Is Styrofoam Biodegradable?" Sciencing, Leaf Group, 25 Apr. 2017, sciencing.com/long-styrofoam-break-down-5407877.html.
- Li, Fan, et al. "Short-Chain per- and Polyfluoroalkyl Substances in Aquatic Systems: Occurrence, Impacts and Treatment." Chemical Engineering Journal, Elsevier, 16 Aug. 2019, www.sciencedirect.com/science/article/abs/pii/S1385894719319096.
- Lindwall, Courtney. "Single-Use Plastics 101." NRDC, Natural Resources Defense Council , 9 Jan. 2020, www.nrdc.org/stories/single-use-plastics-101.
- Miller, Randy. "Why Is It so Difficult to Recycle Styrofoam?" Miller Recycling, Miller Recycling Corporation , 22 Dec. 2016, millerrecycling.com/difficult-to-recycle-styrofoam.
- Pahwa, R, and J Kalra. "A Critical Review of the Neurotoxicity of Styrene in Humans." Veterinary and Human Toxicology, U.S. National Library of Medicine, Dec. 1993, pubmed.ncbi.nlm.nih.gov/7980742/.
- Parker, Laura. "The World's Plastic Pollution Crisis Explained." National Geographic, National Geographic, 7 June 2019, www.nationalgeographic.com/environment/habitats/plastic-pollution/.

SOURCES:

"Potential Health Effects of PFAS Chemicals." Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry, 24 June 2020, www.atsdr.cdc.gov/pfas/health-effects/index.html.

"Premium Take-Out." EcoProducts, EcoProducts, 2020, Premium Take-Out.

Roberge, David. "Why It Pays to Use Sustainable Packaging Materials." Industrial Packaging, Industrial Packaging, 18 June 2019, www.industrialpackaging.com/blog/save-money-with-sustainable-packaging-why-it-pays-to-use-sustainable-materials.

"Styrene." EPA, Environmental Protection Agency, Jan. 2000, https://www.epa.gov/sites/production/files/2020-05/documents/styrene_update_2a.pdf.

"Toxics Release Inventory (TRI) Program." EPA, Environmental Protection Agency, 28 Sept. 2020, www.epa.gov/toxics-release-inventory-tri-program.

"TRI Search Plus: Find a Location ." EPA, Environmental Protection Agency, edap.epa.gov/public/extensions/TRISearchPlus/TRISearchPlus.html.

2020 Vision Civic Academy Series . 2020, d3n8a8pro7vhmx.cloudfront.net/togetherbr/pages/2319/attachments/original/1543526419/2018-8-21_Session1_Itep_Final_Print_version.pdf?1543526419.

"USCS Data Visualizations - CDC." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 2017, gis.cdc.gov/Cancer/USCS/DataViz.html.

"Vanguard™ Renewable & Compostable Sugarcane Clamshells - 9in x 9in x 3in - No PFAS Added." EcoProducts, EcoProducts , 2020, Vanguard™ Renewable & Compostable Sugarcane Clamshells - 9in x 9in x 3in - No PFAS Added.

"Why Reuse." GO Box, GO Box, 20 May 2020, goboxpdx.com/why-reuse/.