

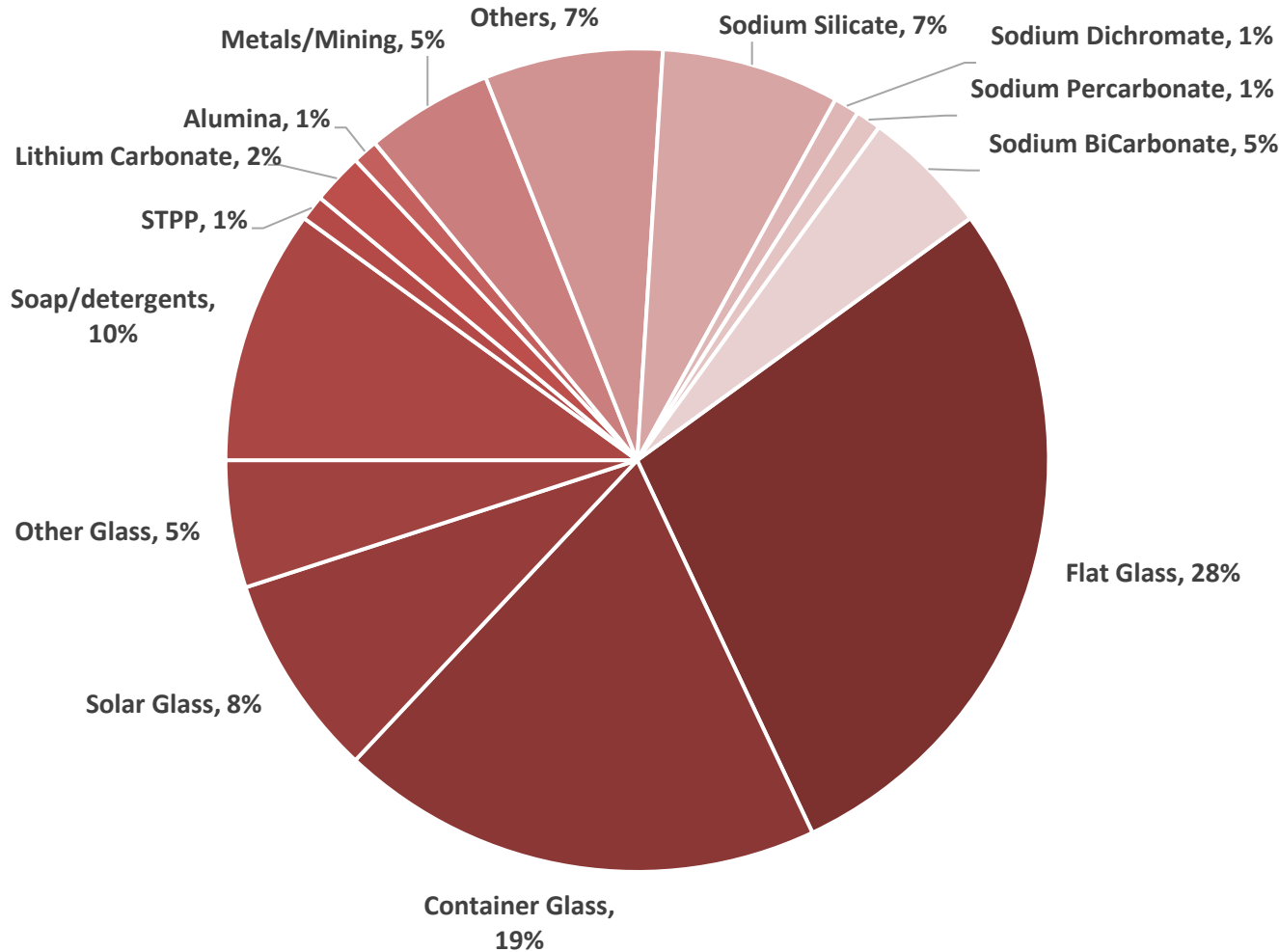
A photograph of a glass bottle manufacturing process. In the background, two glowing orange-red glass bottles are being formed in a mold. In the foreground, two finished, glowing orange-red glass bottles are shown, one slightly behind the other. The scene is dimly lit, with the primary light source being the heat of the molten glass.

Hidden Potential & Micro Strategies in Container Glass

**World Soda Ash Conference
October 2024**

GLOBAL SODA ASH DEMAND

Global Container Glass as part of Global Soda Ash Demand



67.8
Mn MT

Total Global Soda Ash demand in 2023

12.88
Mn MT

19% comes from Container glass industry

Segment	Market Share	Container Glass Consumption in Bn US\$	Soda Ash Demand in Mn MT
Beverages	46%	29.89	5.93
Pharmaceuticals	28%	18.19	3.61
Food	15%	9.75	1.93
Personal Care & Cosmetic	8%	5.20	1.03
Others	3%	1.95	0.39
Total	100%	65	12.88

Sources: 1. Chemical Market Analysis by OPIS 2022; 2. Report by Fortune Business Insights

WHAT IS PACKAGING?

A medium to hold products or consumables from Manufacturing (filling) till Consumption



Manufacturing Area



Transport



Consumption Area

Fate of Packaging



Involvement Level of Consumers at consumption point with Packaging is very Low

SOME NEW TRENDS IN BEVERAGE PACKAGING

- On-tap or draft options
- Water Refilling Station
- BYOB (Bring Your Own Bottle)
- Returnable Bottles
- Home Carbonation Systems
- Concentrates and Powdered Beverages

& many more..



Environment



Glass Packaging Demand



Soda Ash Demand



COMPETITION



Steel Manufacturer A

VS



Steel Manufacturer B



Soda Ash Manufacturer A

VS



Soda Ash Manufacturer B



Car Manufacturer A

VS



Car Manufacturer B

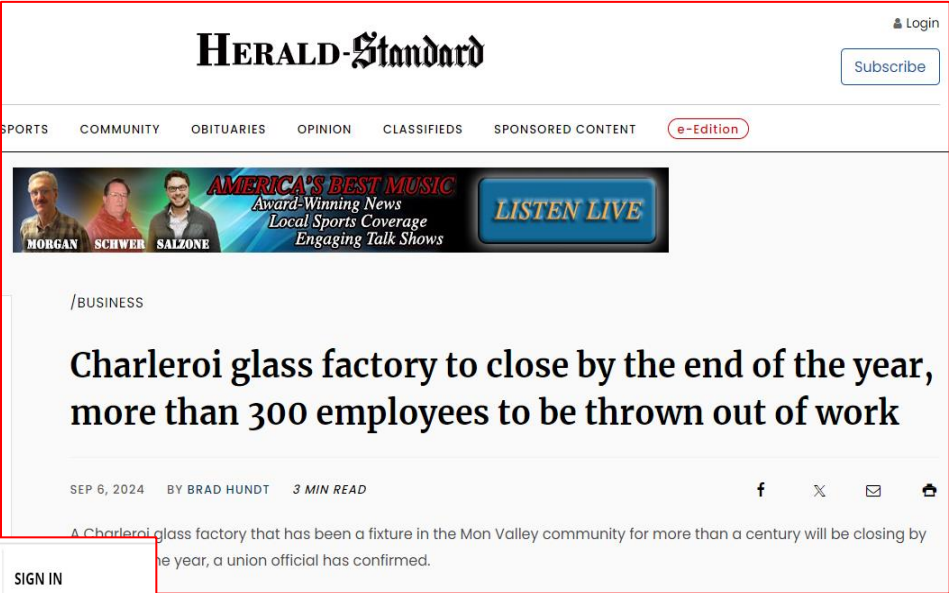
COMPETITIONS OF GLASS PACKAGING



CONTAINER GLASS INDUSTRY IN BAD SHAPE

Ardagh Group closes further US glass plants; sale of Trivium stake rumored

August 7, 2024 3 mins read



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MORGAN SCHWER SALZONE

/BUSINESS

Charleroi glass factory to close by the end of the year, more than 300 employees to be thrown out of work

SEP 6, 2024 BY BRAD HUNDT 3 MIN READ

A Charleroi glass factory that has been a fixture in the Mon Valley community for more than a century will be closing by the end of the year, a union official has confirmed.



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End of an Era: Greece's Last Glass Factory Shuts Down

Photo: Andrej Ušakov/Unsplash

Eleni Stamatoukou Athens BIRN May 8, 2024 07:46

The foreign owners of the only factory in Greece still making glass have closed the furnace, blaming rising costs and declining demand.



CONTAINER GLASS INDUSTRY IN BAD SHAPE

Company Announcements



O-I Glass Announces Furnace Shutdowns and Restructuring Costs

TipRanks Auto-Generated Newsdesk
Sep 04, 2024, 04:49 PM



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Vicesa to close glass manufacturing furnace with loss of 240 Jobs

Published 22nd August, 2024 by Greg Morris



Costa Rican glass manufacturer Vicesa will close a furnace with the loss of 240 jobs

The Central American Glass Group (Vical), which operates the Vicesa company, will close a furnace and

WHY ARE GLASS MANUFACTURERS CLOSING OPERATIONS GLOBALLY?



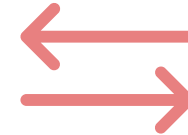
Declining Demand & Rising Costs

The industry is struggling with reduced demand and escalating input costs, impacting profitability



Limited Utility & Competition

Glass packaging's value diminishes post-consumption of products



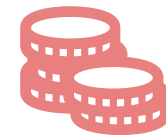
Alternative packaging options

Offer cost and convenience advantages



Price-Sensitive Market

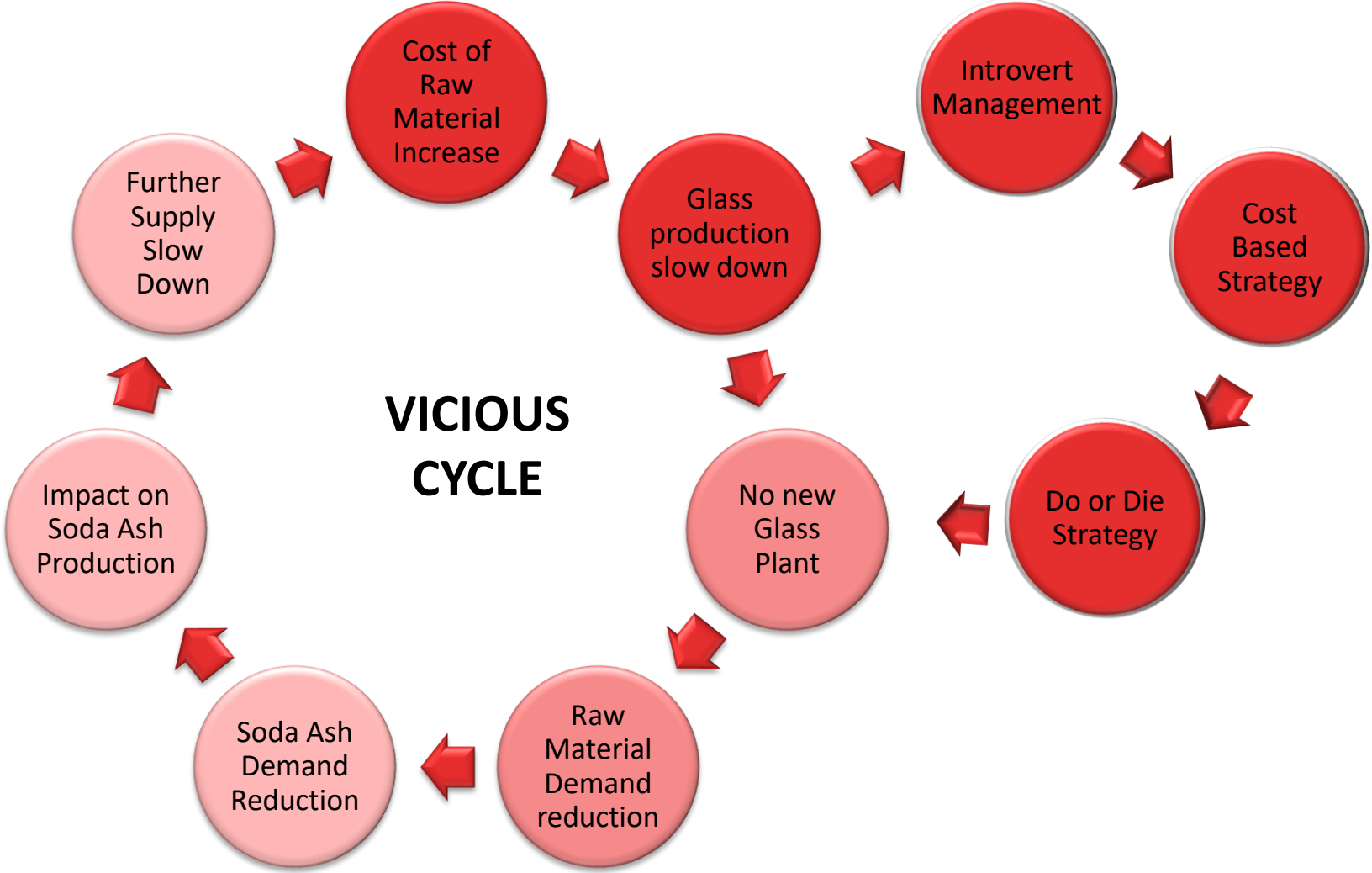
As product price are declining customer expects packaging cost to reduce further



Packaging Cost Surge

Packaging expenses have risen significantly prompting a search for cheaper alternatives.

SO, WHAT HAPPENS THEN...



**WHAT COULD GO WRONG?
LET'S SEE A HYPOTHESES..**

POSSIBLE IMPLICATIONS IN NEXT 10 YEARS

Container Glass Demand

2023
USD **65** Bn per annum

2023
72 Mn MT per annum

2033
USD **53** Bn per annum

2033
58 Mn MT per annum

At **2%**
Compounded
Decline Rate

Soda Ash Demand from Container Glass

2023
12.88 Mn MT per annum

2033
10.53 Mn MT per annum

Glass Capacities will come down globally by

18%

Soda Ash Demand will go down globally by

2.36

Mn MT

Unemployment will increase globally by

120k

People

IS GLASS WORTH THIS FIGHT?

It Preserves Content Quality & Safety

Inert & Non-Reactive

Impermeable Barrier

Recognized As Safe by the FDA

It is Sustainable & Eco-Friendly

Infinitely Recyclable

Reduces Carbon Footprint

Consumer Preference

YES

Possess Consumer & Health Benefits

No Harmful Chemical Leaching

Perceived as a safer packaging for food & beverage

Taste & Aroma Preservation

Brand Enhancement & Marketing

Premium Packaging Perception

Transparency & Visibility

Versatility & Customization

APPROACH

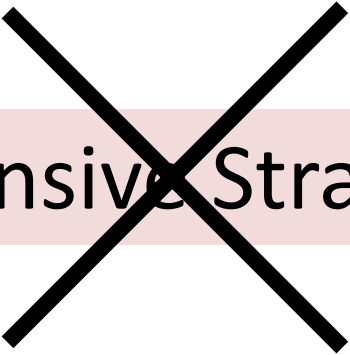
Strategy



Defensive Strategy



~~Offensive Strategy~~



Forward Looking

DEFENSIVE STRATEGY

A.

Glass Promotion Group

Creating a Glass Packaging Promotion Group to advocate the use of glass customers. Members for this can be

- I. Glass Container Manufacturer
- II. Glass Manufacturing Equipment Suppliers
- III. Raw Material suppliers like Soda Ash, Lime, Silica Sand
- IV. Other interested companies

B.

Study to Identify Broader Problem

Threat points to be identified Geography wise as each region has unique problems like

- I. In developed nations like US Consumer Behavior is Changing Rapidly
- II. In Developing nations in Asian & African continent, countries lack Regulations,
- III. There is a group of developing nations that lack Social Awareness

& many more may exist...

C.









Subgroups to Attack Hurdles

Support would be required for the complete supply chain to attack different hurdles. To facilitate that different specialized forums should be formed:

- I. Regulatory Push
- II. Awareness Creation
- III. Product Affordability & Availability

LET'S SEE SOME EXAMPLE OF POSSIBLE STUDIES & ACTION POINTS

STUDY OF CURRENT THREATS

Classification	Per Capita Consumption Container Glass	Population	Social Awareness	Statutory Regulation	Product Affordability	Market Saturation	Growth Potential
I. Developed Nations	High	Low	↑↑↑		High	High	
II. Developing Nations	Medium	Medium/High	↑↑		High	Medium	
III. Developing Nations	Low	High	↑		Medium	Low	
IV. Least Developed	Low	Medium	↑		Low	Low	

SOME ACTION POINTS TO ATTACK HURDLES

I. Awareness

Digital Medium

Public Education Campaigns

Community Engagement

Retail Partnerships

In-Store Promotions

II. Regulations

Extended Producer Responsibility

Packaging Taxes or Fees

Restrictions on Certain Packaging

Government Procurement Policies

Infrastructure Investments

III. Affordability

Improving Manufacturing Efficiency

Leveraging Economies of Scale

Increasing Price Stability through LTAs

Promoting Recycling and Reuse

Creating a Competitive Market

FORWARD LOOKING STRATEGY

- **Promote Glass Benefits:** Highlight the unique advantages of glass – safety, inert nature, recyclability, and premium perception.
- **Conduct Sustainability Studies:** R&D on demonstrating the environmental benefits of glass packaging compared to alternatives.
- **Change Youth Consumer Perception:** Run campaigns emphasizing the health and environmental advantages of glass, countering misconceptions.
- **Drive Positive Awareness:** Utilize digital platforms, public education, retail partnerships, and community engagement to promote glass.
- **Highlight "Green" Production:** Communicate the sustainability efforts such as reducing emissions, using renewable energy, and optimizing water usage.





Thank You!

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